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2012 Product Catalog (2 of 4)
Lamp and Ballast Systems

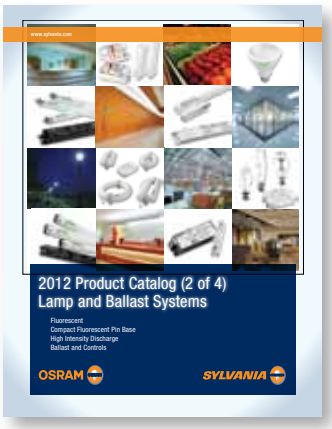
Fluorescent
Compact Fluorescent Pin Base
High Intensity Discharge
Ballast and Controls

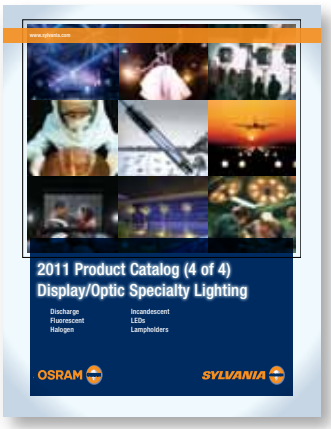
OSRAM

SYLVANIA

We wrote the books on innovative lighting solutions.

Our four Product Catalogs provide specifications on more than 3000 SYLVANIA and OSRAM branded products. All are designed and manufactured to the highest possible standards to best suit your lighting applications. And all are backed by OSRAM SYLVANIA, the industry leader in lighting solutions for over a century.





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Important Notice

The data and suggested applications contained in this catalog, as well as any additional information our representatives may be able to furnish, are for general information only and are not intended and should not be taken as representations or warranties as to the suitability of a lamp for any particular application or use in any particular equipment, nor are our representatives authorized to make any such representations or give any such warranties. Applications and conditions of use are many and varied and beyond our control. We do not have the same degree of knowledge that the purchaser has with respect to the design of his equipment and the conditions of its use. Therefore, it is up to the purchaser to make his own determination as to the suitability of a lamp for his intended application or use and to assume responsibility for that determination.

OSRAM SYLVANIA claims to supply the best possible products at all times. For this reason, OSRAM SYLVANIA reserves the right to make changes in its products when it believes such changes will improve its products.

The specifications and information shown in this catalog are believed to be accurate. Although OSRAM SYLVANIA believes this information to be correct, no warranty is made or implied as to the accuracy of this information and OSRAM SYLVANIA does not accept or assume responsibility of liability for errors, changes, omissions, or for harm resulting therefrom.

In accordance with our established policy to consistently improve our products, the specifications contained herein are subject to change without notice.

The OSRAM SYLVANIA Test and Measurement Laboratory is a participant in the Energy Efficient Lighting (EEL) Program of the National Voluntary Laboratory Accreditation Program (NVLAP-NIST) and is accredited for testing of lighting products according to the guidelines for the EEL Program. OSRAM SYLVANIA lamp and ballast measurements are conducted under laboratory conditions utilizing American National Standards Institute (ANSI), Canadian Standards Association (CSA), Commission Internationale de l'Eclairage (CIE), and Illuminating Engineering Society of North America (IESNA) standards and practices. The OSRAM SYLVANIA Electronic Component and Systems Development Group participate in the Underwriters Laboratories Inc. Client Test Data Program. Ballast designs are tested for conformance to Underwriters Laboratory (UL) safety standards using practices audited, assessed and approved by UL. Actual lamp and ballast performance may vary depending on application and environment (i.e. ambient temperature, input voltage, ballast type, etc.)

OSRAM SYLVANIA designs and manufactures lamps and ballasts to meet American National Standard Institutes (ANSI) and/or IEC (International Electrotechnical Commission) standards of construction and performance through Total Quality Manufacturing (TQM) practices where applicable. In addition, ballasts are designed and manufactured to meet Underwriters Laboratory (UL) and Canadian Standards Association (CSA) safety standards as necessary. Ratings may change as a result of changes made to remain compliant with modified or updated standards. OSRAM SYLVANIA will release new or updated technical bulletins when appropriate. All product data presented in this catalog supersedes all data published before 3/12/12.

Many OSRAM SYLVANIA products listed in this catalog qualify under the North American Free Trade Agreement (NAFTA) as manufactured in Canada, the United States of America or Mexico.

We've Been Shaping the Future of Light for Years.

For more than a century, OSRAM SYLVANIA has been a leader in introducing products that deliver energy savings, reduce impact on the environment and increase our customers' bottom line. We have consistently refined and improved our traditional lighting technologies, while embracing the challenge to explore and develop innovative products to meet future demands. And our future looks even brighter.

1964 METALARC®

1972 LUMALUX®

1973 UNALUX®

1974 SUPERSAVER® T12

1981 OCTRON®

1982 DULUX®

1983 SUPERSAVER PLUS®

1984 LUMALUX ECOLOGIC®

1985 OCTRON CURVALUME®

1987 QUICKTRONIC® Systems

1992 METALARC PRO-TECH®

1995 LUMALUX PLUS®

1995 METALARC Pulse Start

1996 METALARC SUPERSAVER

1996 DULUX D ECOLOGIC

1997 ICETRON®

1997 PENTRON®

1997 PENTRON HO

1999 METALARC POWERBALL® Ceramic

2001 SUPER METALARC, OCTRON XP®, XPS® ECOLOGIC

2002 OCTRON SUPERSAVER ECOLOGIC

2005 PENTRON PREMIER™ ECOLOGIC

2005 QUICKTRONIC POWERSENSE® Dimming Ballast

2005 DULUX L SUPERSAVER ECOLOGIC

2008 QUICKTRONIC PowerSHED™

2009 METALARC POWERBALL EL ECOLOGIC

2009 OCTRON XP XL ECOLOGIC

2009 QUICKTRONIC High Efficiency Systems

2010 DULUX SUPERSAVER ECOLOGIC

2010 METALARC POWERBALL Ceramic 15W TF & QUICKTRONIC SUPER Mini System

2011 PENTRON HO XL ECOLOGIC

2011 QUICKTRONIC High Efficiency POWERSENSE Systems

2011 QUICKTRONIC Metal Halide Dimming Systems

OSRAM SYLVANIA
Distinctions and Awards

At OSRAM SYLVANIA, our singular focus is on lighting excellence. You can see it in our products. Our innovative lighting products are driven by unparalleled expertise in all facets of lighting science and technology and, equally important, by the highest levels of customer support and service. We are proud the industry has recognized our efforts.

2011 IES
Progress Report

ENERGY STAR® Certification
(every year since 2002)

2010 LIGHTFAIR®
Innovation Awards

QUICKTRONIC® High Efficiency QTO Metal Halide Dimming Ballasts won Best in Category for Ballast, Transformers and Drivers at LIGHTFAIR International 2011

2010 *Buildings* Top 81
Money-Saving Products

2011 ADEX Awards

- QUICKTRONIC® POWERSENSE®
- Smart Controls
- LEDr A-line
- ULTRA LEDr PAR30LN Dimmable Lamps
- D6 Area Light LEDr Kit

Awards – Post Top Street
Light Retrofit Kit

2010 IIDEX/NeoCon
Innovation Awards

Building Operating Management – 2012
Top Products Award

Architectural Lighting 2010
Product Round-up

SYLVANIA Products and the IESNA Progress Report

A proud legacy of achievement

Each year, The Progress Committee of the Illuminating Engineering Society of North America (IESNA) solicits the lighting industry for product submissions. If accepted, these submissions are featured in the committee's Progress Report, which is published in the IESNA's publication, "Lighting Design & Application." The mandate of the Progress Committee is "to keep in touch with developments in the art and science of lighting throughout the world and prepare a yearly review of achievements for the Illuminating Engineering Society of North America." Submissions are organized into one of seven categories: light source, accessory, luminaire, research, application, publication and design tool. They are evaluated for their design, engineering characteristics, installation features and overall uniqueness. The 30-member committee of industry experts votes on up to 200 product submissions annually.

Over the years, many SYLVANIA and OSRAM branded products have been accepted for the Progress Report. An itemized list of our lamps and ballasts are listed in the tables that follow along with their significant features. For detailed descriptions and specifications, please visit www.mySYLVANIA.com.

2011 Progress Report

OSRAM SYLVANIA TRADITIONAL LIGHTING SUBMISSIONS ACCEPTED BY THE IESNA PROGRESS COMMITTEE	SIGNIFICANCE TO THE LIGHTING INDUSTRY
OCTRON® 800XP®/XL T8 fluorescent lamps	Industry's longest life T8 lamps rated at 62,000 hours life at 12 hours per start on programmed rapid start ballasts
PENTRON® Seamless T5 fluorescent lamps	Feature an innovative and unique basing configuration allowing end-to-end lamping. They are compatible with ballasts designed for standard lamps and are available in 28, 21 and 14 watts and in a variety of color temperatures
METALARC® POWERBALL® Ceramic 100W ET23.5 lamp	Industry's first ceramic metal halide lamp in this configuration with long life of 24,000 hours, which is comparable to HPS, an initial LPW of 100 and a CRI of 94
METALARC POWERBALL Ceramic 150W ET23.5 lamp	Industry's first ceramic metal halide lamp in this configuration with average rated life of 24,000 hours and also has an LPW of 100 and a CRI of 90
METALARC POWERBALL Ceramic 200W ET18 lamp	Industry's first ceramic metal halide lamp in this configuration has an LPW of 96 and a CRI of 95+, making this a fine white light source alternative to high pressure sodium with comparable life and superior color rendering
SUPER METALARC Pulse Start 750W metal halide lamps	Industry's longest life rating at 20,000 hours, reflecting a 25 percent longer life than other pulse start metal halide options, and are available in clear and coated versions
LUMALUX® and LUMALUX ECOLOGIC® high pressure sodium lamps	Industry's longest lamp life ratings to 30,000 hours, representing a 20 percent performance improvement over competitive lamps
QUICKTRONIC® ICETRON® 100W dimming system	Industry's first dimming ballasts for ICETRON induction system by providing continuous dimming via a 0 to 10 volt signal with a range of 100 to 40 percent. It is UL Type 2 wet location listed and meets the energy saving requirements for ASHRAE 90.1 2010 and CA Title 24
QUICKTRONIC QTO Outdoor metal halide and high pressure sodium dimming system	Industry's first UL Type 2 wet location listed dimming system for 100, 150, and 200W metal halide and high pressure sodium lamps. There are three dimming modes with a possible range of 100 to 50 percent
QUICKTRONIC Instant Start ISH 347-480V HT ballast	Industry's first 4-lamp ISH ballast for T8 lamps with an input power of 347 to 480 volts. The ballasts are RoHs compliant and offer a 5 year warranty at 70°C

The best plan for a better environment.

A quick fix doesn't go far enough.

Protecting and preserving our environment requires going beyond mercury. A multi-faceted approach is needed. That's why OSRAM SYLVANIA has developed a comprehensive five-component program for environmental sustainability in lighting products. Advanced technologies are helping us to be more efficient. We're using less energy and fewer resources, and generating less waste. So whether you're interested in lowering your energy consumption, avoiding unnecessary maintenance, identifying options for lamp and ballast recycling, or finding products with fewer hazardous materials, OSRAM SYLVANIA can help. We're committed to meeting today's lighting needs without compromising the future.

Our plan for environmental sustainability in lighting encompasses:

1. **Longer lamp life** to reduce the use of natural resources
2. **Reduced use of hazardous materials** including lead and mercury
3. **Lamps with higher efficacy** to avoid over-lighting spaces with too many lamps
4. **Energy efficiency and controllability of systems** to reduce greenhouse gas emissions
5. **Recycling** to keep mercury and lead from the waste stream

1 Longer lamp life

The longer life of our lamps reduces the number of lamps needed for a specific application, lowering the demand for raw materials. More importantly, it significantly lowers maintenance and recycling costs, and reduces the total amount of mercury and lead used in an application.

2 Reduced use of hazardous materials

Lowering the use of hazardous materials is paramount at OSRAM SYLVANIA. To date, we have reduced mercury use by over 90% in our fluorescent lamps, and we continue to lower mercury levels in lamps while maintaining quality and performance. Our micro-mini CFL has less than 1.5 mg of mercury in it, the lowest of any screw-based CFL on the market. In addition, we are completely eliminating lead from nearly all HID (high intensity discharge) and USA manufactured fluorescent lamps.

Our ECOLOGIC® products pass the US EPA's Toxicity Characteristic Leaching Procedure (TCLP) test for hazardous waste determination. We offer nearly 1,000 ECOLOGIC products—more than any other manufacturer. In addition, all applicable SYLVANIA lamps are compliant with the California RoHS regulations to restrict the use of hazardous substances.

3 Lamps with higher efficacy

Our products make it possible for you to light to recommended levels using fewer lamps and possibly fewer fixtures. Higher LPW (Lumens Per Watt) also means less energy usage and a reduction of power plant emissions.

4 Energy efficiency and controllability of systems

Energy efficient systems with lighting controls help avoid excessive greenhouse gas emissions. In the US, 50% of our electricity comes from coal-burning power plants. Another 30% comes from power plants burning other fossil fuels. Burning fossil fuels results in emissions of CO_2, methane and nitrous oxide, as well as mercury emissions, from power plants. Lighting accounts for 30% of a commercial building's electricity load. When we can reduce our electricity demand, the attributable greenhouse gas emissions are avoided.

5 Lamp Recycling

Fluorescent and HID lamps contain small amounts of mercury. Recycling is the most responsible way to dispose of these products—keeping mercury and lead out of the waste stream. We offer turnkey recycling solutions through SYLVANIA Lighting Services (SLS). No other service company in the United States sends more lamps to be recycled than SLS.

More than mercury

Mercury is a fundamental component in fluorescent lamps. It is needed to produce light and to ensure that a fluorescent lamp will achieve excellent lumen maintenance throughout its potentially long average rated life. At the same time, there are known environmental consequences of mercury. For this reason, it has been the goal of OSRAM SYLVANIA to reduce the use of mercury in fluorescent and HID lamps without sacrificing the performance requirements of high efficacy and extended lamp life. In addition, we have always recommended lamp recycling for all mercury-containing lamps, regardless of whether they pass associated tests classifying them as non-hazardous waste.

Mercury is just one criterion to consider when selecting a fluorescent lighting system. Other factors contribute to the overall environmental impact including energy consumption, efficacy and lamp life. More efficient fluorescent systems that incorporate energy-saving lamp types and high-efficiency electronic ballasts such as OCTRON® XP® lamps and QUICKTRONIC® QHE ballasts will ultimately contribute less mercury and CO_2 over their lifetime through reduced energy demand at the power plant. Additionally, longer-life lamps extend lamp replacement cycles, illustrated in the chart below.

A fluorescent lamp containing the lowest amount of mercury is not always the most environmentally preferable solution. Energy-saving, higher-performance, and longer-life fluorescent systems will ultimately prevail as a more environmentally sound choice.

For more information about the OSRAM SYLVANIA commitment to environmental sustainability, or about any of our energy-saving and environmentally preferable lighting solutions, please visit www.sylvania.com/sustainability.

Fluorescent System Performance Comparisons Help You Choose the Solution That is Right For You

Lamp Type	Lamp Wattage	Mercury(mg) in each lamp	CA RoHS Compliant	Lead-free	Lamp Life (hrs at 3 hrs per start)	Number of Lamp Cycles in 5-year period	Total 5-year mercury contribution (mg)	Annual CO_2 emissions (lbs)
Competitive 700 Series T8	32	1.7	Yes	No	30,000	2	36.2	320
Competitive 800 Series T8	32	1.7	Yes	No	30,000	2	36.2	320
OCTRON 700XP/ECO	**32**	**3.5**	**Yes**	**Yes**	**40,000**	**1**	**36.4**	**320**
OCTRON 800XP/ECO3	**32**	**3.5**	**Yes**	**Yes**	**40,000**	**1**	**36.4**	**320**
OCTRON 800XPS/ECO3	**32**	**2.9**	**Yes**	**Yes**	**40,000**	**1**	**30.4**	**268**
OCTRON 800XP/SS/ECO3	**28**	**2.9**	**Yes**	**Yes**	**40,000**	**1**	**32.5**	**297**
OCTRON 800XP/SS/ECO3	**25**	**2.9**	**Yes**	**Yes**	**40,000**	**1**	**29.3**	**268**
OCTRON 800XP/SS/XL/ECO3	**28**	**3.5**	**Yes**	**Yes**	**60,000**	**1**	**34.3**	**297**

Calculations assume two-lamp configuration on QUICKTRONIC high efficiency programmed rapid start electronic ballast; annual operating hours of 4380; total mercury contribution includes power-plant emissions
Cost of ownership includes energy usage, lamp recycling cost and replacement labor ($20/hr.). Initial installation and cost of product are not included
Lamp replacement assumed at 70% of rated life per IESNA Recommended Practice for Lighting Maintenance

Building Upon Our Commitment to Sustainability and Environmental Responsibility.

OSRAM SYLVANIA is committed to using fewer natural resources, saving energy for our customers, reducing our carbon footprint, and facilitating the recycling of lamps and other materials to avoid millions of pounds of waste in landfills. It's part of our Global Care commitment to social and environmental responsibility. For example, we've eliminated the use of lead in many of our manufacturing processes, while continuing a commitment to maintaining production in the US.

Lead-Free Manufacturing

- **Fluorescent manufacturing in Versailles, Kentucky**
  - Lead-free glass
  - Lead-free solder
  - Lead-free lamps
    - OCTRON® T8
    - T12 ECOLOGIC®
    - PENTRON® T5*
- **HID manufacturing in Manchester, New Hampshire**
  - Lead-free glass
  - Lead-free solder
  - Lead-free lamps
    - METALARC® POWERBALL® Ceramic ECOLOGIC
    - METALARC and METALARC Pulse Start ECOLOGIC**
    - LUMALUX® and LUMALUX PLUS® ECOLOGIC
- **Electronic ballast manufacturing**
  - RoHS Compliant***
  - Lead-free solder
  - Lead-free printed circuit boards

Made in the USA

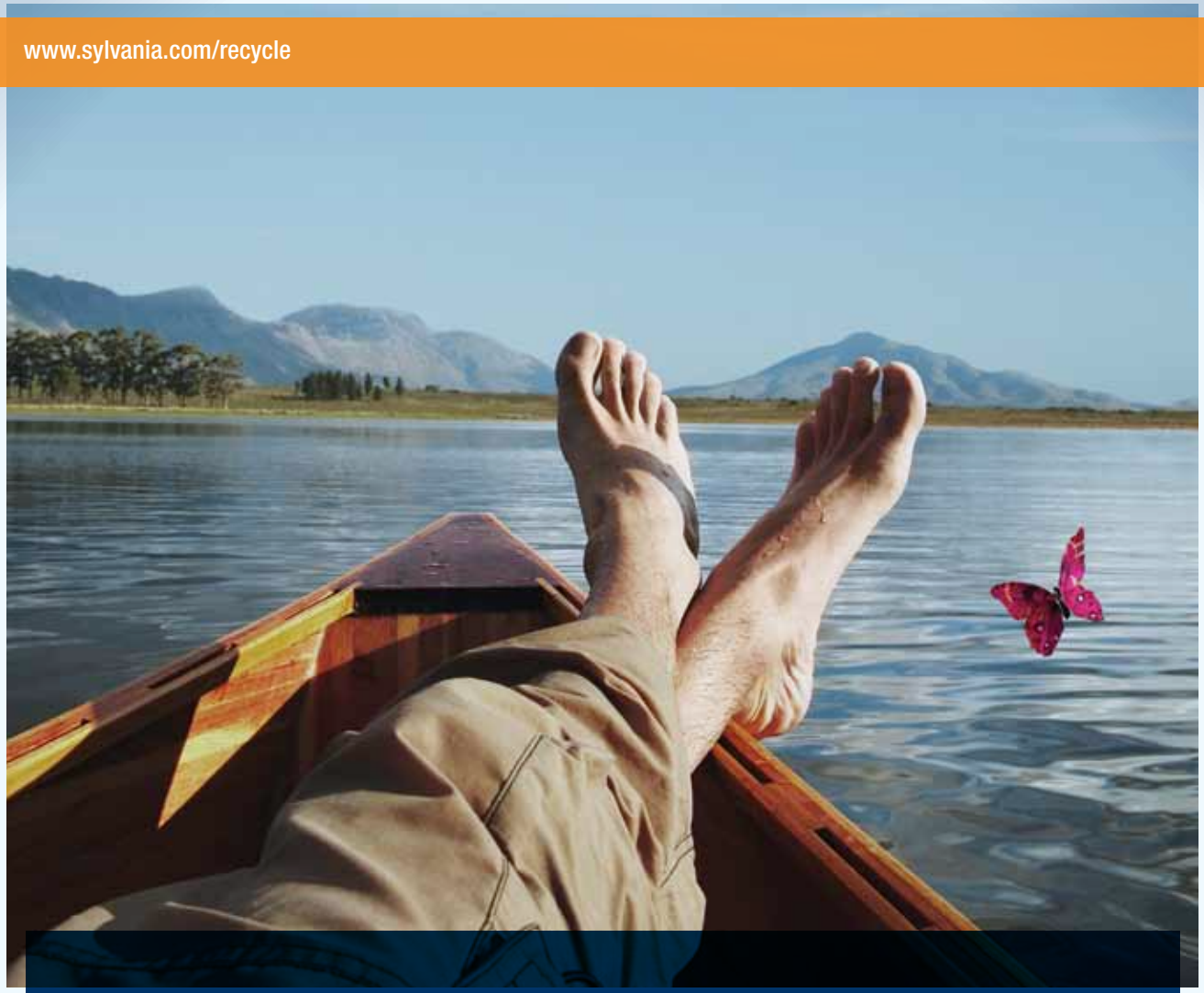
- **OSRAM SYLVANIA operates 12 manufacturing facilities in the USA**

* Trace amount of lead exists in the pins
** 175W has trace amount of lead
*** Meets European Union Reduction of Hazardous Substances Directive (Directive 2002/95/EC)

ECOLOGIC®

RoHS compliant
This light source meets restrictions on hazardous substances.

www.sylvania.com/recycle



Lamp Recycling.
It's never been more important.
It's never been easier.

When it comes to creating a sustainable future, we're all in it together. No company can go it alone. That's why SYLVANIA has joined forces with VEOLIA, a leading provider of environmental services in the US to create a safe, convenient and cost-effective program to keep you in compliance with federal, state and local disposal regulations. Let us show you how easy it is to make a difference in the world. For more information, call 1-800-LIGHTBULB or visit www.sylvania.com/recycle.

SEE THE WORLD IN A NEW LIGHT SYLVANIA

Made here. Made better.

MADE IN USA

Headquartered in Massachusetts, OSRAM SYLVANIA has been manufacturing high-quality lighting products for more than a century. OSRAM SYLVANIA operates 17 manufacturing plants, 11 R&D labs and an equipment assembly facility in the US. Today, more than 1100 different lighting products, including the HID and fluorescent products shown in this catalog, are manufactured right here in the US.

Better in Kentucky. Our Versailles, KY plant, which has 575 employees, includes glass production, lamp manufacturing and a distribution center for the Midwest. OSRAM and OSRAM SYLVANIA employees designed the production equipment for the plant's industry leading OCTRON®, PENTRON® and T12 fluorescent lamps.

In New Hampshire. Our Manchester, NH plant runs three shifts with three main product lines: Quartz Metal Halide, Ceramic Metal Halide and High Pressure Sodium Lamps. OSRAM SYLVANIA ranks in the top 25 of employers in New Hampshire.

And better for all of us. In every OSRAM SYLVANIA plant across America, there is a dedication to creating and developing energy-saving products in concert with our ongoing commitment to environmental responsibility.

Versailles, KY

Manchester, NH

Energy and the Cost of Lighting

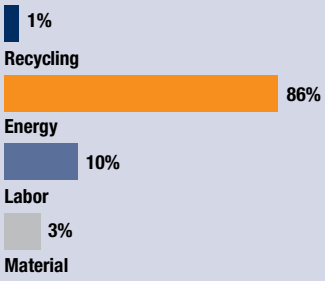
According to the U.S. Department of Energy, we consume about one-quarter of our electricity for lighting, at a cost of more than $37 billion annually. Lighting accounts for the single largest portion of electric bills for commercial users, as much as 30% – and it can be a prime opportunity for reducing energy costs.

Where does the cost of the average lighting system come from?

- Materials – the initial investment in fixtures, lamps, wires and ballasts
- Labor – the cost to install the lighting and maintain it day-to-day
- Electricity – the energy consumed to illuminate the lamps
- Recycling – removing and disposing of spent lamps in a way that does not negatively impact the environment

Figure 1

Cost of Maintaining the Average Lighting System



As Figure 1 shows, the material cost of a lighting system: bulbs, ballasts and wiring, is small in relation to the cost of the energy to light it.

Advances in lighting technology have improved the energy efficiency of lighting by 30-60%, improvements that reduce environmental impacts while increasing the bottom line. Energy-efficient lighting requires less energy, which lowers electricity demand. With less demand, power plants burn less fossil fuel, reducing emissions of mercury and other air pollutants. So everybody profits.

Energy-efficient systems

the system solution®

An important direction in lighting technology is the move toward systems. OSRAM SYLVANIA started the trend with the system solution®, a family of optimally balanced energy-saving lamps and electronic ballast combinations. By bringing lamp and ballast development under an integrated system concept, we have been able to design innovative SYLVANIA lighting systems that optimize energy savings without sacrificing other elements of performance.

OSRAM SYLVANIA has the competitive advantage, with years of experience in designing, developing and supporting integrated systems — both in ballasts and lamps. Our global network of design and manufacturing brings ballast and lamp knowledge together to produce innovative, cost-effective, energy saving systems.

Saving energy, saving money

Energy costs represent your biggest and best opportunity for savings. Even seemingly minor energy efficiency improvements can have a major positive impact on operating expenses – long-term savings that can quickly repay the minimal capital investment.

Upgrade to SYLVANIA Premium SUPERSAVER® lamps and significantly reduce total energy usage and operating costs.

- T12 to T12 SUPERSAVER ECO®
- T8 to OCTRON® XP® SUPERSAVER ECO
- T5HO to PENTRON® HO SUPERSAVER ECO
- T4 to DULUX® T/E/IN/SUPERSAVER ECO

When these lamps are paired with our QUICKTRONIC® electronic ballasts you'll have the added assurance of the QUICK 60+® System Warranty, the industry's first and most comprehensive lighting system warranty. For additional savings and added lighting design flexibility, install dimmers and lighting control systems.

Happy Anniversary OCTRON!

The year 2011 marks the 30th Anniversary of the OCTRON lamp. The OCTRON T8 fluorescent lamp was invented in 1981, leading a new era of energy efficient lighting. OSRAM SYLVANIA continues to be committed to creating innovative products that provide our customers with the right amount of light, deliver energy savings, while reducing the impact our products have on the environment. The OCTRON family is an excellent example of our continued commitment. OCTRON started with the OCTRON 700 series, then to the OCTRON 800 series and now to our Premium line: OCTRON XP®, XPS®, XP SUPERSAVER and XL lamps.

Rebates and tax benefits

As a way to reduce overall electricity demand, many utilities offer rebates to commercial customers who upgrade the efficiency of their lighting systems. Check with your local utility or ESCO to learn more about these additional savings opportunities. In addition, the Federal Energy Policy Act of 2005 (EPAct 2005) offers tax benefits for energy-efficiency upgrades in commercial buildings undertaken in 2006 and 2007. (For more information, please visit www.sylvania.com/EPACT).

The QUICK 60+® System Warranty

It's the simple way to make sure you're completely covered. Just call 1-800-LIGHTBULB.

Simply better coverage

QUICK 60+® is the industry's original and most comprehensive system warranty, providing coverage for QUICKTRONIC® ballasts and the SYLVANIA lamps they power. As the originator of the system solution®, we have unparalleled lamp and ballast technology – within one company – that enables us to produce systems that perform better and are more reliable. Of course we design our ballasts and lamps to be compatible with other manufacturers' products and back their operation accordingly, but our systems approach allows us to back our systems with a warranty that simply gives you better coverage.

It starts with the ballast. When you purchase any QUICKTRONIC ballast, it's warranted for a period of up to 60 months. Then, when you add SYLVANIA lamps, you benefit from additional coverage for those lamps; that's the PLUS. More combinations and wider applications provide the broadest range of coverage available in the industry. Another benefit comes each time you group relamp, as the lamp portion of the warranty will extend for an additional term. In short, if you have SYLVANIA ballasts and lamps, you're covered – it's that simple.

Simply peace of mind

When you specify SYLVANIA electronic ballasts and lamps, your installation will enjoy the highest available levels of performance, and you will enjoy the added benefit of peace of mind. If there is an issue, you'll never need to worry about whether it's the lamp or it's the ballast, and you won't get caught in the middle of solving the problem (we may argue with ourselves, but you won't have to!). All it takes is a phone call and you can get back to business. The bottom line is these are our products, and we stand behind them as no one else can.

Simply better service

Only **QUICK 60**+ offers you a choice of three service options to resolve warranty claims for ballasts, including our unique "Fixtureside Assistance®" program from our own nationwide service organization, SYLVANIA Lighting Services. At our discretion, we will dispatch a trained technician to make a service call to resolve any issues with our products. Our people taking care of our products ensure that you get the level of expert service you deserve. Of course, OSRAM SYLVANIA can also coordinate ballast replacement with an independent service provider, or you can manage the replacement yourself and we will determine labor reimbursement costs. OSRAM SYLVANIA will determine which option best suits your needs to make sure you're covered.

For lamp replacements, OSRAM SYLVANIA will send lamps to your facility (NO LABOR FOR LAMPS).

The **QUICK 60**+ warranty is simple to put to work. If you have SYLVANIA electronic ballasts and lamps – you're covered. Just call 1-800-LIGHTBULB (1-800-544-4828) and request warranty service. Any installation of QUICKTRONIC ballasts and SYLVANIA brand lamps is covered by QUICK 60+ for periods defined in the warranty and by the date codes incorporated on all of our products. As an added value, by simply registering the installation, all warranty periods will be defined by the actual date of installation providing complete assurance that you'll receive the coverage you deserve. If there's ever a problem, it's not a problem – you won't have to look up old records and worry about who's responsible. It's that simple.

Simple for fixture manufacturers

Any lighting manufacturer that installs QUICKTRONIC ballasts in their fixtures can provide their customers with a system warranty once SYLVANIA lamps are installed. Whether the lamps are installed in the factory, or they arrive through distribution, the system is covered. In effect, OEMs can provide customers with a great deal of added value by installing SYLVANIA ballasts and lamps – it's that simple.

Simple for lighting distributors

Lighting system upgrades and retrofit installations are an important part of any electrical distributor's business. **QUICK 60**+ allows a distributor to offer customers a comprehensive system warranty in addition to their other value added services. And since the lamp portion of **QUICK 60**+ renews when an installation is group relamped, distributors can offer added value to future sales of SYLVANIA brand lamps. Peace of mind today and tomorrow – it's that simple.

Simple for contractors

QUICKTRONIC ballasts and SYLVANIA lamps allows a contractor to provide an added value to their customers. Once the system is installed, the contractor can utilize the strengths and services of the nationwide SYLVANIA organization to assist in standing behind the project if the need arises. Added assurance – it's that simple.

Simple for end users

Today's users of lighting systems demand better performance – higher lumen output, lower energy usage, better color characteristics and more responsive control capabilities – all with worry-free operation. OSRAM SYLVANIA has the resources in both lamp and ballast technology to deliver the performance, while **QUICK 60**+ provides the industry's most comprehensive and worry-free system warranty. End users enjoy a lighting system that is high performance without being high risk – it's that simple.

See www.sylvania.com or www.mysylvania.com for **QUICK 60**+ Lamp and Ballast Limited Warranty details.

QUICK 60+®

Limited Warranty

Subject to change without notice.

The Heart of a Comprehensive System Service Program

Compare lighting system warranties – you'll see that our QUICK 60+ warranty offers better coverage, more service options and, more important, peace of mind.

Combination Lamp and Ballast System Limited Warranty

OSRAM SYLVANIA Inc. warrants SYLVANIA lamps installed on QUICKTRONIC® ballasts to be free from defects in material and workmanship and to operate from the date of installation (or date of manufacture if installation date is not known or available) for the time periods and subject to the Terms and Conditions specified below.

If lamps fail to operate for the warranty period, OSRAM SYLVANIA will provide a free replacement lamp (but no labor allowance). If a QUICKTRONIC ballast fails to operate within the warranty period, OSRAM SYLVANIA will provide a free replacement ballast and labor allowance in accordance with the "Labor Options" set forth below.

System[3,4]	Lamp	Ballast Warranty Period[8]	Lamp Warranty Period*
QUICKTRONIC T8[1]	OCTRON® Family	60 mos.	30 mos.
QUICKTRONIC T8[1]	OCTRON XPS®, XP® & XP/SS, XV™ & XV/SS[2,3]	60 mos.	36 mos.
QUICKTRONIC T8[1]	OCTRON XP/XL & XP/XL/SS Family	60 mos.	60 mos.
QUICKTRONIC T8 High Ambient[1,9]	OCTRON XP, XP/SS[2,3]	36/60 mos.@<90°/70°C	36 mos.
QUICKTRONIC 59	OCTRON FO96/XP, XP/SS, XV & XV/SS	60 mos.	30 mos.
QUICKTRONIC 59	OCTRON FO96	60 mos.	24 mos.
QUICKTRONIC 86/T8HO High Ambient[1]	OCTRON FO96HO	36/60 mos.@<90°/70°C	30 mos.
QUICKTRONIC T5, T5/HO[1]	PENTRON® Family[10]	60 mos.	24 mos.
QUICKTRONIC 54T5/HO[1]	PENTRON FP54/HO, FP54/C/HO, PF54/HO/SS	60 mos.	36 mos.
	PENTRON HO/XL	60 mos.	60 mos.
QUICKTRONIC 54T5HO High Ambient[1]	PENTRON FP54/HO, FP54/C/HO, FP54/HO/SS	36/60 mos.@<90°/70°C	36 mos.
	PENTRON HO/XL	60 mos.	60 mos.
QUICKTRONIC ICE[1,5]	ICETRON®	60 mos.	60 mos.
QUICKTRONIC 54PHO & DL40	DULUX® FT55DL, FT40DL & FT40DL/SS Family	60 mos.	24 mos.
QUICKTRONIC CF[1]	DULUX D/E, D/E/SS, T/E, T/E/IN, T/E/IN/SS T/E/C	60 mos.	24 mos.
QUICKTRONIC MH[7]	METALARC® Family[6] (7K-12K hrs. avg. rated life)	36/60 mos.	6 mos.
QUICKTRONIC MH[7]	METALARC Family[6] (15K-20K hrs. avg. rated life)	36/60 mos.	12 mos.
QUICKTRONIC HPS[7]	LUMALUX® Family[6] (≥30K hrs. avg. rated life)	36/60 mos.	24 mos
QUICKTRONIC FM	FM	24 mos.	6 mos.
QUICKTRONIC 96IS/96HO & 40T12	N/A	60 mos.	N/A

*Note: Fluorescent lamp warranty periods are based on a 3 hour minimum cycle, unless otherwise noted, with a maximum of 4000 hours per year. Other operating cycles may affect warranty period. Lamp warranty can renew when installation is group relamped, contact OSRAM SYLVANIA for details.

1 Occupancy sensor application, 10 minute/start minimum, allowed with QUICKTRONIC PROStart® and with QUICKTRONIC ICE ballasts.

2 OCTRON SUPERSAVER® bi-pin lamps operate on all QUICKTRONIC® T8 electronic ballast (except QTP DALI models.)

3 QUICKTRONIC, Professional Series and High Efficiency Series including all IS, PS & DIM models where applicable.

4 Labor options must be pre-approved by OSRAM SYLVANIA. Any labor option or cost that is not pre-approved will not be eligible for reimbursement.

5 ICETRON Lamp Warranty Period allows up to 8760 hrs per year (continuous operation).

6 Contact OSRAM SYLVANIA for detailed specifications of METALARC and LUMALUX lamps.

7 QUICKTRONIC MH and HPS ballasts warranty is 36 or 60 months, depending on maximum case temperature. Refer to product specifications for details. Electronic HID system warranty period is based on a minimum cycle of 10hr/start up to a maximum operation of 6,000 hours/year.

8 Maximum Case Temp. <70°C, for normal environmental operating conditions (40°C max. ambient) unless noted. Refer to product specifications for details.

9 QUICKTRONIC T8 High Ambient (HT) Series

10 PENTRON 14, 21, 28 and 35W and PENTRON HO 24, 39 and 80W.

TERMS AND CONDITIONS

SYLVANIA lamps and QUICKTRONIC ballasts must be installed together as a system and be installed and operated under suitable environmental conditions and in accordance with the latest National Electrical Code, Underwriters Laboratory Bulletins, and ANSI Specifications. **This warranty will not apply in the event of conditions demonstrating abnormal use or stress, such as operating temperatures in excess of maximum rated temperatures, under/over voltage conditions, excessive switching cycles (see above Note #1) or operating hours, dirty or cracked sockets, or improper lamp or ballast installation.** Replacement of SYLVANIA lamps with lamps of other manufacturers will void the lamp portion of this warranty. Replacement of the QUICKTRONIC ballast with any other ballast will void the entire warranty.

WARRANTY ACTIVATION / SERVICE CLAIMS

The QUICK 60+ warranty is automatically activated after OSRAM SYLVANIA receives a completed QUICK 60+ warranty registration form within 30 days after installation. An acknowledgment will be sent for each registration along with a reference number for future correspondence. Service claims can be made by contacting 1-800-654-0089 to initiate the process for problem resolution.

LABOR OPTIONS (Ballast only and ICETRON lamps only)

No labor allowance is made for any lamp replacement except ICETRON, during the warranty period. OSRAM SYLVANIA provides for several labor options for service under the QUICK 60+ warranty program.

1. OSRAM SYLVANIA will provide full service coverage through SYLVANIA LIGHTING SERVICES at no cost to the user of the ballast, or
2. OSRAM SYLVANIA will contact a service provider and coordinate replacement at no cost to the user of the ballast, or
3. OSRAM SYLVANIA will reimburse the purchaser reasonable, customary and necessary labor charges required to install the ballast replacement.
4. Labor options must be pre-approved by OSRAM SYLVANIA. Any labor option or cost that is not pre-approved will not be eligible for reimbursement.

RETURN OF DEFECTIVE PRODUCT

After contacting OSRAM SYLVANIA and receiving a RETURN MATERIAL AUTHORIZATION NUMBER, the user shall promptly return the product at the user's expense to OSRAM SYLVANIA after receiving instructions as to if, when and where to ship product. Failure to follow this procedure shall void this warranty.

REPLACEMENT OF PRODUCT, LIMITS OF LIABILITY

The foregoing shall constitute the sole and exclusive remedy of the purchaser and the sole and exclusive liability of OSRAM SYLVANIA. NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE OR IS TO BE IMPLIED. OSRAM SYLVANIA will not, under any circumstance, whether as a result of breach of contract or warranty, tort, or otherwise, be liable for any incidental, special or consequential damages, including lost profits or revenues or any other costs or damages.

OSRAM SYLVANIA reserves the right to examine all failed lamps and/or ballasts and reserves the right to be the sole judge as to whether any lamps and/or ballasts are defective and covered under this warranty.

QUESTIONS? Please call customer service at 1-800-654-0089 or contact your local OSRAM SYLVANIA representative.

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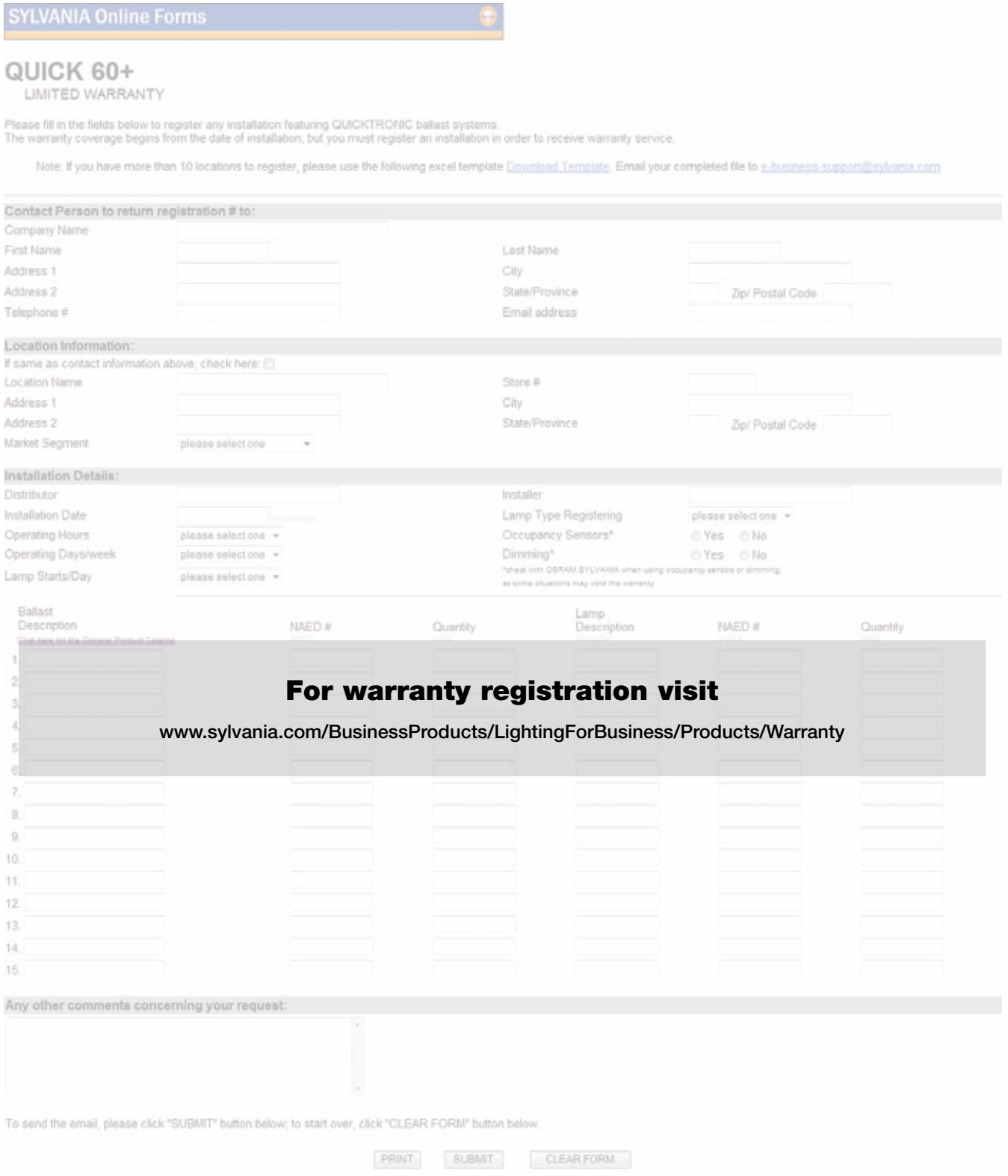

For warranty registration visit

www.sylvania.com/BusinessProducts/LightingForBusiness/Products/Warranty

SYLVANIA HID SYSTEM
Limited Warranty

Combination Lamp and Ballast System Limited Warranty

OSRAM SYLVANIA Inc. warrants SYLVANIA lamps installed on SYLVANIA magnetic ballasts to be free from defects in material and workmanship and to operate from the date of installation (or 3 months from date of manufacture if installation date is not known or available) for the lamp and ballast warranty periods and subject to the Terms and Conditions specified below.

If lamps fail to operate for the warranty period, OSRAM SYLVANIA will provide a free replacement lamp (no labor allowance). If a SYLVANIA magnetic ballast fails to operate within the warranty period, OSRAM SYLVANIA will provide a free replacement ballast (no labor allowance).

System	Avg. Rated Lamp Life*	Lamp Warranty Period	Ballast Warranty Period*
METALARC®	7,000-12,000 hrs	6 months	24 months
METALARC	15,000-20,000 hrs	12 months	24 months
LUMALUX®	24,000 hrs	12 months	24 months
LUMALUX	≥ 30,000 hrs	24 months	24 months

*Subject to and limited by the lamp warranty period limitations set forth above.

TERMS AND CONDITIONS

SYLVANIA lamps and SYLVANIA ballasts must be installed together as a system and be installed and operated under suitable environmental conditions and in accordance with the latest National Electrical Code, Underwriters Laboratory Bulletins, and ANSI Specifications. **This warranty will not apply in the event of conditions demonstrating abnormal use or stress, such as operating temperatures in excess of maximum rated temperatures, under/over voltage conditions, excessive switching cycles or operating hours, dirty or cracked sockets, or improper lamp or ballast installation.** Replacement of SYLVANIA lamps with lamps of other manufacturers will void the lamp portion of this warranty. Replacement of the SYLVANIA ballast with any other ballast will void the entire warranty.

FURTHER CONDITIONS

1. Warranty periods based on a minimum 4,000 hours/year to a maximum 6,000 hours/year operation (minimum 10hr/start for lamp).
2. The lighting system must operate the lamp within current ANSI Specifications.
3. OSRAM SYLVANIA reserves the right to examine all failed lamps to verify cause of failure and shall be the sole judge as to whether the lamps are in fact defective.
4. System warranty valid only for installations of 50 or more lamps and ballasts. Contact OSRAM SYLVANIA for further details.
5. Check with OSRAM SYLVANIA when using occupancy sensors or dimming, as some situations may void the warranty.

WARRANTY ACTIVATION / SERVICE CLAIMS

The HID System warranty is automatically activated after OSRAM SYLVANIA receives a completed HID System warranty registration form within 30 days after installation. An acknowledgment will be sent for each registration along with a reference number for future correspondence. Service claims can be made by contacting 1-800-654-0089 to initiate the process for problem resolution.

LABOR OPTIONS

No labor allowance is made for lamp or ballast replacement.

RETURN OF DEFECTIVE PRODUCT

After contacting OSRAM SYLVANIA and receiving a RETURN MATERIAL AUTHORIZATION NUMBER, the user shall promptly return the product at the user's expense to OSRAM SYLVANIA after receiving instructions as to if, when and where to ship product. Failure to follow this procedure shall void this warranty.

REPLACEMENT OF PRODUCT, LIMITS OF LIABILITY

The foregoing shall constitute the sole and exclusive remedy of the purchaser and the sole and exclusive liability of OSRAM SYLVANIA. NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE OR IS TO BE IMPLIED. OSRAM SYLVANIA will not, under any circumstance, whether as a result of breach of contract or warranty, tort, or otherwise, be liable for any incidental, special or consequential damages, including lost profits or revenues or any other costs or damages.

OSRAM SYLVANIA reserves the right to examine all failed lamps and/or ballasts and reserves the right to be the sole judge as to whether any lamps and/or ballasts are defective and covered under this warranty.

QUESTIONS? Please call customer service at 1-800-654-0089 or contact your local OSRAM SYLVANIA representative.

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MAGNETIC BALLAST
Limited Warranty

Magnetic Ballast Limited Warranty

OSRAM SYLVANIA Inc. warrants SYLVANIA fluorescent magnetic ballasts and high intensity discharge (HID) magnetic ballasts to be free from defects in material and workmanship and to operate from the date of manufacture for the time periods specified below.

Magnetic Ballast Type	Ballast Warranty Period*
Fluorescent Magnetic	36 Months
High Intensity Discharge (HID) Magnetic	24 Months
Magnetic Sign	24 Months

*Note – Warranty periods are based on typical 4000 hr/12 months operation; longer operating cycles may limit warranty period. Contact OSRAM SYLVANIA for details.

TERMS AND CONDITIONS

SYLVANIA magnetic fluorescent and HID ballasts must be installed and operated under suitable environmental conditions and in accordance with the latest National Electrical Code, Underwriters Laboratory Bulletins, ANSI Specifications, CSA standards, and in accordance with OSRAM SYLVANIA installation instructions, where applicable. **This warranty will not apply if conditions demonstrate abnormal use or stress, such as operating temperatures in excess of maximum rated temperatures, under/over voltage conditions, excessive switching cycles or operating hours, dirty or cracked sockets, or improper lamp or ballast installation.**

WARRANTY ACTIVATION / SERVICE CLAIMS

Warranty is activated after installation. Service claims can be made by contacting 1-800-654-0089 to initiate the process for problem resolution.

LABOR OPTIONS

No labor allowance is made for any lamp replacement during the warranty period. OSRAM SYLVANIA shall correct any defects by replacing or repairing, at OSRAM SYLVANIA's option, any ballast determined to be defective under the terms of this warranty. Note: Labor costs are not reimbursed by OSRAM SYLVANIA.

RETURN OF DEFECTIVE PRODUCT

After contacting OSRAM SYLVANIA and receiving a RETURN MATERIAL AUTHORIZATION NUMBER, the purchaser may be requested to promptly return the ballast at the purchaser's expense to OSRAM SYLVANIA after receiving instructions as to if, when and where to ship the ballast. Failure to follow this procedure shall void this warranty.

REPLACEMENT OF PRODUCT, LIMITS OF LIABILITY

The foregoing shall constitute the sole and exclusive remedy of the purchaser and the sole and exclusive liability of OSRAM SYLVANIA. NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE OR IS TO BE IMPLIED. OSRAM SYLVANIA will not, under any circumstance, whether as a result of breach of contract or warranty, tort, or otherwise, be liable for any costs or damages, including lost profits or revenues, incidental, special or consequential damages.

OSRAM SYLVANIA reserves the right to examine all failed ballasts and reserves the right to be the sole judge as to whether any ballasts are defective and covered under this warranty. This warranty does not cover lamps operated by the ballast.

QUESTIONS? Please call customer service at 1-800-654-0089 or contact your local OSRAM SYLVANIA representative.

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Product Catalog Glossary of Terms

Ampere A unit expressing the rate of flow of electric current.

ANSI (American National Standards Institute) The organization that develops voluntary guidelines and produces performance standards for the electrical and other industries.

Audible Noise (Sound) All fluorescent lamp ballasts produce some noise. Most OSRAM SYLVANIA brand ballasts are sound rated A (up to 75% quieter than magnetic types) and are acceptable for most applications. Care should be taken when mounting the ballast to reduce vibration.

Average Rated Life An average rating, in hours, indicating when 50% of a large group of lamps have failed, when operated at nominal lamp voltage and current; manufacturers use 3 hours per start for fluorescent lamps and 10 hours per start for HID lamps when performing lamp life testing procedures; every lamp type has a unique mortality curve that depicts its average rated life. For Display/Optic specialty lamps, average rated life refers to the operating period after which on statistical average, 50% of the lamps will perform within their specified values.

Ballast A device used with an electric discharge lamp to obtain the necessary circuit conditions (voltage, current and waveform) for starting and operating; all fluorescent and HID light sources require a ballast for proper operation. Dimming ballasts are special ballasts which, when used together with a dimmer, will vary the light output of a lamp. OSRAM Display/Optic discharge lamps are either designed for AC operation (sine wave and/or square wave with recommended operational frequencies below 1KHz) or DC operation (current regulated or power regulated). Please see OSRAM lamp specifications for correct ballast or electronic control gear selection.

Ballast Basics Ballasts have two primary functions: 1) start the lamp and 2) control operation of the lamp once it has started. High frequency electronic ballasts operate lamps more efficiently and eliminate the hum and visible flicker normally associated with standard magnetic ballasts. Electronic ballasts also typically have better power quality than magnetic ballasts.

Ballast Efficacy Factor (BEF) Relative light output (ballast factor) divided by input power (watts). Used to measure the level of efficiency of similar ballast models. For example, the OSRAM SYLVANIA QTP2X32T8/UNV ISN which has ballast factor of 0.88 and input watts of 59 (BEF = 1.49).

Ballast Factor (BF) Relative light output as compared to a reference ballast (i.e. BF of 0.90 would yield 90% of a lamp's rated lumens). OSRAM SYLVANIA offers T8 systems in many ranges of light output: Low Power (LP): (0.74-0.80) BF; Normal: (0.85- 1.0) BF; Medium: (~1.0) BF; and High Light Output (PLUS): (1.15-1.20) BF.

Ballast Fusing (See Fusing.)

Ballast Life OSRAM SYLVANIA ballasts are designed to have an average life expectancy of 60,000 hours. To maximize life, ambient temperature should be kept as low as possible. It is also important to maintain effective dissipation of heat using the lighting fixture as a heat sink for the ballast enclosure.

Ballast Losses Power consumed by a ballast that dissipates as heat instead of being converted into light. Electronic ballasts operate more efficiently than magnetic or hybrid ballasts. A typical ballast loss for a standard two lamp energy saving magnetic ballast is 12 watts, where an electronic equivalent would only be 7 watts.

Ballast Types There are three types of lighting ballasts: 1.) Magnetic: an inefficient device that uses a core and coil assembly transformer to perform the minimum functions required to start and operate the lamp; 2.) Hybrid or "low frequency electronic": essentially a magnetic ballast with a few electronic components that switch off voltage to the lamp coil once the lamp has started. A minimal increase in efficiency is obtained via more expensive magnetic core material and the absence of power to the lamp coils during operation; 3.) High frequency electronic: a ballast that operates lamps at frequencies above 20,000 Hz. Maximum efficiency is obtained through the use of electronic circuitry and optimum lamp operating characteristics.

Base The lamp base mechanically holds the lamp in place in the application. The lamp base directly or indirectly (via a cable or lead-in wires) conducts electricity from the circuit to the lamp and can be designed to dissipate heat. Lamp bases should be operated within specified temperature ranges.

Beam Angle The angle between the two directions for which the intensity (candlepower) is 50% of the maximum intensity as measured in a plane through the nominal beam centerline (center beam candlepower).

Beam Spread In any plane, the angle between the two directions in the plane in which the candlepower is equal to a stated percent of the maximum candlepower in the beam.

Black Body (Planckian Radiator) An ideal thermal radiator whose SPD curve is defined by its temperature in Kelvin and whose color coordinates lie exactly on the Planckian curve.

Brightness (See Luminance.)

Bulb Hard, soft or quartz glass enclosure, which can contain a vacuum, elemental inert gas or metal and a means of light generation (filament or electrodes).

Candela (cd) The unit of measure indicating the luminous intensity (candlepower) of a light source in a specific direction; any given light source will have many different intensities, depending upon the direction considered.

Candlepower Distribution A curve that represents the variation in luminous intensity (expressed in candelas) in a plane through the light center of a lamp or luminaire; each lamp or lamp/luminaire combination has a unique set of candlepower distributions that indicate how light will be spread.

Center Beam Candlepower (CBCP) The intensity of light produced at the center of a reflector lamp beam, expressed in candelas.

Chromaticity The aspect of color that includes consideration of its dominant wavelength and purity.

Color Rendering Index (CRI) The Color Rendering Index (CRI) measures the effect a light source has on the perceived color of objects and surfaces. High CRI light makes virtually all colors look natural and vibrant. Low CRI causes some colors to appear washed out or even to take on a completely different hue.

Color Temperature (CT) Color temperature, which is measured in Kelvin (K), indicates whether a lamp has a warm, midrange or cool color appearance. "Warm" light sources have a low color temperature (2000-3000K) and feature more light in the red/orange/yellow range. Light with a higher color temperature (>5000K) features more blue light and is referred to as "cool."

Compact Fluorescent Lamps Compact fluorescent lamps employ small diameter tubes that are bent so they begin and end in a single base. This allows them to be produced in a wide variety of configurations, greatly extending the applications for fluorescent lighting.

Correlated Color Temperature (CCT) A specification of the color appearance of a lamp, relating its color to that of a reference source, black body radiator, heated to a particular temperature, measured in degrees Kelvin (K); CCT generally measures the "warmth" or "coolness" of light source appearance.

Current A measure of the rate of flow of electricity, expressed in amperes (A).

Description (See Ordering Abbreviation.)

Design Amperes The approximate current which the lamp will draw at design volts.

Directional Lighting Illumination on the workplane or on an object predominantly from a single direction.

Display/Optic Specialty Lamps Display/Optic specialty lamps employ a variety of technologies to meet the very precise levels of performance required by the entertainment industry, science, medical and other high-tech fields.

Double-Ended Lamps that have two bases opposite one another for series electrical connection, mechanical mounting and heat dissipation.

Efficacy The rate at which a lamp is able to convert power (watts) into light (lumens), expressed in lumens per watt (LPW or lm/W). See also LPW Performance.

Electric Power The time rate of doing electrical work. The unit is the watt or kilowatt. Work is being done at a rate of 1W when a constant current of 1A is maintained through a resistance by an emf of 1V.

Electronic Control Systems (See Ballast.)

EMI/RFI Electronic Ballasts contain circuits that limit electrical noise conducted onto the power line or radiated through the air, otherwise referred to as EMI/RFI. OSRAM SYLVANIA ballasts comply with FCC 47 CFR Part 18, non-consumer limits for commercial applications. Ballasts for residential application must meet consumer limits. OSRAM SYLVANIA has a complete line of QTR electronic and magnetic ballasts for residential use.

Energy The capacity for doing work. Any body or medium which is of itself capable of doing work is said to possess energy. Energy can be expressed in foot pounds.

Filament A tungsten wire purposely positioned inside a lamp bulb, that when heated electrically generates radiation in the visible, infrared and ultraviolet ranges. Tungsten material is most often used, as it has great tensile strength, is very durable and can be heated very near its melting point without evaporating rapidly. Lamp filaments are offered in a variety of designs optimized for specific applications.

Fixture (See Luminaire.)

Floodlight A reflector lamp with a relatively wide beam pattern. Also a luminaire consisting of lamp and reflector at fixed distance providing a wide field of illumination.

Fluorescent Lamp A low pressure mercury vapor discharge light source. The electric discharge generates ultra-violet (UV) energy, which is absorbed by a phosphor and converted to visible light.

Focal Distance The distance between a lamp (light producing element) and the focal point of the reflector surrounding it. Lamp alignment can be adjusted to influence both illumination and color quality. Sometimes referred to as "working distance".

Footcandle (fc) A unit of illuminance equal to 1 lumen per square foot.

Frequency The number of times per second that an alternating current system reverses from positive to negative and back to positive, expressed in cycles per second or hertz (Hz).

Fusing All QUICKTRONIC® ballasts contain inherent electrical protection. Although there is no need to externally fuse the ballast, should code or regulation require one, 3 amp slow blow fuses are recommended.

Glow to Arc Transition In order to achieve full rated lamp life, a ballast should start a lamp so that the time from when the lamp begins to glow to the time the lamp arc strikes should be as short as possible. OSRAM SYLVANIA instant start ballasts typically accomplish this task within 50 m/sec.

Grounding The ballast case and fixture must always be grounded. The grounding helps assure safety, proper lamp starting, and acceptable EMI/RFI performance. Install ballast in accordance with national and local electric codes.

Halogen Lamps High pressure tungsten filament lamps containing halogen gases. The halogen gases allow the filaments to operate at higher efficacies than incandescent lamps. Halogen lamps also provide brighter, whiter light with better color characteristics, longer service life and improved energy efficiency.

Harmonic An electrical frequency that is an integer multiple of the fundamental frequency; for example, if 60 Hz is the fundamental frequency, then 120 Hz is the second harmonic and 180 Hz is the third harmonic. Some electronic devices, such as ballasts or power supplies, can cause harmonic distortion, directly affecting power quality.

Hertz (Hz) A unit of frequency equal to one cycle per second; see frequency.

High Intensity Discharge (HID) Lamps Lamps in which an arc passing between two electrodes in a pressurized tube causes various metallic additives to vaporize and release large amounts of light. All HID lamps offer outstanding energy efficiency and service life. Metal halide lamps also offer good to excellent color rendering index (CRI).

Hot Ignition The restarting of a previously operating lamp shortly after turn-off. Hot ignition is a high performance feature in many OSRAM SYLVANIA discharge lamp types.

Illuminance Light arriving at a surface, expressed in lumens per unit area; 1 lumen per square foot equals 1 footcandle, while 1 lumen per square meter equals 1 lux.

Incandescent Lamp A light source using the principle of incandescence. When an electric current passes through a filament wire (usually tungsten), the heated wire glows. Filaments of standard incandescent lamps are enclosed in a vacuum or gas-filled bulb. They provide low initial cost, good color rendition and excellent optical control.

Instant Start (IS) Instant start ballasts apply high voltage across the lamp with no preheating of the cathode. This is the most energy efficient starting method for fluorescent lamp ballasting. IS ballasts use 1.5 to 2 watts less per lamp than rapid start ballast. Other IS ballast benefits typically include parallel lamp circuitry, longer remote wiring distance, easier installation due to less complicated wiring, and the lamps have the capability to start at temperatures down to -20°F (starting temperatures may vary depending on ballast/lamp types and applications, see actual specifications for details) versus 50°F for rapid start.

K-Factor A measurement that quantifies the effect of non-linear equipment, such as lighting ballasts, on an electrical system. Lighting systems should be designed so that the transformer rating is sufficient for the ballast used (typically K-factor <4). All OSRAM SYLVANIA ballasts meet this specification.

Lamp Manufactured light source, synonymous with light bulb; the three broad categories of electric lamps are incandescent, fluorescent and high intensity discharge.

Lamp Current Crest Factor (LCCF) The ratio of peak lamp current to the RMS (root mean square) lamp current. Lamp manufacturers require a LCCF of less than 1.70 in order to achieve full lamp life.

Lamp Flicker Cyclic variation in output of a light source. High frequency electronic ballasts minimize lamp flicker. Lamp flicker from magnetic ballasts may cause eye fatigue for some people.

Lamp Fuse Wire or device designed to protect a lamp from over-voltage or over-current conditions. OSRAM requires that all Display/Optic lamps be fused in their applications to prevent lamp over-powering. Certain lamps contain their own internal fuse. Please ensure lamps in your specific application are fused with respect to their power source.

Lamp Lumen Depreciation Factor (LLDF) The multiplier to be used in illumination calculations to relate the initial rated output of light sources to the anticipated minimum rated output based on the relamping program to be used. (See Lumen Depreciation and Mean Lumens.)

Lens A glass or plastic element used in luminaires to change the direction and control the distribution of light rays.

Light Radiant energy that is capable of producing a visual sensation.

Light Center Length (LCL) The distance from a specified reference point on a lamp base to its light center.

Light Loss Factor (LLF) A factor used in calculating illuminance after a given period of time and under given conditions. It takes into account temperature and voltage variations, dirt accumulation on luminaire and room surfaces, lamp depreciation, maintenance procedures and atmosphere conditions. Formerly called maintenance factor.

Low Temperature Starting SYLVANIA QUICKTRONIC® QTP & QHE instant start and programmed start electronic ballasts have the capability to start fluorescent lamps at temperatures down to -20°F as well as 0°F for F40T8 & F96T8 lamps providing the following conditions are met: 1.) The ballast is operated at rated nominal line voltage. The ballast case and fixture must always be grounded. The grounding helps assure safety, proper lamp starting. Install ballast in accordance with national and local electrical codes. 2.) Ballast cannot be tandem/remote wired for low temperature starting applications. Please note, starting time may increase at low ambient temperatures. Enclosed fixtures are recommended as fluorescent lamps have reduced light output at cooler ambient temperatures. (See specifications for each model's starting temperature rating.) SUPERSAVER® lamps start/operate at >60°F. (See specific product information bulletins for each model's starting temperature rating.)

Lumens Per Watt (LPW) Performance The number of lumens produced by a light source for each watt of electrical power supplied to the light source. Also see Efficacy.

Lumen Depreciation The decrease in lumen output of a light source over time; every lamp type has a unique lumen depreciation curve (sometimes depicted as a lumen maintenance curve) depicting the pattern of decreasing light output. See Lamp Lumen Depreciation Factor (LLDF) and Mean Lumens.

Lumen Maintenance (See Lumen Depreciation.)

Lumens (lm) A unit of luminous flux; overall light output; quantity of light, expressed in lumens. For example, a dinner candle provides about 12 lumens and a 60-watt soft white incandescent lamp provides about 840 lumens.

Luminaire A light fixture; the complete lighting unit, including lamp, reflector, ballast, socket, wiring, diffuser and housing.

Luminaire Efficiency The ratio of luminous flux (lumens) emitted by a luminaire to that emitted by the lamp or lamps used therein.

Luminance (L) Light reflected in a particular direction; the photometric quantity most closely associated with brightness perception, measured in units of luminous intensity (candelas) per unit area (square feet or square meters).

Luminance Contrast The relationship between the luminances of an object and its immediate background.

Luminance Ratio The ratio between the luminances of any two areas in the visual field.

Lux (lx) A unit of illuminance equal to 1 lumen per square meter.

Maximum Case Temperature All OSRAM SYLVANIA electronic ballasts have a maximum allowable case temperature. Refer to product information bulletins for specific product maximum case temperatures. Applications in which the case temperature exceeds this maximum void all warranties.

Maximum Overall Length (MOL) The total length of a lamp, from top of bulb to bottom of base.

Mean Lumens Lumen output of a light source after the source has been used. Mean lumen values for fluorescent and HID lamps are typically measured at 40% of their rated lives. Most high pressure sodium and mercury lamps are measured at 50% of their rated lives. All measurements are made on ANSI reference ballasts. Mean lumens are not typically measured for incandescent and tungsten halogen lamps.

Mean Spherical Candela (MSCD) The average value of the luminous intensity of a light source in all directions. To convert MSCD to Lumens, multiply by 4π (12.57).

NAED A five-digit number used to identify a specific OSRAM SYLVANIA lamp. The NAED numbers in this catalog are labeled Product Number and should be used when ordering OSRAM SYLVANIA products. NAED is the abbreviation for National Association of Electrical Distributors.

Nanometer (nm) A unit of length equal to 10-9 meters; commonly used as a unit of wavelength.

Nominal Watts Wattage used to describe a lamp. Also see Watt.

OFR Abbreviation for “ozone free” technology. Lamps with the designation OFR do not generate ozone during operation.

Operating Position Some lamps are specified/designed to be operated in certain positions, i.e., horizontal or base up.

Ordering Abbreviation Provides a shorthand description of the lamp, using a unique code which can be used when ordering a lamp if the Product Number is not known. An example would be: CF15EL/R30/830/MED, which translates to a 15-watt Soft White DULUX® EL reflector electronic self-ballasted compact fluorescent lamp with an R30 reflector, 82 CRI, 3000K color temperature and a medium screw base.

PAR Lamps Pressed aluminized reflector lamp, with the outer bulb formed from two pressed glass parts that are fused or sealed together. PAR lamps may be incandescent, halogen or HID types.

Parallel vs. Series Wiring configurations for ballasts. Ballasts with parallel lamp circuitry have the benefit of companion lamps remaining lit, even if one of the lamps operated by the ballast should fail. Systems with series lamp wiring, should one lamp fail, all lamps operated on the series ballast will turn off (magnetic ballasts and many rapid start electronic types).

Power Factor A measure of the effectiveness with which an electrical device converts volt-amperes to watts; devices with power factors (>0.90) are “high power factor” devices.

Preheat A class of fluorescents requiring a starter, which allows the lamp and filaments to be properly heated before allowing the ballast to supply the correct current flow.

Product Number (See NAED.)

Programmed Rapid Start (PRS) A method of starting fluorescent lamps where cathode heat is applied prior to lamp ignition, then removed or reduced once the lamp has ignited. PROStart® ballasts maximize the number of lamp starting cycles while maintaining energy efficiency. This is the preferred mode of lamp starting for applications with occupancy sensors and several on/off cycles per day. PROStart systems will strike and restrike reliably in cold conditions starting as low as -20°C.

Rapid Start (RS) Rapid start ballasts apply a low filament voltage to preheat the cathodes. Simultaneously, a starting voltage (lower than that used in instant start) is also applied to strike the arc. When the cathodes are hot enough, the lamp will strike. The filament voltage continues to be applied throughout the operation of the lamp. Rapid start ballasts appear to have a slight turn on delay compared to instant start. They will typically not be able to start lamps reliably under 50°F.

Reference Ballast A ballast specially constructed to have certain prescribed characteristics for use in testing electric-discharge lamps and other ballasts. Reference ballasts are typically defined by ANSI.

Reflector A device used to redirect the light by the process of reflection. Display/Optic reflector lamps utilize ellipsoidal (converging light rays) or parabolic (collimating light rays) reflectors. Dichroic coated reflectors are designed to reflect visible light and pass through unwanted infrared wavelengths.

Resistance (R) A measure of resistance to flow of current, expressed in ohms (Ω).

Safety Ballasts should be installed and operated in compliance with the National Electric Code (NEC), Underwriters Laboratories Inc. (UL) requirements, and all applicable codes and regulations. Since it is possible to come in contact with potentially hazardous voltages, only qualified personnel should perform ballast installation. All installation, inspection and maintenance of lighting fixtures should be done with the power to the fixture turned off.

Shielding A general term to include all devices used to block, diffuse or redirect light rays, including baffles, louvers, shades, diffusers and lenses.

Single-Ended Lamps having a single lamp base or point of electrical connection.

Spectral Power Distribution (SPD) A curve illustrating the distribution of radiant power produced by the lamp, at each wavelength across the spectrum.

Spotlight A luminaire using halogen/incandescent or a high intensity discharge (HID) lamp that produces a narrow beam angle designed to illuminate a specifically defined area. It can also be called a reflector lamp.

TCLP Test (Toxicity Characteristic Leaching Procedure) Federal EPA regulations (RCRA of 1990) have defined a TCLP test to determine whether wastes are to be treated as hazardous or non-hazardous.

Total Harmonic Distortion (THD) A measure of the distortion of an electrical wave form. Excessive THD (defined by ANSI as greater than 32%) may cause adverse effects to the electrical system. <20% THD ballasts are fine for most applications. However, in buildings with neutral problems caused by high THD loads such as computers, printers, DC supplies, etc., the <10% THD products can help reduce the overall % of Total Harmonic Distortion.

Transient Protection OSRAM SYLVANIA ballasts meet ANSI 62.41 Category A. This helps ensure immunity to electrical disturbances such as power line transients, and temporary line voltage dropouts, surges and sags.

Trigger Start A circuit used to eliminate the starter and start the preheat lamp almost instantly. In this circuit each electrode is connected to a separate winding in the ballast so that the electrode is continuously heated.

Tungsten Halogen Cycle A regenerative cycle of tungsten and halogen atoms, which, when incorporated into the design of halogen light sources, prevents blackening of the lamp envelope during life.

Voltage (V) A measure of electrical potential, expressed in volts (V). Voltage is the “force” that pushes electrical current through a conductor.

Watt (W) A unit of electrical power equal to 1 joule per second. Lamps are rated in watts to indicate power consumption. Also see Nominal Watts.

Wavelength (l) Distance between two successive points of a periodic wave; the wavelengths of light are typically expressed in nanometers (nm), or billionths of a meter. (See Focal Distance.)

Fluorescent

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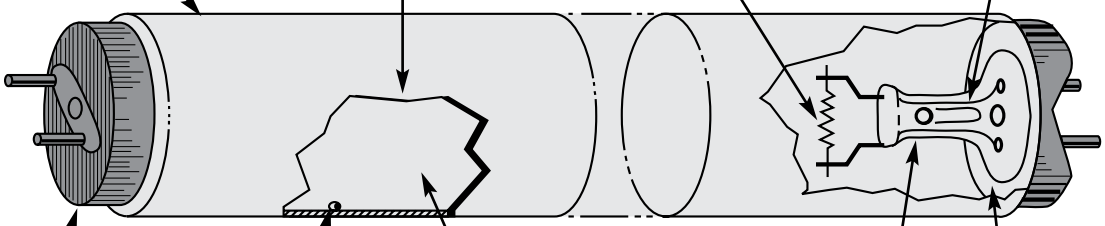
Color coding system:

Premium products | Standard products | Safety coated products | Products to be discontinued

OSRAM SYLVANIA: THE LEADER IN ENERGY SAVING FLUORESCENT LAMPS

The fluorescent lamp is an electric discharge device which utilizes a low pressure mercury vapor arc to generate ultra-violet (plus a little visible) energy. The ultra-violet energy is absorbed by a phosphor coat on the inside of the glass tube and converted by the phosphor to visible wavelengths; the wavelengths of the light generated are determined by the composition of the phosphor. In addition to the small amount of mercury vapor, the fluorescent tube contains an atmosphere of an inert gas, usually argon, krypton, neon or a mixture of two or more of these gases. The pressure of the gases contained in the lamp is very low, usually from 2 to 3 torr. Atmospheric pressure is 760 torr.



BULB
Usually straight glass tube. May also be circular or U-shaped.

PHOSPHOR
Coating inside the bulb transforms ultraviolet radiation into visible light. Color of light produced depends on composition of phosphor.

CATHODE
"Hot cathodes" at each end of lamp are coated with emissive materials which emit electrons. Usually made of coiled-coil or single-coil tungsten wire.

EXHAUST TUBE
Air is exhausted through this tube during manufacture and inert gas introduced into the bulb.

BASE
Several different types used to connect the lamp to the electric circuit and to support the lamp in the lampholder.

MERCURY
A minute quantity of liquid mercury is placed in the bulb to furnish mercury vapor.

GAS
Usually argon or a mixture of inert gases at low pressure. Krypton is sometimes used.

STEM PRESS
The lead-in wires have an air tight seal here and are made of specific wire to assure about the same coefficient of expansion as the glass.

LEAD-IN WIRES
Connect to the base pins and carry the current to and from the cathodes and the mercury arc.

HOW TO READ PRODUCT INFORMATION – FLUORESCENT

Wattage	Bulb	Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Avg Rated Life (hrs)	CCT (K)	CRI	Approx Lumens Initial @25°C/77°F	Approx Lumens Mean @35°C/95°F	Symbols & Footnotes
32	T8	48	47.78	Med Bipin	21763	F032/835XP/ECO	30	24000	3500	85	3000	2850	,,3,12,13,17,19
34	T12	48	47.78	Med Bipin	24596	F34CW/SS/ECO Formerly F40CW/SS/ECO	30	20000	4200	60	2650	2280	©,,,3,8,12,13,17
60	T12	96	94	Single Pin	29815	F96T12/CW/SS	15	12000	4200	60	5300	4665	©,,3,9,12,13,17

Nominal Wattage	Design wattage on reference ballast. Actual wattage dependent on ballast.
Bulb	Describes the shape of the bulb followed by the bulb's diameter at its widest point. The diameter value is expressed in eighths of an inch. Ex. T = Tubular, 8 = $^{8}/_{8}$ inch = 1 inch. Please see page 7 for bulb illustrations.
Base	Please see page 7 for base illustrations.
Nominal Length	The nominal length of linear fluorescent lamps is typically measured from back of lampholder to back of lampholder. PENTRON® linear lamp, CURVALUME® and Circline lamps are exceptions. The nominal length given for PENTRON linear lamps is the closest familiar nominal length. CURVALUME lamps are measured from the face of the bases to the outside of the glass bend. The measurement for Circline lamps is the outside diameter. Values are in inches.
MOL	Maximum overall length. The length of the lamp measured in inches.
Symbols & Footnotes	Most symbols and footnotes that apply to a specific product will appear in this space. The explanations of the symbols and footnotes are at the end of the fluorescent section.
Ordering Abbreviation	A text description of the lamp. Please see below for several examples and explanations of some of the codes.
CCT	Correlated Color Temperature. The degree of "whiteness" of the light. Expressed in Kelvins (K). Please see page 6 for more information.
CRI	Color Rendering Index. A numbering system for rating the relative color rendering quality of a light source compared to a standard. Please see page 6 for more information.
Initial & Mean Lumens	Initial lumens are measured when the lamp has been operating for 100 hours. Mean lumens are typically measured at 40% of the rated life of the lamp. For longer life lamps such as the OCTRON® XP® lamps, the mean lumens are measured at the same point in time as they are measured for the standard lamps they replace. Fluorescent lamp lumens are typically measured at 25°C (77°F). The lamp lumens are measured at both 25°C (77°F) and 35°C (95°F) for PENTRON® linear lamps.

HOW TO READ ORDERING ABBREVIATIONS

F032/835XP/ECO		F34CW/SS		FP54/830/HO		F96T12/CW/SS	
F	Fluorescent	F	Fluorescent	F	Fluorescent	F	Fluorescent
O	OCTRON®	34	Nominal lamp wattage	P	PENTRON®	96	96" nominal length
32	Nominal lamp wattage	CW	Cool White phosphor	54	Nominal lamp wattage	T	Tubular Shape Bulb
8	85 CRI	SS	SUPERSAVER® – reduced wattage lamp	8	85 CRI	12	Bulb diameter; $^{12}/_{8}$ inch = 1½ inches
35	3500K CCT	ECO®	ECOLOGIC® – TCLP passing lamp	30	3000K CCT	CW	Cool White phosphor
XP®	EXtended Performance			HO	High Output	SS	SUPERSAVER – reduced wattage lamp
ECO®	ECOLOGIC® – TCLP passing lamp			XL	EXtended Life		
				ECO®	ECOLOGIC® – TCLP passing lamp		

LAMP DISPOSAL LABELING

The following information appears on the packages of fluorescent lamps. For more information on lamp disposal labeling, see the inside back cover of this catalog.

Hg LAMP CONTAINS MERCURY

Manage in accordance with disposal laws
See www.lamprecycle.org or 1-866-666-6850

For weight and measurement information, please visit www.sylvania.com

FLUORESCENT COMPETITIVE GUIDES

NOTE: These tables are intended only as guides and may represent another lamp company's most similar product or product family rather than an identical match. Individual manufacturer's performance values should be consulted. Environmental conditions, ballast type and other auxiliary equipment may affect lamp performance.

FLUORESCENT BRAND NAMES

SYLVANIA	GE*	PHILIPS**
CURVALUME® (FB)	MOD-U-LINE	U-Bent (FB)
CWX		Home Light Everywhere (HL Everywhere)
DESIGN 50® (DSGN50)	Chroma 50 (C50)	Colortone 50 (C50)
DESIGNER® Series	Specification Series (SP)	SPEC or TL700
DESIGNER 800 Series	Specification Series (SPX)	Ultralume or TL800
DESIGNER Cool White	SP41	Home Light Cool (HL Cool)
DESIGNER Cool White PLUS	SPX41	41U
DESIGNER Warm White	Kitchen and Bath ULTRA (70 CRI)	SPEC30
DESIGNER Warm White PLUS (DWWP)	Kitchen and Bath ULTRA (80 CRI)	Home Light WX (HL WX)
DESIGNER 700, 3500K (D35)	SP35	Home Light Warm (HL Warm)
ECOLOGIC® (ECO®)	Ecolux (ECO)	ALTO
GRO-LUX®	Gro & Sho/Plant & Aquarium/Terrarium	Agro-Lite (AGRO)
ICETRON®	–	–
OCTRON®	T8 (was Trimline)	TL70/TL80
OCTRON 700 XP® ECO	SP Ecolux XL T8 Lamps with Starcoat	TL700 PLUS ALTO
OCTRON 800 XP ECO	SPX Ecolux XL T8 Lamps with Starcoat	TL800 PLUS ALTO
OCTRON 800 XPS ECO	SPX Ecolux XL HL T8 Lamps with Starcoat	–
OCTRON 950	–	TL950
PENTRON®	T5 Starcoat	SILHOUETTE™
SAFELINE®	covRguard	–
SUN STICK®	SUN (Sunshine)	C50
SUPERSAVER® (SS)	Watt-Miser (WM)	Econ-o-Watt (EW)
HO (800mA)	HO (800mA)	HO (800mA)
VHO (1500mA)	1500 (1500mA) & Power Grove	VHO (1500mA) (was SHO)
VHO/LT	T10/1500MA	VHO-0
XP®	XL	Plus
XP/XL	SXL	XLL
XP/XL/SS	–	EW/LL
XPS®	–	Advantage

* Trademarks or registered trademarks of General Electric Company ** Trademarks or registered trademarks of Philips

FLUORESCENT COLOR CROSS REFERENCE

SYLVANIA	GE	PHILIPS	SYLVANIA	GE	PHILIPS
CW	CW	CW	D41	SP41	Spec 41
CWX	–	CWX, HL Everywhere	–	SP65	–
D	D	D	D830	SPX30	30U
DX	DX	DX	D835	SPX35	35U
DSGN50	C50	50	D841	SPX41	41U
DSGN50	SGN	C50	D865	–	–
DCW, D41	SP41	HL Cool	730	SP30	730
DCWP	SPX41	U41	735	SP35	735
DWW, D30	KB / 70 CRI, SP30	SPEC30	741	SP41	741
DWWP, D830	KB / 82 CRI, SPX30	HL WX	750	SP50	750
D35	SP35	HL Warm	765	SP65	–
GRO/AQ	–	AGRO	827	SPX27	27
GRO/WS/AQ	PL/AQ	–	830	SPX30	30, 830
N	N	N	841	SPX41	41, 841
SUN STICK	SUN	C50	850	SPX50	50, 850
WW	WW	WW	865	SPX65	865
D30	SP30	Spec 30	950	–	950
D35	SP35	Spec 35	–	–	–

FLUORESCENT COMPETITIVE GUIDES (continued)

FLUORESCENT ELECTRICAL INTERCHANGEABILITY

SYLVANIA	GE	PHILIPS
Linear Lamps		
F18T8/CW/K/23	F24"T8/CW/4	F15T8/CW/24
F18T8/CW/K/26	F26"T8/CW/4	F16T8/CW/26
F18T8/CW/K/28	F28"T8/CW/4	F17T8/CW/28
F18T8/CW/K/30	F30"T8/CW/4	F18T8/CW/30
F34CW/SS	F34CW/WM	F34CW/EW
Formerly known as F40CW/SS	F40CW/WM	F40CW/EW
F96T12/CW/SS	F96T12/CW/WM	F96T12/CW/EW
FB40/D41/6	F40/SP41/U/6	FB40/SPEC41/6
FB40/CW/6/SS (new FB34/CW/6/SS)	F40CW/U/6/WM (new F34CW/U/6/WM)	FB40/CW/6/EW (new F34/CW/6/EW)
OCTRON®	T8 (was Trimline)	TL70/TL80
OCTRON 700 Series	T8 SP	TL70
OCTRON 800 Series	T8 SPX	TL80
FO17…	F17T8/SP(or SPX)…	F17T8/TL…
FO25…	F25T8/SP(or SPX)…	F25T8/TL…
FO32…	F32T8/SP(or SPX)…	F32T8/TL…
FO32/…XP®	F32T8/XL/SP (or SPX)	F32T8/TL…PLUS
FO32/8…XP/XL	F32T8/SXL	F32T8/XLL
FO32/8…XP/XL/SS	–	F32T8/EW/LL
FO32/…/XPS®/ECO®	–	F32T8/ADV
FO30…XP/SS/ECO	F32T8/SP…/IS/WM/ECO	F32T8/ADV8…/EW
FO28/8…XP/SS/ECO	–	–
FO32/25W/8…XP/SS/ECO	–	F32T8/ADV8…/XEW/ALTO
FO40…	F40T8/SP…(or SPX)	F40T8/TL
FO72…	–	–
FO96…	F96T8/SP…(or SPX)	F96T8/TL…
FO96/7…XP/ECO	F96T8/XL.SP…	–
FO96/8…XP/ECO	F96T8/XL/SPX…	–
FO96/8…XP/SS/ECO	F96T8/SP…/WM	–
–	–	F48T8/TL…/HO
–	–	F60T8/TL…/HO
–	–	F72T8/TL…/HO
FO96…/HO/ECO	F96T8/SP (or SPX)…/HO	F96T8/TL…/HO
–	F25T12/SP…(for T8 electronic ballasts)	–
FBO16…	–	–
FBO24…	–	–
FBO27	–	–
FBO28	–	–
FBO29/8…XP/SS/ECO	–	FB29T8/TL8…/EW/ALTO
FB03018...XP/6/SS	F32T8/SPX...U6/WM/ECO	–
FBO31…	F31T8/SPX…/U	FB31T8/TL8…/ALTO
FBO31…XP	–	–
FBO32…	F32T8/SP(or SPX)…/U6	FB32T8/TL…/6
FBO32…XP	–	–
FBO31/…XPS/ECO	–	–
FBO32/…XPS/ECO	–	–
FBO32/8…XP/SS/ECO	–	–
FP14/8…	F14/T5/8…	F14T5/8...
FP21/8…	F21/T5/8…	F21T5/8…
FP28/8…	F28/T5/8…	F28T5/8…
FP35/8…	F35/T5/8…	F35T5/8…
FP24/8…/HO	F24/T5/8…/HO	F24T5/8…/HO
FP39/8…/HO	F39/T5/8…/HO	F39T5/8…/HO
FP54/8../HO	F54/T5/8../HO	F54T5/8…/HO
FP80/8…/HO	F80/T5/8…/HO	F80T5/8…/HO
–	F40T17/CW/IS	–
–	F96T17/…	–
HO (800mA)	HO (800mA)	HO (800mA)
F96T12/…/HO/COLDTEMP	F96T12/…/HO/CT	F96T12/…/HO-0
VHO (1500mA)	1500 or PG17 (both 1500mA)	VHO (1500mA)
VHO/LT (1500mA)	T10, 1500-0 (both1500mA)	VHO-0 (1500mA)

Specifications subject to change without notice.

Symbols/Footnotes on pages 41-43

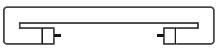
FLUORESCENT LAMP COLORS

COLOR	COLOR ABBREVIATION	CORRELATED COLOR TEMPERATURE	COLOR RENDERING INDEX
OCTRON® "800" 2700K	827	2700	85
OCTRON XP® "800" 2700K	827	2700	85
WARM WHITE DELUXE	WWX	2900	82
WARM WHITE	WW	3000	52
WARM WHITE PLUS	WWP	3000	70
DESIGNER® 3000K	D30	3000	70
DESIGNER WARM WHITE	DWW	3000	70
DESIGNER "800" 3000K	D830	3000	80
DESIGNER WARM WHITE PLUS	DWWP	3000	80
OCTRON "700" 3000K	730	3000	75
OCTRON XP "700" 3000K	730	3000	78
OCTRON "800" 3000K	830	3000	82
OCTRON XP "800" 3000K	830	3000	85
OCTRON XPS® "800" 3000K	830	3000	85
PENTRON® 3000K	830	3000	85
GRO-LUX®Aquarium WIDE SPECTRUM	GRO/AQ/WS	3400	89
WHITE	W	3450	57
DESIGNER 3500K	D35	3500	70
DESIGNER "800" 3500K	D835	3500	80
ICETRON® 3500K	835	3500	80
PENTRON® 3500K	835	3500	85
OCTRON "700" 3500K	735	3500	75
OCTRON XP "700" 3500K	735	3500	78
OCTRON "800" 3500K	835	3500	82
OCTRON XP "800" 3500K	835	3500	85
OCTRON XPS "800" 3500K	835	3500	86
NATURAL WHITE	N	3600	86
DESIGNER 4100K	D41	4100	70
DESIGNER COOL WHITE	DCW	4100	70
DESIGNER "800" 4100K	D841	4100	80
DESIGNER COOL WHITE PLUS	DCWP	4100	80
ICETRON 4100K	841	4100	80
OCTRON "700" 4100K	741	4100	75
OCTRON XP "700" 4100K	741	4100	78
OCTRON "800" 4100K	841	4100	82
OCTRON XP "800" 4100K	841	4100	85
OCTRON XPS "800" 4100K	841	4100	86
PENTRON 4100K	841	4100	85
COOL WHITE DELUXE	CWX	4100	87
COOL WHITE	CW	4200	60
COOL WHITE PLUS	CWP	4100	70
ICETRON 5000K	850	5000	80
OCTRON "700" 5000K	750	5000	75
OCTRON "800" 5000K	850	5000	80
OCTRON XP "800" 5000K	850	5000	85
OCTRON "900" 5000K	950	5000	90
PENTRON 5000K	580	5000	85
DESIGN 50®	DSGN50	5000	90
DAYLIGHT FULL SPECTRUM	DAYLIGHTFULL SPECTRUM	5000	90
DAYLIGHT®	DAYLIGHT	6500	76
DAYLIGHT 6500	DAYLIGHT6500V	6500	80
OCTRON "700" 6500K	765	6500	75
OCTRON XP "800" 6500K	865	6500	85
PENTRON 6500K	865	6500	85
DESIGNER 6500K	865	6500	80
DAYLIGHT DELUXE	DX	6500	88
OCTRON SKYWHITE	SKYWHITE	8000	88

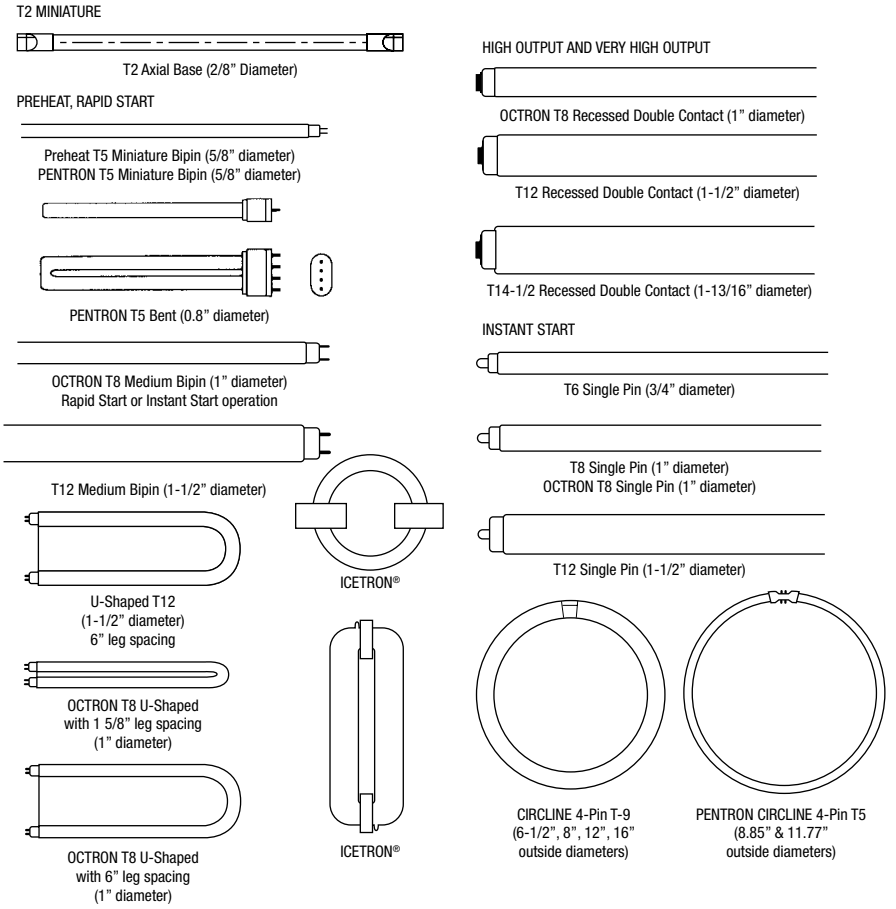
For a more complete manufacturers' cross reference, please see that section of this catalog or visit the electronic catalog at www.sylvania.com.

FLUORESCENT LAMPS

The bulb shape and size of a fluorescent lamp are expressed by means of a code consisting of the letter "T" (which designates that the bulb is "tubular" in shape) followed by a number that expresses the diameter in eighths of an inch. Diameters range from T2 (¼ inch) to T17 (2⅛ inch). In nominal overall length, linear fluorescent lamps range from 6 to 96 inches. The nominal length is measured from back of lamp holder to back of lamp holder. For example, the actual overall length of the 40-watt rapid start T12 lamp with a nominal length of 48 inches is 47¾ inches. The nominal length given for PENTRON® linear lamps is the closest familiar nominal length. CURVALUME® U-shaped fluorescent lamps are available as OCTRON® T8 lamps with leg spacings of 1⅝ inches and 6 inches and as rapid start T12 lamps with 6 spacings of 6 inches. The leg spacing is measured from the center of one leg to the center of the other leg. The overall length of the CURVALUME lamps is measured from the face of the bases to the outside of the glass bend. Circline lamps, which are circular in shape, are available as T9 lamps with outside diameters of 6½, 8, 12 and 16 inches as well as PENTRON T5 lamps with outside diameters of 8.85 and 11.77 inches.

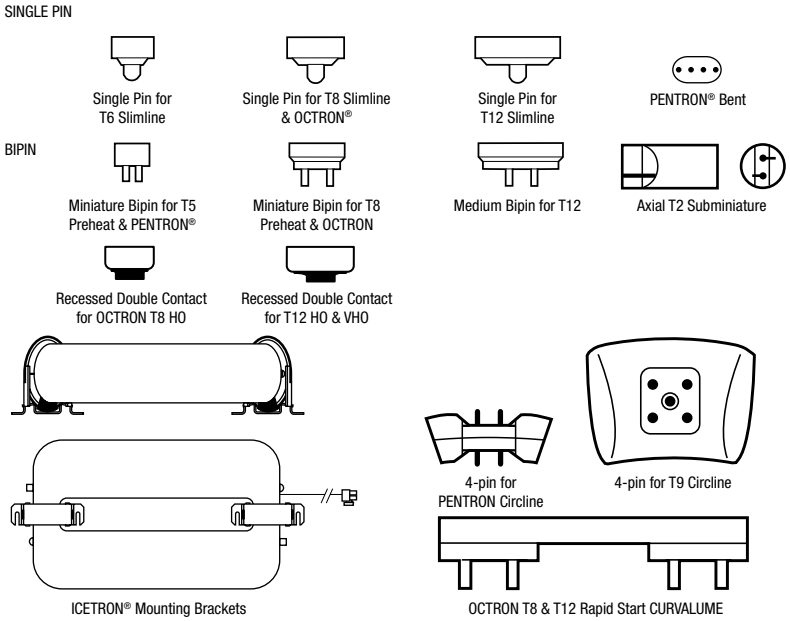


PENTRON T5 and T5HO SEAMLESS
(5/8" diameter)



BASES

For linear Preheat and Rapid Start Lamps, four electrical contacts are required, two at each end of the lamp. This is accomplished in the standard line of lamps by the use of a miniature bipin base for T5 lamps and a medium bipin for T8 and T12 lamps. The OCTRON® T8 medium bipin lamps may also be operated as instant start lamps with the proper wiring and ballasts. When operating OCTRON bipin lamps with instant start ballasts, the two contacts in the lamp holder are shorted together and connected to the single circuit in the ballast. In Circline lamps, the cathodes are connected to a 4-pin base located between the junction of the two ends of the lamp. High Output (HO) and Very High Output (VHO) lamps have recessed double contact (RDC) type bases. Slimline Instant Start lamps require only two electrical contacts, one on each lamp end and have single pin bases.



OCTRON® FLUORESCENT LAMPS

OCTRON® 800 XP® XL® SS Extended Performance, Extended Life, SUPERSAVER® ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25˚C/77˚F	Notes
28	T8	48	47.78	Med Bipin	21528	F028/830/XP/XL/SS/ECO3	30	36000	52000	60000	62000	3000	85	2600 (2495)	©*,3,6,12,13,17,19
					22166	F028/835/XP/XL/SS/ECO3	30	36000	52000	60000	62000	3500	85	2600 (2495)	©*,3,6,12,13,17,19
					22167	F028/841/XP/XL/SS/ECO3	30	36000	52000	60000	62000	4100	85	2600 (2495)	©*,3,6,12,13,17,19
					22326	F028/850/XP/XL/SS/ECO3	30	36000	52000	60000	62000	5000	81	2600 (2495)	©*,3,6,12,13,17,19
25	T8	48	47.78	Med Bipin	22349	F032/25W/830/XP/XL/SS/ECO3	30	36000	52000	60000	62000	3000	85	2400 (2305)	3,6,12,13,17,19
					22222	F032/25W/835/XP/XL/SS/ECO3	30	36000	52000	60000	62000	3500	85	2400 (2305)	3,6,12,13,17,19
					22223	F032/25W/841/XP/XL/SS/ECO3	30	36000	52000	60000	62000	4100	85	2400 (2305)	3,6,12,13,17,19

OCTRON® 800 XP® XL® Extended Performance, Extended Life ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25˚C/77˚F	Notes
32	T8	48	47.78	Med Bipin	21527	F032/830/XP/XL/ECO3	30	36000	52000	60000	62000	3000	85	2950 (2830)	©*,3,6,12,13,17,19
					21576	F032/835/XP/XL/ECO3	30	36000	52000	60000	62000	3500	85	2950 (2830)	©*,3,12,13,17,19
					21577	F032/841/XP/XL/ECO3	30	36000	52000	60000	62000	4100	85	2950 (2830)	©*,3,12,13,17,19
					22002	F032/850/XP/XL/ECO3	30	36000	52000	60000	62000	5000	81	2950 (2830)	©*,3,12,13,17,19

*means this bulb meets Federal minimum efficiency standards

T8 Medium Bipin (1" diameter)

OCTRON® FLUORESCENT LAMPS

OCTRON® 800 XPS® ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25˚C/77˚F	Notes
32	T8	48	47.78	Med Bipin	21680	F032/830/XPS/ECO	30	24000	40000	40000	42000	3000	85	3100 (2915)	Ⓔ*, 3,12,13,17,19
					21697	F032/835/XPS/ECO	30	24000	40000	40000	42000	3500	85	3100 (2915)	Ⓔ*, 3,12,13,17,19
					21681	F032/841/XPS/ECO	30	24000	40000	40000	42000	4100	85	3100 (2915)	Ⓔ*, 3,12,13,17,19
					21660	F032/850/XPS/ECO	30	24000	40000	40000	42000	5000	81	3000 (2820)	Ⓔ*, 3,12,13,17,19
					21659	F032/865/XPS/ECO	30	24000	40000	40000	42000	6500	81	2900 (2725)	Ⓔ*, 3,12,13,17,19
17	T8	24	23.78	Med Bipin	22150	F017/830/XPS/ECO	30	24000	40000	40000	42000	3000	85	1400 (1315)	3,12,13,17,19
					22151	F017/835/XPS/ECO	30	24000	40000	40000	42000	3500	85	1400 (1315)	3,12, 13,17,19
					22152	F017/841/XPS/ECO	30	24000	40000	40000	42000	4100	85	1400 (1315)	3,12,13,17,19
25	T8	36	35.78	Med Bipin	22153	F025/830/XPS/ECO	30	24000	40000	40000	42000	3000	85	2200 (2070)	3,12,13,17,19
					22154	F025/835/XPS/ECO	30	24000	40000	40000	42000	3500	85	2200 (2070)	3,12,13,17,19
					22155	F025/841/XPS/ECO	30	24000	40000	40000	42000	4100	85	2200 (2070)	3,12,13,17,19

OCTRON 800 XP® 4-Foot SUPERSAVER® ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25˚C/77˚F	Notes
25	T8	48	47.78	Med Bipin	22232	F032/25W/830/XP/SS/ECO	30	24000	40000	40000	42000	3000	85	2500 (2350)	3,6,12,13,17,19
					22233	F032/25W/835/XP/SS/ECO	30	24000	40000	40000	42000	3500	85	2500 (2350)	3,6,12,13,17,19
					22234	F032/25W/841/XP/SS/ECO	30	24000	40000	40000	42000	4100	85	2500 (2350)	3,6,12,13,17,19
					22235	F032/25W/850/XP/SS/ECO	30	24000	40000	40000	42000	5000	81	2500 (2350)	3,6,12,13,17,19
28	T8	48	47.78	Med Bipin	22177	F028/830/XP/SS/ECO	30	24000	40000	40000	42000	3000	85	2725 (2560)	Ⓔ*, 3,6,12,13,17,19
					22178	F028/835/XP/SS/ECO	30	24000	40000	40000	42000	3500	85	2725 (2560)	Ⓔ*, 3,6,12,13,17,19
					22179	F028/841/XP/SS/ECO	30	24000	40000	40000	42000	4100	85	2725 (2560)	Ⓔ*, 3,6,12,13,17,19
					22184	F028/850/XP/SS/ECO	30	24000	40000	40000	42000	5000	81	2725 (2560)	Ⓔ*, 3,6,12,13,17,19

*means this bulb meets Federal minimum efficiency standards

T8 Medium Bipin (1" diameter)

OCTRON® FLUORESCENT LAMPS

OCTRON® 800 XP® SUPERSAVER® ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25°C/77°F	Notes
30	T8	48	47.78	Med Bipin	22063	F030/830/XP/SS/ECO	30	24000	40000	40000	42000	3000	85	2850 (2680)	Ⓔ*,,,3,6,12,13,17,19
					22060	F030/835/XP/SS/ECO	30	24000	40000	40000	42000	3500	85	2850 (2680)	Ⓔ*,,,3,6,12,13,17,19
					22062	F030/841/XP/SS/ECO	30	24000	40000	40000	42000	4100	85	2850 (2680)	Ⓔ*,,,3,6,12,13,17,19
					22202	F030/850/XP/SS/ECO	30	24000	40000	40000	42000	5000	81	2850 (2680)	Ⓔ*,,,3,6,12,13,17,19
21	T8	36	36	Med Bipin	22395	F025/21W/835/XP/SS/ECO3	30	24000	40000	40000	42000	3500	85	1925 (1810)	,,3,6,12,13,17,19
					22396	F025/21W/841/XP/SS/ECO3	30	24000	40000	40000	42000	4100	85	1925 (1810)	,,3,6,12,13,17,19
15	T8	24	24	Med Bipin	22405	F017/15W/830/XP/SS/ECO3	30	24000	40000	40000	42000	3000	85	1200 (1130)	,,3,6,12,13,17,19
					22406	F017/15W/835/XP/SS/ECO3	30	24000	40000	40000	42000	3500	85	1200 (1130)	,,3,6,12,13,17,19
					22407	F017/15W/841/XP/SS/ECO3	30	24000	40000	40000	42000	4100	85	1200 (1130)	,,3,6,12,13,17,19

*means this bulb meets Federal minimum efficiency standards

T8 Medium Bipin (1" diameter)

OCTRON® FLUORESCENT LAMPS

OCTRON® 800 XP® ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25°C/77°F	Notes
32	T8	48	47.78	Med Bipin	22039	F032/827/XP/ECO	30	24000	40000	40000	42000	2700	85	3000 (2820)	Ⓔ*,,, 3,12,13,17,19
					21759	F032/830/XP/ECO	30	24000	40000	40000	42000	3000	85	3000 (2820)	Ⓔ*,,, 3,12,13,17,19
					21763	F032/835/XP/ECO	30	24000	40000	40000	42000	3500	85	3000 (2820)	Ⓔ*,,, 3,12,13,17,19
					21767	F032/841/XP/ECO	30	24000	40000	40000	42000	4100	85	3000 (2820)	Ⓔ*,,, 3,12,13,17,19
					22026	F032/850/XP/ECO	30	24000	40000	40000	42000	5000	85	3000 (2820)	Ⓔ*,,, 3,12,13,17,19
					21720	F032/865/XP/ECO	30	24000	40000	40000	42000	6500	85	2850 (2680)	Ⓔ*,,, 3,12,13,17,19
					22594	F032/SKYWHITE/XP/ECO	30	24000	40000	40000	42000	8000	88	2650 (2490)	,, 3,12,13,17,19
17	T8	24	23.78	Med Bipin	21587	F017/827/XP/ECO	30	24000	40000	40000	42000	2700	85	1375 (1290)	,, 3,12,13,17,19
					21785	F017/830/XP/ECO	30	24000	40000	40000	42000	3000	85	1375 (1290)	,, 3,12,13,17,19
					21778	F017/835/XP/ECO	30	24000	40000	40000	42000	3500	85	1375 (1290)	,, 3,12,13,17,19
					21907	F017/841/XP/ECO	30	24000	40000	40000	42000	4100	85	1375 (1290)	,, 3,12,13,17,19
					22193	F017/850/XP/ECO	30	24000	40000	40000	42000	5000	85	1375 (1290)	,, 13,17,19
					21718	F017/865/XP/ECO	30	24000	40000	40000	42000	6500	85	1250 (1175)	,, 3,12,13,17,19
25	T8	36	35.78	Med Bipin	21910	F025/830/XP/ECO	30	24000	40000	40000	42000	3000	85	2175 (2045)	,, 3,12,13,17,19
					21776	F025/835/XP/ECO	30	24000	40000	40000	42000	3500	85	2175 (2045)	,, 3,12,13,17,19
					21774	F025/841/XP/ECO	30	24000	40000	40000	42000	4100	85	2175 (2045)	,, 3,12,13,17,19
					22194	F025/850/XP/ECO	30	24000	40000	40000	42000	5000	85	2175 (2045)	,, 3,12,13,17,19
					21719	F025/865/XP/ECO	30	24000	40000	40000	42000	6500	85	2175 (2045)	,, 3,12,13,17,19
40	T8	60	59.61	Med Bipin	21912	F040/830/XP/ECO	30	24000	40000	40000	42000	3000	85	3750 (3525)	,, 3,12,13,17,19
					21911	F040/835/XP/ECO	30	24000	40000	40000	42000	3500	85	3750 (3525)	,, 3,12,13,17,19
					21916	F040/841/XP/ECO	30	24000	40000	40000	42000	4100	85	3750 (3525)	,, 3,12,13,17,19
					21721	F040/865/XP/ECO	30	24000	40000	40000	42000	6500	85	3650 (3430)	,, 3,12,13,17,19

*means this bulb meets Federal minimum efficiency standards

OCTRON® FLUORESCENT LAMPS

OCTRON® 800 XV® SUPERSAVER® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25°C/77°F	Notes
25	T8	48	47.78	Med Bipin	22449	FO32/25W/835/XV/SS/ECO	30	24000	40000	40000	42000	3500	83	2400 (2255)	3,6,12,13,17,19
					22450	FO32/25W/841/XV/SS/ECO	30	24000	40000	40000	42000	4100	83	2400 (2255)	3,6,12,13,17,19
					22451	FO32/25W/850/XV/SS/ECO	30	24000	40000	40000	42000	5000	81	2400 (2255)	3,6,12,13,17,19
28	T8	48	47.78	Med Bipin	21429	FO28/830/XV/SS/ECO	30	24000	40000	40000	42000	3000	83	2600 (2445)	3,6,12,13,17,19
					21420	FO28/835/XV/SS/ECO	30	24000	40000	40000	42000	3500	83	2600 (2445)	3,6,12,13,17,19
					21421	FO28/841/XV/SS/ECO	30	24000	40000	40000	42000	4100	83	2600 (2445)	3,6,12,13,17,19
					21422	FO28/850/XV/SS/ECO	30	24000	40000	40000	42000	5000	81	2600 (2445)	3,6,12,13,17,19
30	T8	48	47.78	Med Bipin	21428	FO30/830/XP/SS/ECO	30	24000	40000	40000	42000	3000	83	2750 (2585)	3,6,12,13,17,19
					22446	FO30/835/XP/SS/ECO	30	24000	40000	40000	42000	3500	83	2750 (2585)	3,6,12,13,17,19
					22447	FO30/841/XP/SS/ECO	30	24000	40000	40000	42000	4100	83	2750 (2585)	3,6,12,13,17,19
					22448	FO30/850/XP/SS/ECO	30	24000	40000	40000	42000	5000	81	2750 (2585)	3,6,12,13,17,19

OCTRON® 800 XV® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25°C/77°F	Notes
32	T8	48	47.78	Med Bipin	21427	FO32/830/XV/ECO	30	24000	40000	40000	42000	3000	83	2900 (2725)	3,12,13,17,19
					22066	FO32/835/XV/ECO	30	24000	40000	40000	42000	3500	83	2900 (2725)	3,12,13,17,19
					20067	FO32/841/XV/ECO	30	24000	40000	40000	42000	4100	83	2900 (2725)	3,12,13,17,19
					20068	FO32/850/XV/ECO	30	24000	40000	40000	42000	5000	81	2900 (2725)	3,12,13,17,19

*means this bulb meets Federal minimum efficiency standards

OCTRON® FLUORESCENT LAMPS

OCTRON® 700 XP® ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25°C/77°F	Notes
32	T8	48	47.78	Med Bipin	21711	F032/730/XP/ECO	30	24000	36000	40000	42000	3000	78	2850 (2680)	Ⓔ*,,, 3,17,19,30,33
					22044	F032/735/XP/ECO	30	24000	36000	40000	42000	3500	78	2850 (2680)	Ⓔ*,,, 3,17,19,30,33
					21712	F032/741/XP/ECO	30	24000	36000	40000	42000	4100	78	2850 (2680)	Ⓔ*,,, 3,17,19,30,33

OCTRON® 800 ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25°C/77°F	Notes
32	T8	48	47.78	Med Bipin	21777	F032/830/ECO	30	24000	30000	30000	36000	3000	85	2950 (2775)	Ⓔ*,,, 3,12,13,17,19
					21779	F032/835/ECO	30	24000	30000	30000	36000	3500	85	2950 (2775)	Ⓔ*,,, 3,12,13,17,19
					21781	F032/841/ECO	30	24000	30000	30000	36000	4100	85	2950 (2775)	Ⓔ*,,, 3,12,13,17,19
					22143	F032/850/ECO	30	24000	30000	30000	36000	5000	81	2950 (2775)	Ⓔ*,,, 3,12,13,17,19
17	T8	24	23.78	Med Bipin	22135	F017/830/ECO	30	24000	30000	30000	36000	3000	82	1350 (1270)	,, 3,12,13,17,19
					22136	F017/835/ECO	30	24000	30000	30000	36000	3500	82	1350 (1270)	,, 3,12,13,17,19
					22137	F017/841/ECO	30	24000	30000	30000	36000	4100	82	1350 (1270)	,, 3,12,13,17,19
25	T8	36	35.78	Med Bipin	22138	F025/830/ECO	30	24000	30000	30000	36000	3000	82	2150 (2020)	,, 3,12,13,17,19
					22139	F025/835/ECO	30	24000	30000	30000	36000	3500	82	2150 (2020)	,, 3,12,13,17,19
					22140	F025/841/ECO	30	24000	30000	30000	36000	4100	82	2150 (2020)	,, 3,12,13,17,19
40	T8	60	59.61	Med Bipin	22144	F040/830/ECO	30	24000	30000	30000	36000	3000	82	3650 (3430)	,, 3,12,13,17,19
					22145	F040/835/ECO	30	24000	30000	30000	36000	3500	82	3650 (3430)	,, 3,12,13,17,19
					22146	F040/841/ECO	30	24000	30000	30000	36000	4100	82	3650 (3430)	,, 3,12,13,17,19

*means this bulb meets Federal minimum efficiency standards

OCTRON® FLUORESCENT LAMPS
OCTRON® 700 ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25°C/77°F	Notes
32	T8	48	47.78	Med Bipin	21997	F032/730/ECO	30	24000	28000	30000	35000	3000	78	2800 (2575)	Ⓔ*,,,3, 12,13,17,19,36
					21998	F032/735/ECO	30	24000	28000	30000	35000	3500	78	2800 (2575)	Ⓔ*,,,3, 12,13,17,19,36
					21999	F032/741/ECO	30	24000	28000	30000	35000	4100	78	2800 (2575)	Ⓔ*,,,3, 12,13,17,19,36
					22141	F032/750/ECO	30	24000	28000	30000	35000	5000	78	2800 (2575)	Ⓔ*,,,3, 12,13,17,19,36
					22175	F032/765/ECO	30	24000	28000	30000	35000	6500	78	2800 (2575)	Ⓔ*,,,3, 12,13,17,19,36
14	T8	18	17.91	Med Bipin	21666	F013/735/ECO	30	24000	28000	30000	35000	3500	75	830 (765)	,,3, 12,13,17,19,36
17	T8	24	23.78	Med Bipin	21918	F017/730/ECO	30	24000	28000	30000	35000	3000	75	1300 (1195)	,,3, 12,13,17,19,36
					21769	F017/735/ECO	30	24000	28000	30000	35000	3500	75	1300 (1195)	,,3, 12,13,17,19,36
					21770	F017/741/ECO	30	24000	28000	30000	35000	4100	75	1300 (1195)	,,3, 12,13,17,19,36
25	T8	36	35.78	Med Bipin	21937	F025/730/ECO	30	24000	28000	30000	35000	3000	75	1950 (1795)	,,3, 12,13,17,19,36
					21941	F025/735/ECO	30	24000	28000	30000	35000	3500	75	1950 (1795)	,,3, 12,13,17,19,36
					21942	F025/741/ECO	30	24000	28000	30000	35000	4100	75	1950 (1795)	,,3, 12,13,17,19,36
40	T8	60	59.61	Med Bipin	22102	F040/730/ECO	30	24000	28000	30000	35000	3000	75	3500 (3220)	,,3, 12,13,17,19,36
					22103	F040/735/ECO	30	24000	28000	30000	35000	3500	75	3500 (3220)	,,3, 12,13,17,19,36
					22104	F040/741/ECO	30	24000	28000	30000	35000	4100	75	3500 (3220)	,,3, 12,13,17,19,36

*means this bulb meets Federal minimum efficiency standards

T8 Single Pin (1" diameter)

T8 Recessed Double Contact (1" diameter)

OCTRON® ECOLOGIC® FLUORESCENT LAMPS

OCTRON® 800 XP® 8-Foot SUPERSAVER® ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
54	T8	96	94	Single Pin	22100	FO96/54W/835/XP/SS/ECO	24	24000	36000	3500	85	5700 (5360)	Ⓔ*,,, 3,5,12,13,17
					22101	FO96/54W/841/XP/SS/ECO	24	24000	36000	4100	85	5700 (5360)	Ⓔ*,,, 3,5,12,13,17
					22347	FO96/54W/850/XP/SS/ECO	24	24000	36000	5000	81	5700 (5360)	Ⓔ*,,, 3,5,12,13,17
50	T8	96	94	Single Pin	22420	FO96/50W/835/XP/SS/ECO	24	24000	36000	3500	85	5400 (5075)	Ⓔ*,,,, 3,5,12,13,17
					22421	FO96/50W/841/XP/SS/ECO	24	24000	36000	4100	85	5400 (5075)	Ⓔ*,,,, 3,5,12,13,17

OCTRON® 800 XP® 8, 6 and 4-Foot ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
59	T8	96	94	Single Pin	22036	FO96/830/XP/ECO	24	24000	36000	3000	85	6100 (5730)	Ⓔ*,,, 3,12,13,17
					22034	FO96/835/XP/ECO	24	24000	36000	3500	85	6100 (5730)	Ⓔ*,,, 3,12,13,17
					22032	FO96/841/XP/ECO	24	24000	36000	4100	85	6100 (5730)	Ⓔ*,,, 3,12,13,17
					22174	FO96/850/XP/ECO	24	24000	36000	5000	85	6100 (5730)	Ⓔ*,,, 3,12,13,17
44	T8	72	72	Single Pin	21598	FO72/835/XP/ECO	24	24000	36000	3500	85	4650 (4370)	,, 3,12,13,17
28	T8	48	48	Single Pin	21599	FO48/835/XP/ECO	24	24000	36000	3500	85	2850 (2680)	,, 3,12,13,17

OCTRON® 800 XV® 8-Foot SUPERSAVER® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
50	T8	96	94.00	Single Pin	21426	FO96/50W/835/XV/SS/ECO	24	24000	36000	3500	83	5100 (4795)	,Ⓔ*,,, 3,5,12,13,17
					21425	FO96/50W/841/XV/SS/ECO	24	24000	36000	4100	83	5100 (4795)	,Ⓔ*,,, 3,5,12,13,17
54	T8	96	94.00	Single Pin	21423	FO96/54W/835/XV/SS/ECO	24	24000	36000	3500	83	5400 (5075)	,Ⓔ*,,, 3,5,12,13,17
					21424	FO96/54W/841/XV/SS/ECO	24	24000	36000	4100	83	5400 (5075)	,Ⓔ*,,, 3,5,12,13,17

*means this bulb meets Federal minimum efficiency standards

T8 Single Pin (1" diameter)

T8 Recessed Double Contact (1" diameter)

OCTRON® 800 8-Foot ECOLOGIC® Lamps

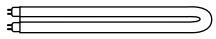
Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
59	T8	96	94	Single Pin	22147	F096/830/ECO	24	24000	30000	3000	82	5900 (5430)	®*,,, 3,12,13,17
					22148	F096/835/ECO	24	24000	30000	3500	82	5900 (5430)	®*,,, 3,12,13,17
					22149	F096/841/ECO	24	24000	30000	4100	82	5900 (5430)	®*,,, 3,12,13,17
					22173	F096/850/ECO	24	24000	30000	5000	81	5900 (5430)	®*,,, 3,12,13,17
86	T8	96	93.91	Recess-edDC	22206	F096/835/HO/ECO	24	18000	27000	3500	85	8200 (7710)	®*,,, 3,12,13,17
					22207	F096/841/HO/ECO	24	18000	27000	4100	85	8200 (7710)	®*,,, 3,12,13,17

OCTRON® ECOLOGIC® FLUORESCENT LAMPS

OCTRON® 700 8-Foot ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
59	T8	96	94	Single Pin	22030	F096/730/ECO	24	15000	22500	3000	75	5700 (5245)	®*,,, 3,12,13,17,36
					21737	F096/735/ECO	24	15000	22500	3500	75	5700 (5245)	®*,,, 3,12,13,17,36
					21736	F096/741/ECO	24	15000	22500	4100	75	5700 (5245)	®*,,, 3,12,13,17,36
86	T8	96	93.91	Recess-edDC	22204	F096/735/HO/ECO	24	18000	27000	3500	78	8000 (7520)	®*,,, 3,12,13,17
					22205	F096/741/HO/ECO	24	18000	27000	4100	78	8000 (7520)	®*,,, 3,12,13,17

*means this bulb meets Federal minimum efficiency standards



T8 U-shaped with 1-5/8" leg spacing (1" diameter)

OCTRON® CURVALUME® FLUORESCENT LAMPS

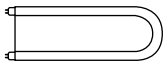
OCTRON® 800 XP® SUPERSAVER® CURVALUME® U-SHAPED ECOLOGIC® Lamps – 1-5/8" Leg Spacing

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25˚C/77˚F	Notes
29	T8	22.5	22.6	Med Bipin	22195	FBO29/830/XP/SS/ECO	15	18000	26000	24000	30000	3000	85	2775 (2610)	Ⓔ*,,,3,12, 13,17,19,20,27
					22196	FBO29/835/XP/SS/ECO	15	18000	26000	24000	30000	3500	85	2775 (2610)	Ⓔ*,,,3,12, 13,17,19,20,27
					22197	FBO29/841/XP/SS/ECO	15	18000	26000	24000	30000	4100	85	2775 (2610)	Ⓔ*,,,3,12, 13,17,19,20,27

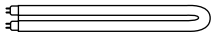
OCTRON® 800 XP® CURVALUME® U-SHAPED ECOLOGIC® Lamps – 1-5/8" Leg Spacing

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25˚C/77˚F	Notes
31	T8	22.5	22.6	Med Bipin	21693	FBO31/830/XP/ECO	15	18000	26000	24000	30000	3000	85	2775 (2610)	Ⓔ*,,,3, 12,13,17,19,20
					21695	FBO31/835/XP/ECO	15	18000	26000	24000	30000	3500	85	2775 (2610)	Ⓔ*,,,3, 12,13,17,19,20
					21696	FBO31/841/XP/ECO	15	18000	26000	24000	30000	4100	85	2775 (2610)	Ⓔ*,,,3, 12,13,17,19,20

*means this bulb meets Federal minimum efficiency standards



T8 U-Shaped with 6” leg spacing (1” diameter)



T8 U-shaped with 1-5/8” leg spacing (1” diameter)

CURVALUME® FLUORESCENT LAMPS

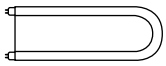
OCTRON® CURVALUME® U-SHAPED Lamps – 1-5/8” Leg Spacing

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25˚C/77˚F	Notes
31	T8	22.5	22.6	Med Bipin	21877	FB031/830	15	15000	24000	20000	28000	3000	82	2725 (2560)	Ⓔ*,,,3, 12,13,17,19,20
					21878	FB031/835	15	15000	24000	20000	28000	3500	82	2725 (2560)	Ⓔ*,,,3, 12,13,17,19,20
					21879	FB031/841	15	15000	24000	20000	28000	4100	82	2725 (2560)	Ⓔ*,,,3, 12,13,17,19,20
					21819	FB031/750	15	15000	24000	20000	28000	5000	75	2600 (2340)	Ⓔ*,,3, 12,13,17,19,20
16	T8	10.5	10.6	Med Bipin	21834	FB016/830	15	15000	24000	20000	28000	3000	82	1125 (1060)	,,3,12, 13,17,19,20
					21835	FB016/835	15	15000	24000	20000	28000	3500	82	1125 (1060)	,,3,12, 13,17,19,20
16	T8	10.5	10.6	Med Bipin	21836	FB016/841	15	15000	24000	20000	28000	4100	82	1125 (1060)	,,3,12, 13,17,19,20
24	T8	16.5	16.6	Med Bipin	21874	FB024/830	15	15000	24000	20000	28000	3000	82	1925 (1810)	,,3,12, 13,17,19,20
					21875	FB024/835	15	15000	24000	20000	28000	3500	82	1925 (1810)	,,3,12, 13,17,19,20
					21876	FB024/841	15	15000	24000	20000	28000	4100	82	1925 (1810)	,,3,12, 13,17,19,20

OCTRON® 800 XP® SUPERSAVER® CURVALUME® U-SHAPED ECOLOGIC® Lamps – 6” Leg Spacing

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25˚C/77˚F	Notes
30	T8	22.5	22.6	Med Bipin	22170	FB030/830/XP/6/SS/ECO	16	18000	26000	24000	30000	3000	85	2800 (2630)	Ⓔ*,,,3,12, 13,17,19,20,27
					22171	FB030/835/XP/6/SS/ECO	16	18000	26000	24000	30000	3500	85	2800 (2630)	Ⓔ*,,,3,12, 13,17,19,20,27
					22172	FB030/841/XP/6/SS/ECO	16	18000	26000	24000	30000	4100	85	2800 (2630)	Ⓔ*,,,3,12, 13,17,19,20,27
28	T8	22.5	22.6	Med Bipin	22304	FB028/835/XP/6/SS/ECO	16	18000	26000	24000	30000	3500	85	2590 (2435)	Ⓔ*,,,3, 12,13,17,19,20,27
					22305	FB028/841/XP/6/SS/ECO	16	18000	26000	24000	30000	4100	85	2590 (2435)	Ⓔ*,,,3, 12,13,17,19,20,27

*means this bulb meets Federal minimum efficiency standards



T8 U-Shaped with 6” leg spacing (1” diameter)

CURVALUME® FLUORESCENT LAMPS

OCTRON® 800 XP® and XPS® CURVALUME® U-SHAPED ECOLOGIC® Lamps – 6” Leg Spacing

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25˚C/77˚F	Notes
32	T8	22.5	22.6	Med Bipin	22054	FBO32/830/XP/6/ECO	16	18000	26000	24000	30000	3000	85	2900 (2725)	Ⓔ*,,,3, 12,13,17,19,20
					22055	FBO32/835/XP/6/ECO	16	18000	26000	24000	30000	3500	85	2900 (2725)	Ⓔ*,,,3, 12,13,17,19,20
					22057	FBO32/841/XP/6/ECO	16	18000	26000	24000	30000	4100	85	2900 (2725)	Ⓔ*,,,3, 12,13,17,19,20
					22168	FBO32/850/XPS/6/ECO	16	18000	26000	24000	30000	5000	85	2980 (2800)	Ⓔ*,,,3, 12,13,17,19,20

OCTRON® 800 CURVALUME® U-SHAPED ECOLOGIC® Lamps – 6” Leg Spacing

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25˚C/77˚F	Notes
32	T8	22.5	22.6	Med Bipin	21663	FBO32/830/6/ECO	16	15000	24000	20000	28000	3000	82	2850 (2680)	Ⓔ*,,,3, 12,13,17,19,20
					21670	FBO32/835/6/ECO	16	15000	24000	20000	28000	3500	82	2850 (2680)	Ⓔ*,,,3, 12,13,17,19,20
					21671	FBO32/841/6/ECO	16	15000	24000	20000	28000	4100	82	2850 (2680)	Ⓔ*,,,3, 12,13,17,19,20

OCTRON® 700 CURVALUME® U-SHAPED ECOLOGIC® Lamps – 6” Leg Spacing

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25˚C/77˚F	Notes
32	T8	22.5	22.6	Med Bipin	22046	FBO32/730/6/ECO	16	15000	24000	20000	28000	3000	75	2750 (2475)	Ⓔ*,,,3, 12,13,17,19,20
					22051	FBO32/735/6/ECO	16	15000	24000	20000	28000	3500	75	2750 (2475)	Ⓔ*,,,3, 12,13,17,19,20
					22052	FBO32/741/6/ECO	16	15000	24000	20000	28000	4100	75	2750 (2475)	Ⓔ*,,,3, 12,13,17,19,20
					22053	FBO32/750/6/ECO	16	15000	24000	20000	28000	5000	75	2625 (2365)	Ⓔ*,,,3, 12,13,17,19,20

*means this bulb meets Federal minimum efficiency standards

T8 Medium Bipin (1" diameter)

T8 U-shaped with 1-5/8" leg spacing (1" diameter)

OCTRON® FLUORESCENT LAMPS

OCTRON® 5000K and 6500K for Displays, Signage and Backlighting

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25˚C/77˚F	Notes
14	T8	18	17.91	Med Bipin	21731	F013/865/XP/ECO	30	18000		24000		6500	85	850 (800)	3, 12,13,17,19
15	T8	20	19.78	Med Bipin	21868	F014/950/20in	30	15000		20000		5000	90	750 (640)	3,12, 13,17,19
16	T8	10.5	10.60	Med Bipin	21726	FB016/865/XP	15	18000		24000		6500	85	1125 (1060)	3,12, 13,17,19,20
17	T8	24	23.78	Med Bipin	21871	F017/950/24in	30	15000		20000		5000	90	800 (680)	3,12, 13,17,19
					21718	F017/865/XP/ECO	30	24000	36000	40000	42000	6500	85	1250 (1175)	3, 12,13,17,19
21	T8	30	29.78	Med Bipin	21869	F021/950/30in	30	15000		20000		5000	90	1000 (850)	3,12, 13,17,19
					21730	F021/865/XP/ECO	30	18000		24000		6500	85	1600 (1505)	3, 12,13,17,19
25	T8	36	35.78	Med Bipin	21872	F025/950/36in	30	15000		20000		5000	90	1250 (1065)	3,12, 13,17,19
					21719	F025/865/XP/ECO	30	24000	36000	40000	42000	6500	85	2025 (1905)	3, 12,13,17,19
28	T8	40	39.78	Med Bipin	21870	F028/950/40in	30	15000		20000		5000	90	1400 (1190)	3,12, 13,17,19
32	T8	48	47.78	Med Bipin	21880	F032/950/48in	30	15000	24000	20000	28000	5000	90	1800 (1530)	3,12, 13,17,19
					21720	F032/865/XP/ECO	30	24000	40000	40000	42000	6500	85	2850 (2680)	E*, 3, 12,13,17,19
					21510	F032/865/XP/XL/ECO3	30	36000	50000	52000	55000	6500	85	2950 (2830)	E*, , 3,12,13,17,19
40	T8	60	59.61	Med Bipin	21873	F040/950/60in	30	15000	24000	20000	28000	5000	90	2200 (1870)	3,12, 13,17,19
					21721	F040/865/XP/ECO	30	24000	36000	40000	42000	6500	85	3650 (3430)	3, 12,13,17,19

OCTRON® Specialty

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25˚C/77˚F	Notes
32	T8	48	47.78	Med Bipin	21579	F032/GOLD/ECO	12	24000	30000	30000	36000			1700 (1530)	3,13,16, 17,19

*means this bulb meets Federal minimum efficiency standards

For the current listing of available products and more complete product information, please visit us at www.sylvania.com. Specifications subject to change without notice.

T8 Medium Bipin (1" diameter)

Halophosphor T8 Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25˚C/77˚F	Notes
17	T8	24	23.78	Med Bipin	21439	F17T8/CW/ECO	30	20000	25000	28000	30000	4100	58	1200 (865)	3,12,13,36
					21438	F17T8/W/ECO	30	20000	25000	28000	30000	3500	55	1200 (865)	3,12,13,36
25	T8	36	35.78	Med Bipin	21437	F25T8/CW/ECO	30	20000	25000	28000	30000	4100	58	1850 (1330)	3,12,13,36
					21436	F25T8/W/ECO	30	20000	25000	28000	30000	3500	55	1850 (1330)	3,12,13,36

T5 Miniature Bipin (5/8" diameter)

PENTRON® T5 FLUORESCENT LAMPS

PENTRON® PREMIER™ High Performance T5 ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life Hours per start 3hrs	12hrs	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Initial (Mean) 35ºC/95ºF	Notes
28	T5	48	45.8	Mini Bipin	20948	FP28/830/PM/ECO	40	30000	36000	3000	85	2730 (2540)	3050 (2835)	3,12, 13,14,17,24
					20943	FP28/835/PM/ECO	40	30000	36000	3500	85	2730 (2540)	3050 (2835)	3,12, 13,14,17,24
					20944	FP28/841/PM/ECO	40	30000	36000	4100	85	2730 (2540)	3050 (2835)	3,12, 13,14,17,24

PENTRON® High Performance T5 ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life Hours per start 3hrs	12hrs	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Initial (Mean) 35ºC/95ºF	Notes
28	T5	48	45.8	Mini Bipin	20975	FP28/827/ECO	40	20000	22000	2700	85	2600 (2420)	2900 (2695)	3,12, 13,14,17,24,35
					20868	FP28/830/ECO	40	30000	36000	3000	85	2600 (2420)	2900 (2695)	3,12, 13,14,17,24
					20901	FP28/835/ECO	40	30000	36000	3500	85	2600 (2420)	2900 (2695)	3,12, 13,14,17,24
					20902	FP28/841/ECO	40	30000	36000	4100	85	2600 (2420)	2900 (2695)	3,12, 13,14,17,24
					22203	FP28/850/ECO	40	30000	36000	5000	85	2545 (2365)	2840 (2640)	3,12, 13,14,17,24
					20990	FP28/865/ECO	40	30000	36000	6500	85	2400 (2230)	2750 (2560)	3,12, 13,14,17,24
14	T5	24	22.2	Mini Bipin	20907	FP14/830/ECO	40	20000	22000	3000	85	1200 (1115)	1350 (1255)	3,12, 13,14,17,24
					20908	FP14/835/ECO	40	20000	22000	3500	85	1200 (1115)	1350 (1255)	3,12, 13,14,17,24
					20914	FP14/841/ECO	40	20000	22000	4100	85	1200 (1115)	1350 (1255)	3,12, 13,14,17,24
					20988	FP14/865/ECO	40	20000	22000	6500	85	1100 (1045)	1300 (1210)	3,12, 13,14,17,24
21	T5	36	34.0	Mini Bipin	20919	FP21/830/ECO	40	20000	22000	3000	85	1900 (1765)	2100 (1955)	3,12, 13,14,17,24
					20921	FP21/835/ECO	40	20000	22000	3500	85	1900 (1765)	2100 (1955)	3,12, 13,14,17,24
					20924	FP21/841/ECO	40	20000	22000	4100	85	1900 (1765)	2100 (1955)	3,12, 13,14,17,24
35	T5	60	57.6	Mini Bipin	20925	FP35/830/ECO	40	20000	22000	3000	85	3300 (3070)	3650 (3395)	3,12, 13,14,17,24
					20926	FP35/835/ECO	40	20000	22000	3500	85	3300 (3070)	3650 (3395)	3,12, 13,14,17,24
					20927	FP35/841/ECO	40	20000	22000	4100	85	3300 (3070)	3650 (3395)	3,12, 13,14,17,24

PENTRON® T5 FLUORESCENT LAMPS

PENTRON® HO XL High Output Extended Life High Performance T5 ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life Hours per start 3hrs	Average Rated Life Hours per start 12hrs	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Approx Lumens Initial (Mean) 35ºC/95ºF	Notes
54	T5	48	45.8	Mini Bipin	20197	FP54/835/HO/XL/ECO	40	45000	60000	3500	85	4450 (4140)	5000 (4650)	3, 12,13, 14,17,24
					20198	FP54/841/HO/XL/ECO	40	45000	60000	4100	85	4450 (4140)	5000 (4650)	3, 12,13, 14,17,24
					20199	FP54/850/HO/XL/ECO	40	45000	60000	5000	85	4300 (4000)	4900 (4560)	3, 12,13, 14,17,24

PENTRON® High Output SUPERSAVER®, High Performance T5 ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life Hours per start 3hrs	Average Rated Life Hours per start 12hrs	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Approx Lumens Initial (Mean) 35ºC/95ºF	Notes
50	T5	48	45.8	Mini Bipin	21070	FP54/50W/830/HO/SS/ECO	40	30000	40000	3000	85	4450 (4140)	5000 (4650)	3, 12,13, 14,17,24
					21071	FP54/50W/835/HO/SS/ECO	40	30000	40000	3500	85	4450 (4140)	5000 (4650)	3, 12,13, 14,17,24
					20964	FP54/50W/841/HO/SS/ECO	40	30000	40000	4100	85	4450 (4140)	5000 (4650)	3, 12,13, 14,17,24
					21072	FP54/50W/850/HO/SS/ECO	40	30000	40000	5000	85	4250 (4140)	4800 (4464)	3, 12,13, 14,17,24
47	T5	48	45.8	Mini Bipin	20447	FP54/47W/841/HO/SS/ECO	40	30000	40000	4100	85	4050 (3770)	4575 (4255)	3, 12,13, 14,17,24
					20448	FP54/47W/850/HO/SS/ECO	40	30000	40000	5000	85	3950 (3675)	4390 (4085)	3, 12,13, 14,17,24
35	T5	36	34	Mini Bipin	20188	FP39/35W/830/HO/SS/ECO	40	30000	36000	3000	85	3100 (2885)	3500 (3255)	3, 12,13, 14,17,24
					20189	FP39/35W/835/HO/SS/ECO	40	30000	36000	3500	85	3100 (2885)	3500 (3255)	3, 12,13, 14,17,24
					20190	FP39/35W/841/HO/SS/ECO	40	30000	36000	4100	85	3100 (2885)	3500 (3255)	3, 12,13, 14,17,24
21	T5	24	22.2	Mini Bipin	20192	FP24/21W/830/HO/SS/ECO	40	30000	36000	3000	85	1750 (1625)	2000 (1860)	3, 12,13, 14,17,24
					20193	FP24/21W/835/HO/SS/ECO	40	30000	36000	3500	85	1750 (1625)	2000 (1860)	3, 12,13, 14,17,24
					20200	FP24/21W/841/HO/SS/ECO	40	30000	36000	4100	85	1750 (1625)	2000 (1860)	3, 12,13, 14,17,24

T5 Miniature Bipin (5/8" diameter)

PENTRON® T5 FLUORESCENT LAMPS

PENTRON® High Output, High Performance T5 ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life Hours per start 3hrs	Average Rated Life Hours per start 12hrs	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Approx Lumens Initial (Mean) 35ºC/95ºF	Notes
54	T5	48	45.8	Mini Bipin	20903	FP54/830/HO/ECO	40	30000	40000	3000	85	4450 (4140)	5000 (4650)	3,12, 13,14,17,24
					20904	FP54/835/HO/ECO	40	30000	40000	3500	85	4450 (4140)	5000 (4650)	3,12, 13,14,17,24
					20906	FP54/841/HO/ECO	40	30000	40000	4100	85	4450 (4140)	5000 (4650)	3,12, 13,14,17,24
					20949	FP54/850/HO/ECO	40	30000	40000	5000	85	4360 (4070)	4900 (4560)	3,12, 13,14,17,24
					20862	FP54/865/HO/ECO	40	30000	40000	6500	85	4050 (3765)	4750 (4420)	3,12, 13,14,17,24
24	T5	24	22.2	Mini Bipin	20928	FP24/830/HO/ECO	40	30000	36000	3000	85	1750 (1625)	2000 (1860)	3,12, 13,14,17,24
					20929	FP24/835/HO/ECO	40	30000	36000	3500	85	1750 (1625)	2000 (1860)	3,12, 13,14,17,24
					20931	FP24/841/HO/ECO	40	30000	36000	4100	85	1750 (1625)	2000 (1860)	3,12, 13,14,17,24
39	T5	36	34	Mini Bipin	20932	FP39/830/HO/ECO	40	30000	36000	3000	85	3100 (2885)	3500 (3255)	3,12, 13,14,17,24
					20933	FP39/835/HO/ECO	40	30000	36000	3500	85	3100 (2885)	3500 (3255)	3,12, 13,14,17,24
					20934	FP39/841/HO/ECO	40	30000	36000	4100	85	3100 (2885)	3500 (3255)	3,12, 13,14,17,24
80	T5	60	57.6	Mini Bipin	20935	FP80/830/HO/ECO	40	25000	30000	3000	85	6150 (5720)	7000 (6510)	3,12, 13,14,17,24
					20936	FP80/835/HO/ECO	40	25000	30000	3500	85	6150 (5720)	7000 (6510)	3,12, 13,14,17,24
					20937	FP80/841/HO/ECO	40	25000	30000	4100	85	6150 (5720)	7000 (6510)	3,12, 13,14,17,24

PENTRON® High Output, Amalgam, Wide Temperature Range T5 ECOLOGIC® Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life Hours per start 3hrs	Average Rated Life Hours per start 12hrs	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Approx Lumens Initial (Mean) 35ºC/95ºF	Notes
54	T5	48	45.8	Mini Bipin	21042	FP54/835/C/HO/ECO	40	25000	35000	3500	85	4900 (4560)	4900 (4560)	3,12, 13,14,17,24,34
					21043	FP54/841/C/HO/ECO	40	25000	35000	4100	85	4900 (4560)	4900 (4560)	3,12, 13,14,17,24,34
					21044	FP54/850/C/HO/ECO	40	25000	35000	5000	85	4800 (4464)	4800 (4464)	3,12, 13,14,17,24,34

PENTRON® T5 FLUORESCENT LAMPS

PENTRON® High Performance Seamless T5 Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life Hours per start 3hrs	Average Rated Life Hours per start 12hrs	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Approx Lumens Initial (Mean) 35ºC/95ºF	Notes
28	T5	48	45.8	Mini Bipin	20102	FP28/SLS/830 [OSRAM]	25	20000	22000	3000	85	2300 (2140)	2600 (2420)	3, 12,13,14,17,24
					20103	FP28/SLS/840 [OSRAM]	25	20000	22000	4000	85	2300 (2140)	2600 (2420)	3, 12,13,14,17,24
14	T5	24	22.2	Mini Bipin	20098	FP14/SLS/830 [OSRAM]	25	20000	22000	3000	85	1060 (990)	1200 (1115)	3, 12,13,14,17,24
					20099	FP14/SLS/840 [OSRAM]	25	20000	22000	4000	85	1060 (990)	1200 (1115)	3, 12,13,14,17,24
21	T5	36	34.0	Mini Bipin	20100	FP21/SLS/830 [OSRAM]	25	20000	22000	3000	85	1680 (1565)	1900 (1765)	3, 12,13,14,17,24
					20101	FP21/SLS/840 [OSRAM]	25	20000	22000	4000	85	1680 (1565)	1900 (1765)	3, 12,13,14,17,24

PENTRON® High Output, High Performance Seamless T5 Lamps

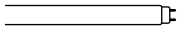
Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life Hours per start 3hrs	Average Rated Life Hours per start 12hrs	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Approx Lumens Initial (Mean) 35ºC/95ºF	Notes
54	T5	48	46.5	Mini Bipin	20186	FP54/830/HO/SLS [OSRAM]	25	20000	22000	3000	85	3940 (3665)	4450 (4140)	3, 12,13,14,17,24
					20187	FP54/840/HO/SLS [OSRAM]	25	20000	22000	4000	85	3940 (3665)	4450 (4140)	3, 12,13,14,17,24
24	T5	24	22.8	Mini Bipin	20182	FP24/830/HO/SLS [OSRAM]	25	20000	22000	3000	85	1550 (1440)	1750 (1630)	3, 12,13,14,17,24
					20183	FP24/840/HO/SLS [OSRAM]	25	20000	22000	4000	85	1550 (1440)	1750 (1630)	3, 12,13,14,17,24
39	T5	36	34.7	Mini Bipin	20184	FP39/830/HO/SLS [OSRAM]	25	20000	22000	3000	85	2745 (2555)	3100 (2885)	3, 12,13,14,17,24
					20185	FP39/840/HO/SLS [OSRAM]	25	20000	22000	4000	85	2745 (2555)	3100 (2885)	3, 12,13,14,17,24

PENTRON® T5 FLUORESCENT LAMPS
PENTRON® Circline T5 Lamps

Nominal Wattage	Bulb	Outside Diameter (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life 3 Hours per start	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Notes
22	T5	8.66 - 9.06	2GX13	20702	FPC22/830	12	12000	3000	82	1800 (1585)	,3,12, 13,14,17,24
				20712	FPC22/835	12	12000	3500	82	1800 (1585)	,3,12, 13,14,17,24
40	T5	11.54 - 12.01	2GX13	20731	FPC40/830	12	12000	3000	82	3200 (2815)	,3,12, 13,14,17,24
				20732	FPC40/835	12	12000	3500	82	3200 (2815)	,3,12, 13,14,17,24
55	T5	11.54 - 12.01	2GX13	20741	FPC55/830/HO	12	12000	3000	82	4200 (3700)	,3,12, 13,14,17,24
				20750	FPC55/835/HO	12	12000	3500	82	4200 (3700)	,3,12, 13,14,17,24

PENTRON® BENT T5 FLUORESCENT LAMPS
Compact T5 Lamps

Nominal Wattage	Bulb	MOL (mm)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life Hours per start 3hrs	12hrs	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Initial (Mean) 35ºC/95ºF	Notes
28	T5	565.5	21.33	2GX11	20216	FBP28/830/ECO [OSRAM]	10	20000	22000	3000	85	2700 (2510)	2800 (2605)	,,,3, 12,13,14,17,24
					20217	FBP28/835/ECO [OSRAM]	10	20000	22000	3500	85	2700 (2510)	2800 (2605)	,,,3, 12,13,14,17,24
					20218	FBP28/840/ECO [OSRAM]	10	20000	22000	4000	85	2700 (2510)	2800 (2605)	,,,3, 12,13,14,17,24



T12 Medium Bipin (1-1/2" diameter)

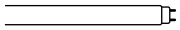
T12 RAPID START LAMPS
4-Foot SUPERSAVER® Rapid Start Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life Hours per start 3hrs	12hrs	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Notes
34	T12	48	47.78	Med Bipin	24538	F34WW/SS/ECO *formerly F40WW/SS/ECO*	30	20000	28800	3000	52	2750 (2365)	E*,3,8,12,13,17,36
					24554	F34/D841/SS/ECO *formerly F40/D841/SS/ECO*	30	20000	28800	4100	80	2900 (2610)	E*,3,8,12,13,17,36
					24588	F34CWX/SS *formerly F40CWX/SS*	30	20000	28800	4100	87	1925 (1655)	3,8,12,13,17
					24596	F34CW/SS/ECO *formerly F40CW/SS/ECO*	30	20000	28800	4200	60	2650 (2280)	E*,3,8,12,13,17
					24599	F34/DX/SS *formerly F40/DX/SS*	30	20000	28800	6500	88	1930 (1565)	3,8,12,13,17

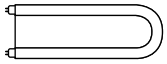
T12 RAPID START LAMPS
4-Foot Standard Rapid Start Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life Hours per start 3hrs	12hrs	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Notes
40	T12	48	47.78	Med Bipin	24438	F40N	30	20000	28800	3600	86	2100 (1805)	3,12,13,17,23,36
					24441	F40CWX	30	20000	28800	4100	87	2150 (1850)	3,12,13,17,23
					24683	F40DSGN50	30	20000	28800	5000	90	2200 (1890)	3,12,13,17,23
					24477	F40/DX	30	20000	28800	6500	88	2180 (1770)	3,12,13,17,23
					24673	F40/GO	10	20000	28800			1980	3,12,13,17,23

*means this bulb meets Federal minimum efficiency standards



T12 Medium Bipin (1-1/2" diameter)



U-Shaped T12 (1-1/2" diameter)

T12 RAPID START LAMPS

3-Foot SUPERSAVER® Rapid Start Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life Hours per start 3hrs	12hrs	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Notes
25	T12	36	35.78	Med Bipin	23472	F25T12/CW/RS/SS *formerly F30T12/CW/RS/SS*	30	18000	28800	4200	60	1925 (1635)	,3,7, 12,13,17

3-Foot Standard Rapid Start Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life 3 Hours per start	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Notes
30	T12	36	35.78	Med Bipin	23482	F30T12/WW/RS	30	18000	3000	52	2275 (1935)	,3, 12,13,17
					23474	F30T12/D830/RS	30	18000	3000	80	2290 (2060)	,3, 12,13,17
					23484	F30T12/D35/RS	30	18000	3500	70	2250 (1980)	,3, 12,13,17
					23476	F30T12/CW/RS	30	18000	4200	60	2200 (1870)	,3, 12,13,17
					23478	F30T12/D/RS	30	18000	6500	76	1900 (1615)	,3, 12,13,17

CURVALUME® SUPERSAVER® Rapid Start ECOLOGIC® Lamps – U-Shaped, 6" Leg Spacing

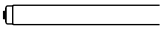
Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life 3 Hours per start	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Notes
34	T12	23	22.60	Med Bipin	24054	FB34/CW/6/SS/ECO *formerly FB40/CW/6/SS/ECO*	12	18000	4200	60	2600 (2235)	©*,,,3, 8,12,13,17,36

CURVALUME® Standard Rapid Start Lamps – U-Shaped, 6" Leg Spacing

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life 3 Hours per start	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Notes
40	T12	23	22.60	Med Bipin	24080	FB40/D30/6	12	18000	3000	70	3050 (2745)	©*,,3, 12,13,17,36

*means this bulb meets Federal minimum efficiency standards

CIRCLINE 4-Pin T9



T12 Recessed Double Contact

T9, T12 RAPID START LAMPS

Circline T9 Rapid Start Lamps

Nominal Wattage	Bulb	Outside Diameter (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life 3hrs/start	CCT (K)	CRI	Initial Lumens 25ºC/77ºF	Notes
20	T9	6.25 - 6.75	4-Pin	20112	FC6T9/DCW/RS	6	8000	4100	80	750	3,12,13,15,17
				20156	FC6T9/CW/RS	12	8000	4200	60	750	3,12,13,15,17
22	T9	8.00 - 8.50	4-Pin	20088	FC8T9/WW/RS	12	12000	3000	52	1050	3,12,13,15,17
				20113	FC8T9/DCW/RS	6	12000	4100	80	1050	3,12,13,15,17
				20209	FC8T9/DSW/RP	6	12000	3000	70	1100	3,12,13,15,17
				20148	FC8T9/CW/RS	12	12000	4200	60	1050	3,12,13,15,17
				20080	FC8T9/D/RS	12	12000	6500	76	900	3,12,13,15,17
30	T9	9.00 - 9.50	4-Pin	20114	FC9T9/DCW/RS	6	10000	4100	82	2000	3,12,13,15,17
				20215	FC9T9/DSW/RP/1/6	6	10000	3000	82	1900	3,12,13,15,17
32	T9	11.5 - 12.0	4-Pin	20141	FC12T9/DCW/RS	6	15000	4100	80	1925	3,12,13,15,17
				20233	FC12T9/DSW/RP	6	15000	3000	70	2100	3,12,13,15,17
				20037	FC12T9/WW/RS	12	15000	3000	52	1950	3,12,13,15,17
				20142	FC12T9/CW/RS	12	15000	4200	60	1925	3,12,13,15,17
				20030	FC12T9/D/RS	12	15000	6500	76	1650	3,12,13,15,17
40	T9	15.6 - 16.0	4-Pin	20172	FC16T9/DCW/RS	6	8000	4100	80	2750	3,12,13,15,17
				20059	FC16T9/CW/RS	12	8000	4200	60	2500	3,12,13,15,17

High Output (800mA) SUPERSAVER® Rapid Start Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life Hours per start 3hrs	12hrs	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Notes
95	T12	96	93.91	Recessed DC	25011	F96T12/WW/HO/SS	15	12000	18800	3000	52	7700 (6235)	©*,,3,10, 12,13,17,36

High Output (800mA) Rapid Start Lamps for Cold Temperature Operation

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life 3 Hours per start	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Notes
110	T12	96	93.91	Recessed DC	25129	F96T12/CW/HO/CT/ECO	15	12000	4200	60	8600 (6965)	,,3,12, 13,17,25,36
					25134	F96T12/CW/HO/COLDTEMP	15	12000	4200	60	8600 (6965)	,3,12, 13,17,25
					25135	F96T12/D/HO/COLDTEMP	15	12000	6500	76	7600 (6155)	,3,12, 13,17,25

*means this bulb meets Federal minimum efficiency standards

RAPID START LAMPS
High Output (800mA) Standard Rapid Start Lamps

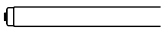
Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life 3 Hours per start	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Notes
25	T12	18	15.91	Recessed DC	25303	F18T12/DSGN50/HO	30	9000	5000	90	850 (740)	,3,12, 13,17
35	T12	24	21.91	Recessed DC	25313	F24T12/CW/HO	30	9000	4200	60	1650 (1335)	,3,12, 13,17
					25314	F24T12/D/HO	30	9000	6500	76	1400 (1135)	,3,12, 13,17
42	T12	30	27.91	Recessed DC	25322	F30T12/CW/HO	30	9000	4200	60	2250 (1825)	,3,12, 13,17
45	T12	36	33.91	Recessed DC	25333	F36T12/CW/HO	30	9000	4200	60	2850 (2310)	,3,12, 13,17
					25332	F36T12/D/HO	30	9000	6500	76	2500 (2025)	,3,12, 13,17
55	T12	42	39.91	Recessed DC	25342	F42T12/CW/HO	30	9000	4200	60	3400 (2755)	,3,12, 13,17
					25343	F42T12/D/HO	30	9000	6500	76	3050 (2470)	,3,12, 13,17
60	T12	48	46.00	Recessed DC	25154	F48T12/D35/HO	30	12000	3500	70	4250 (3825)	,3,12, 13,17
					25146	F48T12/CW/HO	30	12000	4200	60	4050 (3280)	,3,12, 13,17
					25122	F48T12/CW/HO/ECO	30	12000	4200	60	4050 (3280)	,,3,12, 13,17
					25153	F48T12/DSGN50/HO	30	12000	5000	90	3050 (2470)	,3,12, 13,17
					25150	F48T12/D/HO	30	12000	6500	76	3600 (2915)	,3,12, 13,17
75	T12	60	57.91	Recessed DC	25128	F60T12/D35/HO	30	12000	3500	70	5600 (5040)	,3,12, 13,17
					25126	F60T12/CW/HO	30	12000	4200	60	5200 (4210)	,3,12, 13,17
					25120	F60T12/D/HO	30	12000	6500	76	4600 (3825)	,3,12, 13,17
80	T12	64	61.91	Recessed DC	25352	F64T12/CW/HO	30	12000	4200	60	5750 (4660)	,3,12, 13,17
					25353	F64T12/D/HO	30	12000	6500	76	4900 (3970)	,3,12, 13,17

RAPID START LAMPS
High Output (800mA) Standard Rapid Start Lamps

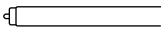
Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life 3 Hours per start	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Notes
85	T12	72	69.91	Recessed DC	25098	F72T12/D830/HO	15	12000	3000	80	6750 (6210)	,1,3, 12,13,17
					25177	F72T12/WW/HO	15	12000	3000	52	6400 (5185)	,3,12, 13,17
					27249	F72T12/D35/HO	15	12000	3500	70	6650 (5985)	,3,12, 13,17
					25281	F72T12/D835/HO	15	12000	3500	80	6750 (6210)	,3,12, 13,17
					25176	F72T12/CW/HO	15	12000	4200	60	6250 (5065)	,3,12, 13,17
					25171	F72T12/CW/HO/ECO	15	12000	4200	60	6250 (5065)	,,1,3, 12,13,17
					25189	F72T12/D/HO	15	12000	6500	76	5550 (4495)	,1,3, 12,13,17
100	T12	84	81.91	Recessed DC	25384	F84T12/CW/HO	15	12000	4200	60	7550 (6115)	,3,12, 13,17
					25385	F84T12/D/HO	15	12000	6500	76	6700 (5425)	,3,12, 13,17

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life Hours per start 3hrs	12hrs	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Notes
110	T12	96	93.91	Recessed DC	25155	F96T12/D841/HO	15	12000	18800	4100	80	9400 (8650)	®*,,3, 12,13,17,36
					25164	F96T12/DSGN50/HO	15	12000	18800	5000	90	6450 (5225)	,3,12, 13,17

*means this bulb meets Federal minimum efficiency standards



T12 Recessed Double Contact



T12 Single Pin (1-1/2" diameter)

RAPID START LAMPS

Very High Output (1500mA) SUPERSAVER® Rapid Start Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life 3 Hours per start	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Notes
195	T12	96	93.91	Recessed DC	25296	F96T12/CW/VHO/SS	15	10000	4200	60	13000 (9100)	,3,11, 12,13,17

Very High Output (1500mA) Standard Rapid Start Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life 3 Hours per start	CCT (K)	CRI	Approx Lumens Initial (Mean) 25ºC/77ºF	Notes
115	T12	48	46.00	Recessed DC	25248	F48T12/CW/VHO	30	10000	4200	60	6600 (4620)	,3,12, 13,17
160	T12	72	69.91	Recessed DC	25272	F72T12/CW/VHO	15	10000	4200	60	10600 (7420)	,3,12, 13,17
215	T12	96	93.91	Recessed DC	25209	F96T12/CW/VHO	15	10000	4200	60	14000 (9800)	,3,12, 13,17
					25210	F96T12/D/VHO	15	10000	6500	76	11600 (8120)	,3,12, 13,17

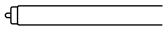
INSTANT START LAMPS

Slimline SUPERSAVER® Instant Start Lamps

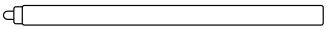
Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/start IS	Life @ 12hrs/start IS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
32	T12	48	46	Single Pin	24829	F48T12/D35/SS	30	9000		3500	70	2575 (2370)	,3,9, 12,13,17
					24823	F48T12/CW/SS	30	9000		4200	60	2450 (2200)	,3,9, 12,13,17
57	T12	96	94	Single Pin	29900	F96T12/D41/SSP/ECO	15	12000	18000	4100	82	5600 (5150)	*,, 3,9,12,13,17
					29828	F96T12/DX/SS	15	12000	18000	6500	88	3860 (3400)	, 3,9, 12,13,17
					29868	F96T12/DX/SS/ECO	15	12000	18000	6500	88	3860 (3400)	, 3,9,12,13,17
60	T12	96	94	Single Pin	29795	F96T12/WW/SS/ECO	15	12000	18000	3000	52	5500 (4840)	*,, 3,9,12,13,17,36
					29815	F96T12/CW/SS	15	12000	18000	4200	60	5300 (4665)	*, 3,9,12,13,17,36
					29505	F96T12/CW/SS/ECO	15	12000	18000	4200	60	5300 (4665)	*,, 3,9,12,13,17,36

*means this bulb meets Federal minimum efficiency standards

For the current listing of available products and more complete product information, please visit us at www.sylvania.com. Specifications subject to change without notice.



T12 Single Pin (1-1/2" diameter)



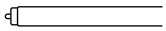
T6 Single Pin (3/4" diameter)

T8 Single Pin (1" diameter)

INSTANT START LAMPS

Slimline Standard Instant Start Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life 3 Hours per start	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
21	T12	24	22	Single Pin	22403	F24T12/CW	30	7500	4200	60	1150 (1000)	,3,12, 13,17
25	T6	42	40	Single Pin	24270	F42T6/WW	24	7500	3032	52	1825 (1605)	,3,12, 13,17
					24266	F42T6/CW	24	7500	4200	60	1750 (1540)	,3,12, 13,17
30	T12	36	34	Single Pin	23618	F36T12/CW	30	7500	4200	60	1970 (1735)	,3,12, 13,17
38	T6	64	62	Single Pin	26466	F64T6/CW	24	7500	4200	60	2800 (2465)	,3,12, 13,17
38	T8	72	70	Single Pin	27270	F72T8/WW	24	7500	3000	52	3100 (2730)	,3,12, 13,17
					27266	F72T8/CW	24	7500	4200	60	3050 (2685)	,3,12, 13,17
					27200	F72T8/D	24	7500	6500	76	2600 (2290)	,3,12, 13,17
39	T12	48	46	Single Pin	24832	F48T12/D35	30	9000	3500	70	3000 (2760)	,3,12, 13,17
					24827	F48T12/CW/ECO	30	9000	4200	60	2820 (2480)	,,3, 12,13,17
					24830	F48T12/CW	30	9000	4200	60	2820 (2480)	,3,12, 13,17
50	T12	60	58	Single Pin	26018	F60T12/D35	30	12000	3500	70	3850 (3540)	,3,12, 13,17
					26001	F60T12/CW	30	12000	4200	60	3700 (3255)	,3,12, 13,17
					26002	F60T12/D	30	12000	6500	76	3000 (2640)	,3,12, 13,17
51	T8	96	94	Single Pin	29666	F96T8/CW	24	7500	4200	60	4000 (3520)	,3,12, 13,17
52	T12	64	62	Single Pin	26403	F64T12/CW	30	12000	4200	60	3900 (3430)	,3,12, 13,17,36
					26404	F64T12/D	30	12000	6500	76	3300 (2905)	,3,12, 13,17,36
55	T12	72	70	Single Pin	27255	F72T12/D830	15	12000	3000	80	4800 (4510)	,3,12, 13,17
					27250	F72T12/D35	15	12000	3500	70	4700 (4325)	,3,12, 13,17



T12 Single Pin (1-1/2" diameter)

Preheat T5 Miniature Bipin

INSTANT START LAMPS

Slimline Standard Instant Start Lamps

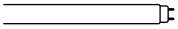
Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/start IS	Life @ 12hrs/start IS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
55	T12	72	70	Single Pin	27256	F72T12/CW	15	12000		4200	60	4500 (3960)	,3,12, 13,17
					27259	F72T12/D	15	12000		6500	76	3800 (3430)	,3,12, 13,17
70	T12	84	82	Single Pin	28417	F84T12/CW	15	12000		4200	60	5300 (4665)	,3,12, 13,17
75	T12	96	94	Single Pin	29478	F96T12/CWX	15	12000	18800	4100	87	4400 (3870)	,3,12, 13,17
					29833	F96T12/DSGN50	15	12000	18800	5000	90	4400 (3870)	,3,12, 13,17
					29500	F96T12/DX	15	12000	18800	6500	88	4360 (3835)	,3,12, 13,17

PREHEAT LAMPS

Miniature T5 Preheat Lamps (Starter Required)

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Avg Rated Life @3hrs/start	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
4	T5	6	5.91	Mini Bipin	20416	F4T5/CW	24	6000	4200	60	135 (115)	,3,12, 13,17
6	T5	9	8.91	Mini Bipin	20617	F6T5/WW	24	7500	3000	52	275 (240)	,3,12, 13,17
					20616	F6T5/CW	24	7500	4200	60	270 (235)	,3,12, 13,17
8	T5	12	11.91	Mini Bipin	20817	F8T5/WW	24	7500	3000	52	400 (350)	,3,12, 13,17
					20837	F8T5/CWX	24	7500	4100	87	270 (235)	,3,12, 13,17
					20816	F8T5/CW	24	7500	4200	60	390 (340)	,3,12, 13,17
					20820	F8T5/D	24	7500	6500	76	350 (305)	,3,12, 13,17
13	T5	21	20.91	Mini Bipin	21317	F13T5/WW	24	7500	3000	52	880 (765)	,3,12, 13,17
					21316	F13T5/CW	24	7500	4200	60	860 (750)	,3,12, 13,17
18	T5	30	29.91	Mini Bipin	20909	F18T5/CW/RS/SMBASE	24	7500	4200	62	1325 (1150)	,3,12, 13,17
					20911	F18T5/WW/RS/SMBASE	24	7500	3000	52	1325 (1150)	,3,12, 13,17

T8 Medium Bipin (1” diameter)



T12 Medium Bipin (1-1/2” diameter)

PREHEAT LAMPS

Standard T8 and T12 Preheat Lamps (Starter Required)

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Avg Rated Life @3hrs/start	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
13	T8	12	11.71	Med Bipin	21766	F13T8/CW	24	7500	4200	60	530 (460)	,3,12, 13,17
14	T8	15	14.78	Med Bipin	21486	F14T8/CW	24	7500	4200	60	685 (645)	,3,12, 13,17
					21488	F14T8/D	24	7500	6500	76	575 (560)	,3,12, 13,17
14	T12	15	14.78	Med Bipin	21409	F14T12/CW	30	9000	4200	60	650 (565)	,3,12, 13,17
15	T8	18	17.78	Med Bipin	21610	F15T8/D830	24	7500	3000	82	920 (845)	,3,12, 13,17
					21701	F15T8/WW	24	7500	3000	52	845 (735)	,3,12, 13,17
					21609	F15T8/D35	24	7500	3500	70	940 (845)	,3,12, 13,17
					21616	F15T8/CW	24	7500	4200	60	825 (720)	,3,12, 13,17
					21600	F15T8/D	24	7500	6500	76	700 (655)	,3,12, 13,17
15	T12	18	17.78	Med Bipin	21542	F15T12/WW	30	9000	3000	52	770 (670)	,3,12, 13,17
					21532	F15T12/CW	30	9000	4200	60	750 (655)	,3,12, 13,17
18	T8	24	23.78	Med Bipin	23014	F18T8CW/K24	24	7500	4200	60	1190 (1035)	,3,12, 13,17
		26	25.78	Med Bipin	23027	F18T8CW/K26	24	7500	4200	60	1280 (1080)	,3,12, 13,17
		28	27.78	Med Bipin	23028	F18T8CW/K28	24	7500	4200	60	1360 (1130)	,3,12, 13,17
		30	29.78	Med Bipin	23030	F18T8CW/K30	24	7500	4200	60	1400 (1200)	,3,12, 13,17

T8 Medium Bipin (1” diameter)

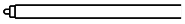
T12 Medium Bipin (1-1/2” diameter)

PREHEAT LAMPS

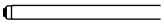
Standard T8 and T12 Preheat Lamps (Starter Required)

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Avg Rated Life @3hrs/start	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
20	T12	24	23.78	Med Bipin	22131	F20T12/WW	30	9000	3000	52	1250 (1090)	3,12, 13,17
					22251	F20T12/D35	30	9000	3500	70	1300 (1170)	3,12, 13,17
					22078	F20T12/CW	30	9000	4200	60	1200 (1045)	3,12, 13,17
					22119	F20T12/DSGN50	30	9000	5000	90	880 (765)	3,12, 13,17
					22083	F20T12/D	30	9000	6500	76	1075 (935)	3,12, 13,17
25	T12	28	27.78	Med Bipin	22527	F25T12/CW/28	30	7500	4200	60	1670 (1455)	3,12, 13,17
		30	29.78	Med Bipin	22333	F25T12/WW/30	30	7500	3000	52	1750 (1525)	3,12, 13,17
					22528	F25T12/CW/30	30	7500	4200	60	1730 (1505)	3,12, 13,17
		33	32.78	Med Bipin	22529	F25T12/CW/33	30	7500	4200	60	1850 (1610)	3,12, 13,17
30	T8	36	35.78	Med Bipin	23701	F30T8/WW	24	7500	3000	52	2150 (1870)	3,12, 13,17
					23116	F30T8/CW	24	7500	4200	60	2180 (1895)	3,12, 13,17
					23100	F30T8/D	24	7500	6500	76	1850 (1655)	3,12, 13,17

T8 Medium Bipin (1" diameter)



T8 Single Pin (1" diameter)



T12 Recessed Double Contact (1-1/2" diameter)

SPECIALTY FLUORESCENT LAMPS

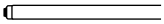
SAFELINE® T8 Shatter Resistant Coated Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/ start IS	Life @ 12hrs/ start IS	Life @ 3hrs/ start PRS	Life @ 12hrs/ start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25°C/77°F	Notes
17	T8	24	23.78	Med Bipin	22271	F017/835/XP/ECO/SL	30	24000	40000	40000	42000	3500	85	1350 (1270)	,,3,12, 13,17,19,28,29
25	T8	36	35.78	Med Bipin	22378	F025/830/XP/ECO/SL	30	24000	40000	40000	42000	3000	85	2130 (2000)	,,3,12, 13,17,19,28,29
28	T8	48	47.78	Med Bipin	22279	F028/835/XP/SS/ECO/SL	30	24000	40000	40000	42000	3500	85	2670 (2510)	,,3,12, 13,17,19,28,29
					21948	F028/841/XP/SS/ECO/SL	30	24000	40000	40000	42000	4100	85	2670 (2510)	,,3,12, 13,17,19,28,29
32	T8	48	47.78	Med Bipin	22275	F032/730/ECO/SL	30	24000	28000	30000	35000	3000	78	2715 (2550)	,,3,12, 13,17,19,28,29
					21678	F032/735/ECO/SL	30	24000	28000	30000	35000	3500	78	2715 (2550)	,,3,12, 13,17,19,28,29
					21547	F032/741/ECO/SL	30	24000	28000	30000	35000	4100	78	2715 (2550)	,,3,12, 13,17,19,28,29
					22278	F032/841/XP/ECO/SL	30	24000	40000	40000	42000	4100	85	2940 (2765)	,,3,12, 13,17,19,28,29
					22142	F032/850/XP/ECO/SL	30	24000	40000	40000	42000	5000	85	2940 (2765)	,,3,12, 13,17,19,28,29
					22387	F032/841/XPS/ECO/SL	30	24000	40000	40000	42000	4100	85	3040 (2860)	,,3,12, 13,17,19,28,29
					22389	F032/850/XPS/ECO/SL	30	24000	40000	40000	42000	5000	85	3040 (2860)	,,3,12, 13,17,19,28,29
40	T8	60	59.61	Med Bipin	22281	F040/835/XP/ECO/SL	30	24000	40000	40000	42000	3500	85	3675 (3455)	,,3,12, 13,17,19,28,29
59	T8	96	94.00	Single Pin	21509	F096/841/ECO/SL	24	18000	24000			4100	82	5782 (5320)	,,3,12, 13,17,28,29

Weather-Shielded Jacketed Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25°C/77°F	Notes
215	T12	96	93.10	Recess-edDC	21340	FJ96T12/CW/VHO/LT	8	10000	4200	60	15300 (10710)	,3,12,13, 17,22,32

T5 Miniature Bipin (5/8" diameter)



T12 Recessed Double Contact (1-1/2" diameter)

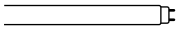
SPECIALTY FLUORESCENT LAMPS
SAFELINE® T5 Shatter Resistant Coated Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/start PRS	Life @ 12hrs/start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
14	T5	24	22.20	Mini Bipin	21026	FP14/835/ECO/SL	40	20000	22000	3500	85	1180 (1095)	,,3,12,13, 14,17,24,28,29
21	T5	24	22	Mini Bipin	21027	FP21/835/ECO/SL	40	20000	22000	3500	85	1860 (1730)	,,3,12,13, 14,17,24,28,29
28	T5	48	46	Mini Bipin	21034	FP28/835/ECO/SL	40	25000	30000	3500	85	2550 (2370)	,,3,12,13, 14,17,24,28,29
50	T5	48	45.80	Mini Bipin	20051	FP54/50W/841/HO/SS/ECO/SL	40	30000	40000	4100	85	4315 (4015)	,,,3,12,13, 14,17,24,28,29
					20052	FP54/50W/850/HO/SS/ECO/SL	40	30000	40000	5000	85	4245 (3945)	,,,3,12,13, 14,17,24,28,29
54	T5	48	45.80	Mini Bipin	21020	FP54/835/HO/ECO/SL	40	30000	40000	3500	85	4315 (4015)	,,3,12,13, 14,17,24,28,29
					21021	FP54/841/HO/ECO/SL	40	30000	40000	4100	85	4315 (4015)	,,3,12,13, 14,17,24,28,29
					21022	FP54/850/HO/ECO/SL	40	30000	40000	5000	85	4245 (3945)	,,3,12,13, 14,17,24,28,29

SPECIALTY FLUORESCENT LAMPS
SAFELINE® T12 Shatter Resistant Coated Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/start PRS	Life @ 12hrs/start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
85	T12	72	70	RDC	25283	F72T12D835HOSL	15	10000		3500	80	6620 (6090)	,1,3,12,13, 17,28,29

T8 Medium Bipin (1" diameter)


T12 Medium Bipin (1-1/2" diameter)

T2 Axial Base (2/8" Diameter)

OCTRON® GRO-LUX® Lamps

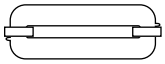
Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Average Rated Life @ 3 hrs/start	Notes
17	T8	18	17.78	Med Bipin	22368	FO17/GRO/AQ/ECO9/2/24	24	30000	✹,✓,3,12,13,17
32	T8	48	47.78	Med Bipin	22362	FO32/GRO/AQ/ECO/2/30	30	30000	✹,✓,3,12,13,18

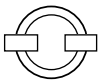
SPECIALTY FLUORESCENT LAMPS
GRO-LUX® Lamps for Plant Growth and Aquariums

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/start Preheat	CCT (K)	CRI	Approx Lumens Initial @25°C/77°F	Notes
15	T8	18	17.78	Med Bipin	21657	F15T8/GRO/AQ/RP	6	7500		66	325	✓,3,12, 13,21
20	T12	24	23.78	Med Bipin	22013	F20T12/GRO/AQ/WS/RP	6	9000	3400	89	750	✓,3,12, 13,21
					22029	F20T12/GRO/AQ/RP	6	9000			480	✓,3,12, 13,21
40	T12	48	47.78	Med Bipin	24671	F40/GRO/AQ/WS/RP	6	20000	3400	89	1700	✓,3,12, 13,21,23
					24660	F40/GRO/AQ/RP	6	20000			1200	✓,3,12, 13,21,23

Miniature T2 Lamps

Nominal Wattage	Bulb	Nominal Length (in)	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Life @ 3hrs/start PRS	CCT (K)	CRI	Approx Lumens Initial (Mean) @25°C/77°F	Notes
8	T2	12.6	12.60	Axial	26237	FM8/830	20	10000	3000	80	540 (485)	2,3,12, 13,17,24,33
					26232	FM8/841	20	10000	4100	80	540 (485)	2,3,12, 13,17,24,33
11	T2	16.6	16.60	Axial	26239	FM11/830	20	10000	3000	80	750 (675)	2,3,12, 13,17,24,33
					26231	FM11/841	20	10000	4100	80	750 (675)	2,3,12, 13,17,24,33
13	T2	20.6	20.6	Axial	26253	FM13/830	20	10000	3000	80	930 (835)	2,3,12, 13,17,24,33
					26291	FM13/835	20	10000	3500	80	930 (835)	2,3,12, 13,17,24,33


ICETRON®


ICETRON®

SPECIALTY FLUORESCENT LAMPS
ICETRON® Inductively Coupled Electrodeless Lamps

Nominal Wattage	Bulb	MOL (in)	Base	Product Number	Ordering Abbreviation	Pkg Qty	Avg Rated Life	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
40	T17	7.54	Mount Brkts	26310	ICE40/835/RCT/2P	1	100000	3500	80	2800 (1850)	✹,3,12,13,14,18,30,31
	T17	6.85	Mount Brkts	26311	ICE40/835/CIR/2P	1	100000	3500	80	2800 (1850)	✹,3,12,13,14,18,30,31
	T17	7.54	Mount Brkts	26312	ICE40/841/RCT/2P	1	100000	4100	80	2800 (1850)	✹,3,12,13,14,18,30,31
	T17	6.85	Mount Brkts	26313	ICE40/841/CIR/2P	1	100000	4100	80	2800 (1850)	✹,3,12,13,14,18,30,31
	T17	7.54	Mount Brkts	26314	ICE40/850/RCT/2P	1	100000	5000	80	2730 (1800)	✹,3,12,13,14,18,30,31
	T17	6.85	Mount Brkts	26315	ICE40/850/CIR/2P	1	100000	5000	80	2730 (1800)	✹,3,12,13,14,18,30,31
70	T17	12.32	Mount Brkts	26087	ICE70/835/2P/ECO	1	100000	3500	80	6200 (4605)	,,3,4,12,13,14,18,30,31
				26088	ICE70/841/2P/ECO	1	100000	4100	80	6200 (4605)	,,3,4,12,13,14,18,30,31
				26089	ICE70/850/2P/ECO	1	100000	5000	80	5950 (4420)	,,3,4,12,13,14,18,30,31
100	T17	12.32	Mount Brkts	26102	ICE100/835/2P/ECO	1	100000	3500	80	8000 (5945)	,,3,4,12,13,14,18,30,31
				26103	ICE100/841/2P/ECO	1	100000	4100	80	8000 (5945)	,,3,4,12,13,14,18,30,31
				26105	ICE100/850/2P/ECO	1	100000	5000	80	7600 (5645)	,,3,4,12,13,14,18,30,31
150	T17	16.28	Mount Brkts	26152	ICE150/835/2P/ECO	1	100000	3500	80	12000 (8915)	,,3,4,12,13,14,18,30,31
				26153	ICE150/841/2P/ECO	1	100000	4100	80	12000 (8915)	,,3,4,12,13,14,18,30,31
				26155	ICE150/850/2P/ECO	1	100000	5000	80	11650 (8655)	,,3,4,12,13,14,18,30,31

ICETRON® Ballasts

Product Number	Ordering Abbreviation	Input Voltage	Input Current (A)	Lamp Type	Rated Lumens	Ballast Factor	System Lumens	Input Power (W)	System lm/W	Notes
49758	QT 1x40 ICE/UNV-T	120-277	0.36/0.16	ICE40	2800	1.00	2800	43.75	64	✹
49753	QT 1x100 ICE/UNV-T	120-277	0.66/0.29	ICE70	6200	1.05	6500	79/77	82/84	
49756	QT 1x100 ICE/UNV-W	120-277	0.66/0.29	ICE70	6200	1.05	6500	79/77	82/84	
49753	QT 1x100 ICE/UNV-T	120-277	0.88/0.37	ICE100	8000	1.00	8000	1.06/1.03	75/77	
49756	QT 1x100 ICE/UNV-W	120-277	0.88/0.37	ICE100	8000	1.00	8000	1.06/1.03	75/77	
49772	QT 1x150 ICE/UNV-T	120-277	1.28/0.54	ICE100	8000	1.38	11000	154/149	71/73	
49773	QT 1x150 ICE/UNV-W	120-277	1.28/0.54	ICE100	8000	1.38	11000	154/149	71/73	
49772	QT 1x150 ICE/UNV-T	120-277	1.34/0.58	ICE150	12000	1.00	12000	161/156	74/76	
49773	QT 1x150 ICE/UNV-W	120-277	1.34/0.58	ICE150	12000	1.00	12000	161/156	74/76	

SYMBOLS & FOOTNOTES FOR FLUORESCENT LAMPS

Symbol	Description
✹	New item introduced within the past year.
Ⓔ	At time of printing, markings are in accordance with EPAct 1992 rules.
	This ECOLOGIC® lamp was designed to pass the Federal TCLP criteria for classification as non-hazardous waste in most states. Disposal regulations may vary; check local and state regulations.
	Lead-Free Glass.

Footnote	Description
1	May be operated at 100 watts (1000MA) same as F84T12/HO.
2	Due to their small diameter, T2 miniature fluorescent lamps operate at higher surface temperatures than other fluorescent lamps. To avoid possible burns, do not touch the lamp during operation and allow sufficient cooling time before removing the lamp from the fixture. The typical bulb wall temperature during operation is 120ºC at the ends. The maximum allowable bulb wall temperature is 150ºC. To avoid electrical shock, turn electrical power off before removing or installing the lamp.
3	Mean lumens are measured at 40% of average rated lamp life.
4	The /2P version of the ICETRON® lamp is supplied with a 24-inch lead wire terminated by a 2-Pin connector rather than the old 12-inch lead, 3-Pin connector design. The /2P versions are powered by QT1X100 ICE/UNV-T or QT1X150 ICE/UNV-T ballasts.
5	Recommended to be used on any F96 T8 Instant Start circuit. It is not recommended to be used: (1) at lamp ambient temperatures below 60ºF or in drafty locations, (2) on low power factor ballast, or (3) inverter operated emergency lighting systems unless any of the above equipment is specifically listed for use with the OCTRON® FO96 SUPERSAVER® 55 watt T8 lamp. Any of the above situations could result in lamp starting and stabilization problems.
6	SUPERSAVER® lamps are recommended to be used on F32T8 ballasts with minimum open circuit voltage of 550V RMS at the lamp. Not recommended to be used: (1) in remotely ballasted fixtures with lamp open circuit voltages below 550V, (2) with Rapid Start ballasts unless the lamp open circuit voltage is greater than 570V, (3) in air handling fixtures, (4) on low power factor ballasts or (5) inverter operated emergency lighting systems unless the equipment is specifically listed for particular lamps. Any of the above situations could result in lamp starting and stabilization problems, or system compatibility issues. If an operating lamp is exposed to drafts or the ambient temperature falls below 60ºF (70ºF for 25W), striation (a rhythmic pulsing pattern of light running down the tube) and/or reduction in lamp brightness may occur. While visually disconcerting, neither behavior is damaging to the lamp and removing the cause (draft or temperature) will return the lamp to normal operation.
7	Recommended only for use on 2-lamp, 30 watt rapid-start high power factor lead, indoor ballasts that meet ANSI standards. Not intended for use: (1) at lamp ambient temperatures below 60ºF or in drafty locations, (2) on low power factor ballasts, (3) reduced current/reduced light output ballasts, (4) dimming ballasts or (5) on inverter operated emergency lighting systems unless any of the above equipment is specifically listed for use with 25 watt lamps.
8	Recommended for use on one or two lamp 40 watt rapid start, high power factor, lead, indoor ballasts that meet ANSI standards. Not intended for use: (1) at lamp ambient temperatures below 60ºF or in drafty locations, (2) on low power factor ballasts, (3) reduced current/reduced light output ballasts, (4) dimming ballasts or (5) on inverter operated emergency lighting systems unless any of the above equipment is specifically listed for use with 34 watt lamps.
9	Recommended for use on one or two lamp high power factor, lead, instant-start, indoor ballasts that meet ANSI standards. Not intended for use: (1) at lamp ambient temperatures below 60ºF or in drafty locations, (2) on low power factor ballasts, (3) reduced current/reduced light output ballasts, (4) dimming ballasts or (5) on inverter operated emergency lighting systems unless any of the above equipment is specifically listed for use with 32 watt or 60 watt lamps.
10	Recommended for use on one or two lamp high power factor, lead 8-foot lamp, high output, indoor ballasts that meet ANSI standards. Not intended for use: (1) at lamp ambient temperatures below 60ºF or in drafty locations, (2) on low powerfactor ballasts, (3) reduced current/reduced light output ballasts, (4) dimming ballasts or (5) on inverter operated emergency lighting systems unless any of the above equipment is specifically listed for use with 95 watt lamps.
11	Recommended for use on 2-lamp high power factor, lead, 8-foot lamp, very high output, indoor ballasts that meet ANSI standards. Not intended for use: (1) at lamp ambient temperatures below 60ºF or in drafty locations, (2) on low power factor ballasts, (3) reduced current/reduced light output ballasts, (4) dimming ballasts or (5) on inverter operated emergency lighting systems unless equipment is specifically listed for use with 195 watt lamps.
12	Approximate initial lumens after 100 hours operation.
13	The life ratings of fluorescent lamps are based on 3 hour operating cycles under specified conditions and with ballast meeting ANSI specifications. If operating cycle is increased, there will be a corresponding increase in the average hours life.

SYMBOLS & FOOTNOTES FOR FLUORESCENT LAMPS

Footnote	Description
14	Lumen output and life rated on high frequency operation.
15	Rating for OSRAM SYLVANIA Circline lamps are based on operation in Rapid Start circuits. They will also operate on preheat circuits.
16	Gold OCTRON® lamp has plastic tube guard which filters wavelengths less than 525nm and provides shatter protection.
17	Minimum starting temperature is a function of the ballast; consult the ballast manufacturer.
18	Amalgam tip temperature for 90% light output for 70W, 100W, 150W types is 130-260ºF (55-125ºC) and 104-199ºF (40-93ºC) for the 40W types.
19	OCTRON lamps should be operated only with magnetic rapid start ballasts designed to operate 265 mA, T8 lamps or high frequency (electronic) ballasts that are either instant start, or rapid start, or programmed rapid start specifically designed to operate T8 lamps. OCTRON lamps may be operated on instant start ballasts with ballast factors ranging from a minimum of 0.71 to a maximum of 1.20 at the nominal ballast input voltage. When OCTRON lamps are operated in the instant start mode, the two wires or two contacts of each socket should be connected to each other. They should then be connected to the appropriate ballast lead wire using National Electric Code techniques.
20	Approximate length of OCTRON CURVALUME® lamps is measured from base face to outside of glass bend.
21	Preheat lamp, starter required.
22	Low temperature performance rated at 35ºF ambient.
23	40W Rapid Start Lamps may be used in starter operated fixtures designed for 40W preheat lamps. Life rating for preheat service is approximately 15,000 hours average.
24	There is a NEMA supported, industry issue where T2, T4 and T5 fluorescent and compact fluorescent lamps operated on high frequency ballasts may experience an abnormal end-of-life phenomenon. This end-of-life phenomenon can result in one or both of the following: (1) Bulb wall cracking near the lamp base or (2) The lamp can overheat in the base area and possibly melt the base and socket. NEMA recommends that high frequency compact fluorescent ballasts have an end-of-life failure mode described above. For additional information refer to NEMA papers on their website at www.NEMA.org.
25	Labeled for cold temperature (below 60ºF) operation only per EPAct.
26	CAUTION: This lamp emits ultraviolet (UV) power during operation and is in Risk Group 2 per ANSI/IESNA RP-27.3-96. Exposure at less than 0.75 meters (30 inches) should be limited; for example exposure at 0.55m (22 inches) should not exceed 4 hours in an 8 hour interval (see ANSI/IESNA RP-27.1-96). Certain medications and chemicals can increase an individual's sensitivity. Consult your physician for specific information. Protective eyewear should be worn in occupational situations involving long term exposure in close proximity to the lamp. This lamp is not intended and should not be used for diagnostic, therapeutic or cosmetic purposes.
27	Recommended to be used on any F32 T8 Instant Start circuit. It is not recommended to be used: (1) with Rapid Start circuits unless the open circuit voltage is greater than 550V, (2) at lamp ambient temperatures below 60ºF or in drafty locations, (3) on dimming ballast or (4) inverter operated emergency lighting systems unless any of the above equipment is specifically listed for use with the OCTRON® SUPERSAVER® 27, 28, 29 or 30 watt U-bent T8 lamp. Any of the above situations could result in lamp starting and stabilization problems.
28	SAFELINE lamps satisfy the criteria of having a non-shattering covering for prevention of glass and other lamp components in your product by containment within the safety coating material. The covering must be intact or the lamp must be replaced to be in compliance. An onsite inspector will require correction if the lamps are installed improperly or not maintained properly.
29	SAFELINE lamps are intended for indoor use only. Lamps must be used in ambient temperatures below 135ºF. The coating is designed to withstand constant operating temperatures up to 239ºF and has a melting point in excess of 500ºF. Lamps must be used with sockets that provide adequate lamp pin to socket contact. Lamps must not be used with defective ballasts sockets or fixtures with improper wiring.
30	ICETRON® Inductively Coupled Electrodeless Fluorescent lamp. Read these warnings and instructions before installing and using this lamp. (1) This lamp operates at a higher temperature (130ºC) than standard fluorescent lamps. To avoid the possibility of minor skin burns, do not touch lamp or metal mounting brackets during operation and allow sufficient cooling time prior to servicing, handling or replacing lamp. (2) This lamp generates electric and magnetic fields during operation. The electric and magnetic fields generated by this lamp during operation in typical lighting applications do not pose exposure risks relative to the limits documented in ANSI C95.1. (3) To prevent electric shock, shut off the main power to the fixture and allow at least two minutes for ballast voltage to discharge before attempting to service or replace lamp. (4) To obtain optimum safety and system performance, use only with OSRAM SYLVANIA ballast. (5) To avoid potential electric shock hazard, do not use lamp if wires or insulation are cut or pulled out of connector.

Footnote	Description
31	ICETRON® Inductively Coupled Electrodeless Fluorescent lamp. Read these warnings and instructions before installing and using this lamp. Instructions for Installation and Use. (1) To avoid premature lamp or ballast failure and ensure proper lamp, ballast and system performance, make sure lamp, ballast and fixture are properly installed. Electrical interconnects, electrical grounds, thermal management and heatsinking specifications and requirements must be fully adhered to in all applications. (See OSRAM SYLVANIA ICETRON® DESIGN GUIDE.) (2) Do not alter the electrical connector on lamp and/or ballast. To do so may adversely affect lamp operation, ballast life and/or emission of EMI (electromagnetic interference). (3) This product may cause interference with radios, cordless telephones and remote control devices. If interference occurs, relocate the radios, cordless telephones and/or remote control devices away from this product.
32	A fluorescent jacketed lamp consists of a T12 (1-1/2" diameter) lamp enclosed inside a T14.5 (1-13/16" diameter) glass jacket. A jacketed fluorescent lamp operates efficiently over a wide range of climatic conditions, including extremes of cold and strong wind in which an unjacketed (bare) lamp would be inefficient or inoperable. The jacket size provides the clearance necessary to minimize damaging lamp-jacket contact; narrow bans of rubber placed between the lamp and the jacket further prevent contact. A weather-tight seal is formed by neoprene rubber end caps.
33	Use only with electronic ballasts which have been specifically designed to operate T2 miniature fluorescent lamps and to reliably and safely control all lamp operating modes including end-of-lamp-life sensing circuitry. If a non-conforming ballast is used, very high temperatures (350ºC typical) may be generated at the ends of the lamp especially during end-of-lamp-life operation, causing the lamp to crack and resulting in potential fire, electrical shock or burn hazards.
34	Amalgam T5 fluorescent lamps provide at least 90% light output from 10-70ºC (50-158ºF). Non-amalgam lamps provide 90% light output from 25-50ºC (77-122ºF).
35	Lamps are OSRAM branded.
36	Lamp will no longer be produced after July 14, 2012 due to 2009 DOE Rule Making for GSFL.

Specifications subject to change without notice.

NOTES:

Compact Fluorescent

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Color coding system:

Premium products Standard products

OSRAM SYLVANIA: THE LEADER IN ENERGY SAVING COMPACT FLUORESCENT LAMPS

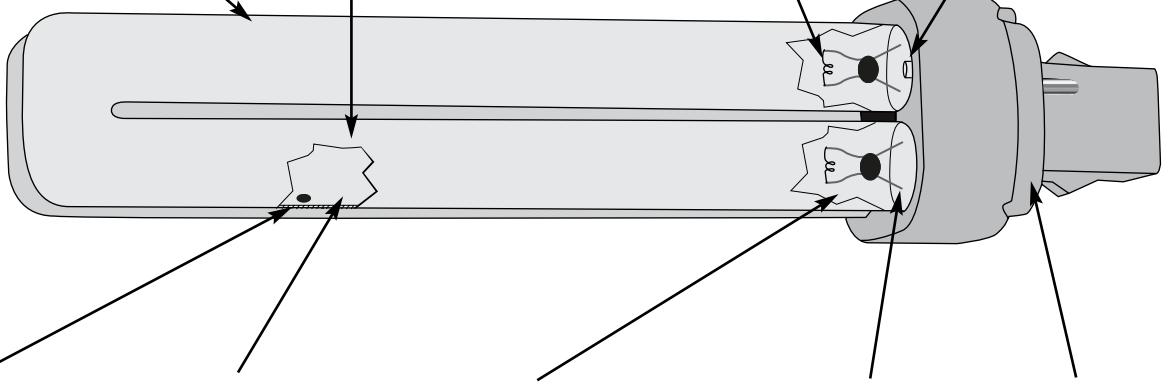
The compact fluorescent lamp is an electric discharge device which utilizes a low pressure mercury vapor arc to generate ultra-violet (plus a little visible) energy. The ultra-violet energy is absorbed by a phosphor coat on the inside of the glass tube and converted by the phosphor to visible wavelengths; the wavelengths of the light generated are determined by the composition of the phosphor. In addition to the small amount of mercury vapor, the fluorescent tube contains an atmosphere of an inert gas, usually argon, krypton, neon, or a mixture of two or more of these gases. The pressure of the gases contained in the lamp is very low, usually from 2 to 3 torr. Atmospheric pressure is 760 torr.

BULB
A wide variety of compact fluorescent bulb shapes are available.

PHOSPHOR
Coating inside the bulb transforms ultraviolet radiation into visible light. Color of light produced depends on composition of phosphor.

CATHODE
"Hot cathodes" at each end of lamp are coated with emissive materials which emit electrons. Usually made of coiled-coil or single-coil tungsten wire.

EXHAUST TUBE
Air is exhausted through this tube during manufacture and inert gas introduced into the bulb.



MERCURY
A minute quantity of liquid mercury is placed in the bulb to furnish mercury vapor.

GAS
Usually a mixture of argon and neon at low pressure.

STEM PRESS
The lead-in wires have an air tight seal here and are made of specific material to assure about the same coefficient of expansion as the glass.

LEAD-IN WIRES
Connect to the base pins and carry the current to and from the cathodes and the mercury arc.

BASE
Several different types used to connect the lamp to the electric circuit and to support the lamp in the lampholder.

HOW TO READ PRODUCT INFORMATION – COMPACT FLUORESCENT

Nominal Wattage	Bulb	MOL (in)	MOL (mm)	Base	Product Number	Ordering Abbreviation	NEMA Generic Designation	Pkg Qty	Avg Rated Life (hrs)	CCT (K)	CRI	Approx Lumens Initial @25°C/77°F (@35°C/95°F)	Approx Lumens Mean @25°C/77°F (@35°C/95°F)	Symbols & Footnotes
26	D(T4)	6.8	173	G24D-3	20710	CF26DD/830/ECO	CFQ26W/G24D/30	50	10000	3000	82	1800	1548	,,1,3, 5,9,11
32	T(T4)	5.5	140	GX24Q-3	20885	CF32DT/E/IN/835/ECO	CFTR32W/GX24Q/35	50	10000	3500	82	2650 2400	2280 2064	,,1,2, 4,5,9,10
40	L(T5)	22.6	573	2G11	20586	FT40DL/841/RS/ECO	FT40W/2G11/RS/41	10	20000	4100	82	3150	2709	,,1,2, 4,5,9,12

Nominal Wattage	Design wattage on reference ballast. Actual wattage dependent on ballast.
Bulb	Describes the shape of the bulb.
Base	Base designations for compact fluorescent lamps are the NEMA designations. Please see page 53 for base illustrations.
MOL	Maximum overall length. The actual length of the lamp measured from the bottom of the base to the top outside edge of the glass. In many cases, the bottom of the base is the bottom of the center post of the base of the lamp.
Symbols & Footnotes	Most symbols and footnotes that apply to a specific product will appear in this space. The explanations of the symbols and footnotes are at the end of the compact fluorescent section, please see page 64.
Ordering Abbreviation	A text description of the lamp. Please see below for several examples and explanations of some of the codes.
NEMA Generic Designation	Designation assigned by NEMA (National Electrical Manufacturers Association).
CCT	Correlated Color Temperature. The degree of "whiteness" of the light. Expressed in Kelvins (K). Please see page 62 for more information.
CRI	Color Rendering Index. A numbering system for rating the relative color rendering quality of a light source compared to a standard. Please see page 54 for more information.
Initial & Mean Lumens	Initial lumens are measured when the lamp has been operating for 100 hours. Mean lumens are typically measured at 40% of the rated life of the lamp. Compact Fluorescent lamp lumens are measured at 25°C (77°F) and 35°C (95°F).

HOW TO READ ORDERING ABBREVIATIONS

CF26DD/830		CF32DT/E/IN/835/ECO		FT40DL/841/RS/ECO	
CF	Compact Fluorescent	CF	Compact Fluorescent	FT	Fluorescent Twin
26	Nominal lamp wattage	32	Nominal lamp wattage	40	Nominal lamp wattage
DD	DULUX® Double	DT	DULUX Triple	DL	DULUX Long
8	82 CRI	E	Electronic or dimming operation	8	82 CRI
30	3000K CCT	IN	Amalgam	41	4100K CCT
		8	82 CRI	RS	Rapid Start
		35	3500K CCT	ECO	ECOLOGIC
		ECO	ECOLOGIC		

DULUX® LAMP FAMILIES

CF... DS = DULUX Single, 2-pin for magnetic operation, ECOLOGIC®
CF... DS/E = DULUX Single, 4-pin for electronic or dimming operation
CF... DD = DULUX Double, 2-pin for magnetic operation, ECOLOGIC
CF... DD/E = DULUX Double, 4-pin for electronic or dimming operation, ECOLOGIC
CF... DT = DULUX Triple, 2-pin for magnetic operation, ECOLOGIC
CF... DT/E = DULUX Triple, 4-pin for electronic or dimming operation, ECOLOGIC
CF... DT/E/IN = DULUX Triple, 4-pin for electronic or dimming operation, amalgam, ECOLOGIC
FT... DL = Fluorescent Twin, DULUX Long, 4-pin
CF... DF = DULUX Flat, 4-pin

SYLVANIA DULUX® COMPACT FLUORESCENT LAMP CROSS REFERENCE

DULUX S Lamps

NAED	SYLVANIA	NEMA / GENERIC	GE	PHILIPS	WATTAGE	BASE
21279	CF5DS/827	CFT5W/G23/827	F5BX/SPX27	PL-S 5W/827	5	G23
21278	CF5DS/841	CFT5W/G23/827	F5BX/SPX41	–	5	G23
21277	CF7DS/827	CFT7W/G23/827	F7BX/SPX27	PL-S 7W/827	7	G23
21276	CF7DS/835	CFT7W/G23/835	F7BX/SPX35	PL-S 7W/835	7	G23
21274	CF7DS/841	CFT7W/G23/841	F7BX/SPX41	PL-S 7W/841	7	G23
21275	CF7DS/850	CFT7W/G23/850	–	PL-S 7W/850	7	G23
21272	CF9DS/827	CFT9W/G23/827	F9BX/SPX27	PL-S 9W/827	9	G23
21273	CF9DS/835	CFT9W/G23/835	F9BX/SPX35	PL-S 9W/835	9	G23
21134	CF9DS/841	CFT9W/G23/841	F9BX/SPX41	PL-S 9W/841	9	G23
21271	CF9DS/850	CFT9W/G23/850	–	PL-S 9W/850	9	G23
21136	CF13DS/827	CFT13W/GX23/827	F13BX/SPX27	PL-S 13W/827	13	GX23
21133	CF13DS/830	CFT13W/GX23/830	F13BX/SPX30	PL-S 13W/830	13	GX23
21137	CF13DS/835	CFT13W/GX23/835	F13BX/SPX35	PL-S 13W/835	13	GX23
20306	CF13DS/841	CFT13W/GX23/841	F13BX/SPX41	PL-S 13W/841	13	GX23
21135	CF13DS/850	CFT13W/GX23/850	F13BX/SPX50	PL-S 13W/850	13	GX23
20374	CFT13WDS/EC/827	CFT13W/GX23/827	F13BX/E/827	–	13	GX23
20397	CFT13WDS/EC/830	CFT13W/GX23/830	F13BX/E/830	–	13	GX23
20368	CFT13WDS/EC/835	CFT13W/GX23/835	F13BX/E/835	–	13	GX23
20375	CFT13WDS/EC/841	CFT13W/GX23/841	F13BX/E/841	–	13	GX23

DULUX S/E Lamps

NAED	SYLVANIA	NEMA / GENERIC	GE	PHILIPS	WATTAGE	BASE
20315	CF5DS/E/841	CFT5W/2G7/841	–	–	5	2G7
20312	CF7DS/E/827	CFT7W/2G7/827	–	–	7	2G7
20316	CF7DS/E/841	CFT7W/2G7/841	–	–	7	2G7
20313	CF9DS/E/827	CFT9W/2G7/827	–	–	9	2G7
20317	CF9DS/E/841	CFT9W/2G7/841	–	–	9	2G7
20314	CF13DS/E/827	CFT13W/2GX7/827	–	–	13	2GX7
20284	CF13DS/E/830	CFT13W/2GX7/830	–	–	13	2GX7
20318	CF13DS/E/841	CFT13W/2GX7/841	–	–	13	2GX7

DULUX D ECOLOGIC® Lamps

NAED	SYLVANIA	NEMA / GENERIC	GE	PHILIPS	WATTAGE	BASE
21122	CF9DD/827/ECO	CFQ9W/G23/827	F9DBX23T4/SPX27	–	9	G23-2
21123	CF9DD/835/ECO	CFQ9W/G23/835	–	–	9	G23-2
21117	CF13DD/827/ECO	CFQ13W/GX23/827	F13DBX23T4/SPX27	PL-C 13W/827/USA	13	GX23-2
21119	CF13DD/830/ECO	CFQ13W/GX23/830	F13DBX23T4/SPX30	PL-C 13W/830/USA	13	GX23-2
21118	CF13DD/835/ECO	CFQ13W/GX23/835	F13DBX23T4/SPX35	PL-C 13W/835/USA	13	GX23-2
21120	CF13DD/841/ECO	CFQ13W/GX23/841	F13DBX23T4/SPX41	PL-C 13W/841/USA	13	GX23-2
21109	CF18DD/827/ECO	CFQ18W/G24d/827	F18DBXT4/SPX27	PL-C 18W/827	18	G24 d-2
21112	CF18DD/830/ECO	CFQ18W/G24d/830	F18DBXT4/SPX30	PL-C 18W/830	18	G24 d-2
21110	CF18DD/835/ECO	CFQ18W/G24d/835	F18DBXT4/SPX35	PL-C 18W/835	18	G24 d-2
21111	CF18DD/841/ECO	CFQ18W/G24d/841	F18DBXT4/SPX41	PL-C 18W/841	18	G24 d-2
21113	CF26DD/827/ECO	CFQ26W/G24d/827	F26DBXT4/SPX27	PL-C 26W/827	26	G24 d-3
21116	CF26DD/830/ECO	CFQ26W/G24d/830	F26DBXT4/SPX30	PL-C 26W/830	26	G24 d-3
21114	CF26DD/835/ECO	CFQ26W/G24d/835	F26DBXT4/SPX35	PL-C 26W/835	26	G24 d-3
21115	CF26DD/841/ECO	CFQ26W/G24d/841	F26DBXT4/SPX41	PL-C 26W/841	26	G24 d-3

DULUX® D ECOLOGIC® Lamps

NAED	SYLVANIA	NEMA / GENERIC	GE	PHILIPS	WATTAGE	BASE
20241	CF18DD/16W/SS/827/ECO	CFQ18W/G24D/827	N/A	N/A	16	G24D-2
20242	CF18DD/16W/SS/830/ECO	CFQ18W/G24D/830	N/A	N/A	16	G24D-2
20240	CF18DD/16W/SS/835/ECO	CFQ18W/G24D/835	N/A	N/A	16	G24D-2
20243	CF18DD/16W/SS/841/ECO	CFQ18W/G24D/841	N/A	N/A	16	G24D-2
20237	CF26DD/23W/SS/827/ECO	CFQ26W/G24D/827	N/A	N/A	23	G24D-3
20238	CF26DD/23W/SS/830/ECO	CFQ26W/G24D/830	N/A	N/A	23	G24D-3
20236	CF26DD/23W/SS/835/ECO	CFQ26W/G24D/835	N/A	N/A	23	G24D-3
20239	CF26DD/23W/SS/841/ECO	CFQ26W/G24D/841	N/A	N/A	23	G24D-3

DULUX D/E ECOLOGIC Lamps

NAED	SYLVANIA	NEMA / GENERIC	GE	PHILIPS	WATTAGE	BASE
20682	CF13DD/E/827/ECO	CFQ13W/G24q/827	F13DBX/SPX27/4P	PL-C 13W/827/4P	13	G24 q-1
20721	CF13DD/E/830/ECO	CFQ13W/G24q/830	F13DBX/SPX30/4P	PL-C 13W/830/4P	13	G24 q-1
20671	CF13DD/E/835/ECO	CFQ13W/G24q/835	F13DBX/SPX35/4P	PL-C 13W/835/4P	13	G24 q-1
20667	CF13DD/E/841/ECO	CFQ13W/G24q/841	F13DBX/SPX41/4P	PL-C 13W/841/4P	13	G24 q-1
20683	CF18DD/E/827/ECO	CFQ18W/G24q/827	F18DBX/SPX27/4P	PL-C 18W/827/4P	18	G24 q-2
20724	CF18DD/E/830/ECO	CFQ18W/G24q/830	F18DBX/SPX30/4P	PL-C 18W/830/4P	18	G24 q-2
20672	CF18DD/E/835/ECO	CFQ18W/G24q/835	F18DBX/SPX35/4P	PL-C 18W/835/4P	18	G24 q-2
20668	CF18DD/E/841/ECO	CFQ18W/G24q/841	F18DBX/SPX41/4P	PL-C 18W/841/4P	18	G24 q-2
20684	CF26DD/E/827/ECO	CFQ26W/G24q/827	F26DBX/SPX27/4P	PL-C 26W/827/4P	26	G24 q-3
20722	CF26DD/E/830/ECO	CFQ26W/G24q/830	F26DBX/SPX30/4P	PL-C 26W/830/4P	26	G24 q-3
20673	CF26DD/E/835/ECO	CFQ26W/G24q/835	F26DBX/SPX35/4P	PL-C 26W/835/4P	26	G24 q-3
20669	CF26DD/E/841/ECO	CFQ26W/G24q/841	F26DBX/SPX41/4P	PL-C 26W/841/4P	26	G24 q-3

DULUX D/E ECOLOGIC Lamps

NAED	SYLVANIA	NEMA / GENERIC	GE	PHILIPS	WATTAGE	BASE
20224	CF18DD/E/15W/SS/830/ECO	CFQ18W/G24Q/830	N/A	N/A	15	G24Q-2
20225	CF18DD/E/15W/SS/835/ECO	CFQ18W/G24Q/835	N/A	PL-C 18W/835/XEW/4P/ALTO 14W	15	G24Q-2
20226	CF18DD/E/15W/SS/841/ECO	CFQ18W/G24Q/841	N/A	PL-C 18W/841/XEW/4P/ALTO 14W	15	G24Q-2
20457	CF26DD/E/21W/SS/830/ECO	CFQ26W/G24Q/830	N/A	N/A	21	G24Q-3
20458	CF26DD/E/21W/SS/835/ECO	CFQ26W/G24Q/835	N/A	PL-C 26W/835/XEW/4P/ALTO 21W	21	G24Q-3
20459	CF26DD/E/21W/SS/841/ECO	CFQ26W/G24Q/841	N/A	PL-C 26W/841/XEW/4P/ALTO 21W	21	G24Q-3

DULUX T ECOLOGIC Lamps

NAED	SYLVANIA	NEMA / GENERIC	GE	PHILIPS	WATTAGE	BASE
20454	CF26DT/827/ECO	CFQ26W/GX24d/827	–	–	26	GX24 d-3

DULUX T/E ECOLOGIC Lamps

NAED	SYLVANIA	NEMA / GENERIC	GE	PHILIPS	WATTAGE	BASE
20891	CF13DT/E/827/ECO	CFTR13W/GX24q/827	F13TBX/827/4P/EOL	–	13	GX24 q-1
20892	CF13DT/E/830/ECO	CFTR13W/GX24q/830	–	–	13	GX24 q-1
20893	CF13DT/E/835/ECO	CFTR13W/GX24q/835	–	–	13	GX24 q-1
20894	CF13DT/E/841/ECO	CFTR13W/GX24q/841	–	–	13	GX24 q-1
20767	CF26DT/E/827/ECO	CFTR26W/GX24q/827	F26TBX/827/4P/EOL	–	26	GX24 q-3

SYLVANIA DULUX® COMPACT FLUORESCENT LAMP CROSS REFERENCE (CONTINUED)

DULUX T/E/IN ECOLOGIC Lamps

NAED	SYLVANIA	NEMA / GENERIC	GE	PHILIPS	WATTAGE	BASE
20875	CF18DT/E/IN/827/ECO	CFTR18W/GX24q/827	F18TBX/SPX27/A/4P	PL-T 18W/827/4P	18	GX24 q-2
20876	CF18DT/E/IN/830/ECO	CFTR18W/GX24q/830	F18TBX/SPX30/A/4P	PL-T 18W/830/4P	18	GX24 q-2
20877	CF18DT/E/IN/835/ECO	CFTR18W/GX24q/835	F18TBX/SPX35/A/4P	PL-T 18W/835/4P	18	GX24 q-2
20878	CF18DT/E/IN/841/ECO	CFTR18W/GX24q/841	F18TBX/SPX41/A/4P	PL-T 18W/841/4P	18	GX24 q-2
20879	CF26DT/E/IN/827/ECO	CFTR26W/GX24q/827	F26TBX/SPX27/A/4P	PL-T 26W/827/4P	26	GX24 q-3
20880	CF26DT/E/IN/830/ECO	CFTR26W/GX24q/830	F26TBX/SPX30/A/4P	PL-T 26W/830/4P	26	GX24 q-3
20881	CF26DT/E/IN/835/ECO	CFTR26W/GX24q/835	F26TBX/SPX35/A/4P	PL-T 26W/835/4P	26	GX24 q-3
20882	CF26DT/E/IN/841/ECO	CFTR26W/GX24q/841	F26TBX/SPX41/A/4P	PL-T 26W/841/4P	26	GX24 q-3
20883	CF32DT/E/IN/827/ECO	CFTR32W/GX24q/827	F32TBX/SPX27/A/4P	PL-T 32W/827/4P	32	GX24 q-3
20884	CF32DT/E/IN/830/ECO	CFTR32W/GX24q/830	F32TBX/SPX30/A/4P	PL-T 32W/830/4P	32	GX24 q-3
20885	CF32DT/E/IN/835/ECO	CFTR32W/GX24q/835	F32TBX/SPX35/A/4P	PL-T 32W/835/4P	32	GX24 q-3
20886	CF32DT/E/IN/841/ECO	CFTR32W/GX24q/841	F32TBX/SPX41/A/4P	PL-T 32W/841/4P	32	GX24 q-3
20887	CF42DT/E/IN/827/ECO	CFTR42W/GX24q/827	F42TBX/827/A/4P/EOL	PL-T 42W/827/4P	42	GX24 q-4
20888	CF42DT/E/IN/830/ECO	CFTR42W/GX24q/830	F42TBX/830/A/4P/EOL	PL-T 42W/830/4P	42	GX24 q-4
20871	CF42DT/E/IN/835/ECO	CFTR42W/GX24q/835	F42TBX/835/A/4P/EOL	PL-T 42W/835/4P	42	GX24 q-4
20890	CF42DT/E/IN/841/ECO	CFTR42W/GX24q/841	F42TBX/841/A/4P/EOL	PL-T 42W/841/4P	42	GX24 q-4
20896	CF57DT/E/IN/830/ECO	CFTR57W/GX24q/830	F57QBX/830/A/4P/EOL	PL-T 57W/830/4P/A	57	GX24 q-5
20897	CF57DT/E/IN/835/ECO	CFTR57W/GX24q/835	F57QBX/835/A/4P/EOL	PL-T 57W/835/4P/A	57	GX24 q-5
20899	CF57DT/E/IN/841/ECO	CFTR57W/GX24q/841	F57QBX/841/A/4P/EOL	PL-T 57W/841/4P/A	57	GX24 q-5
20794	CF70DT/E/IN/827/ECO	CFTR70W/GX24q/827	F70QBX/827/A/4P/EOL	–	70	GX24 q-6
20795	CF70DT/E/IN/830/ECO	CFTR70W/GX24q/830	F70QBX/830/A/4P/EOL	–	70	GX24 q-6
20796	CF70DT/E/IN/835/ECO	CFTR70W/GX24q/835	F70QBX/835/A/4P/EOL	–	70	GX24 q-6
20797	CF70DT/E/IN/841/ECO	CFTR70W/GX24q/841	F70QBX/841/A/4P/EOL	–	70	GX24 q-6

DULUX T/E/IN SUPERSAVER ECOLOGIC Lamps

NAED	SYLVANIA	NEMA / GENERIC	GE	PHILIPS	WATTAGE	BASE
21100	CF26DT/E/IN/21W/830/SS/ECO	CFTR26W/GX24q/30	N/A	N/A	21	GX24Q-3
21101	CF26DT/E/IN/21W/835/SS/ECO	CFTR26W/GX24q/35	N/A	N/A	21	GX24Q-3
21102	CF26DT/E/IN/21W/841/SS/ECO	CFTR26W/GX24q/41	N/A	N/A	21	GX24Q-3
21106	CF32DT/E/IN/28W/830/SS/ECO	CFTR32W/GX24q/30	N/A	PL-T 32W/830/XEW/4P/ALTO 27W	28	GX24Q-3
21107	CF32DT/E/IN/28W/835/SS/ECO	CFTR32W/GX24q/35	N/A	PL-T 32W/835/XEW/4P/ALTO 27W	28	GX24Q-3
21108	CF32DT/E/IN/28W/841/SS/ECO	CFTR32W/GX24q/41	N/A	PL-T 32W/841/XEW/4P/ALTO 27W	28	GX24Q-3
21103	CF42DT/E/IN/38W/830/SS/ECO	CFTR42W/GX24q/30	N/A	PL-T 42W/830/XEW/4P/ALTO 33W	38	GX24Q-4
21104	CF42DT/E/IN/38W/835/SS/ECO	CFTR42W/GX24q/35	N/A	PL-T 42W/835/XEW/4P/ALTO 33W	38	GX24Q-4
21105	CF42DT/E/IN/38W/841/SS/ECO	CFTR42W/GX24q/41	N/A	PL-T 42W/841/XEW/4P/ALTO 33W	38	GX24Q-4

DULUX® L ECOLOGIC Lamps

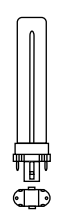
NAED	SYLVANIA	NEMA / GENERIC	GE	PHILIPS	WATTAGE	BASE
20587	FT18DL830/ECO	FT18W/2G11/830	F18BX/SPX30	PL-L 18W/830	18	2G11
20595	FT18DL830RS/ECO	FT18W/2G11/RS/830	F18BX/SPX30/RS	PL-L 18W/830	18	2G11
20588	FT18DL835/ECO	FT18W/2G11/835	F18BX/SPX35	PL-L 18W/835	18	2G11
20594	FT18DL835RS/ECO	FT18W/2G11/RS/835	F18BX/SPX35/RS	PL-L 18W/835	18	2G11
20589	FT18DL841/ECO	FT18W/2G11/841	F18BX/SPX41	PL-L 18W/841	18	2G11
20593	FT18DL841RS/ECO	FT18W/2G11/RS/841	F18BX/SPX41/RS	PL-L 18W/841	18	2G11
20597	FT24DL830/ECO	FT24W/2G11/830	F27BX/SPX30/RS	PL-L 24W/830	24	2G11
20580	FT24DL835/ECO	FT24W/2G11/835	F27BX/SPX35/RS	PL-L 24W/835	24	2G11
20596	FT24DL841/ECO	FT24W/2G11/841	F27BX/SPX41/RS	PL-L 24W/841	24	2G11
20581	FT36DL830/ECO	FT36W/2G11/830	F39BX/SPX30/RS	PL-L 36W/830	36	2G11
20582	FT36DL835/ECO	FT36W/2G11/835	F39BX/SPX35/RS	PL-L 36W/835	36	2G11
20583	FT36DL841/ECO	FT36W/2G11/841	F39BX/SPX41/RS	PL-L 36W/841	36	2G11
20518	FT40DL/28W/830/SS/IS/ECO	FT40W/2G11/RS/830	–	–	28	2G11
20519	FT40DL/28W/835/SS/IS/ECO	FT40W/2G11/RS/835	–	–	28	2G11
20488	FT40DL/28W/841/SS/IS/ECO	FT40W/2G11/RS/841	–	–	28	2G11
20584	FT40DL830RS/ECO	FT40W/2G11/RS/830	F40/30BX/SPX30	PL-L 40W/830/RS/IS	40	2G11
20585	FT40DL835RS/ECO	FT40W/2G11/RS/835	F40/30BX/SPX35	PL-L 40W/835/RS/IS	40	2G11
20586	FT40DL841RS/ECO	FT40W/2G11/RS/841	F40/30BX/SPX41	PL-L 40W/841/RS/IS	40	2G11
20576	FT40DL850RS/ECO	FT40W/2G11/RS/850	F40/30BX/SPX50RS	–	40	2G11
20554	FT40DL965RS/ECO	FT40W/2G11/RS/865	–	–	40	2G11
20590	FT55DL830/ECO	FT55W/2G11/RS/830	F55BX/830	–	55	2G11
20591	FT55DL835/ECO	FT55W/2G11/RS/835	F55BX/835	–	55	2G11
20592	FT55DL841/ECO	FT55W/2G11/RS/841	F55BX/841	–	55	2G11
20563	FT55DL965/ECO	FT55W/2G11/RS/965	–	–	55	2G11
20572	FT80DL830/ECO	FT80W/2G11/RS/830	–	PL-L 80W/830/4P	80	2G11
20622	FT80DL835/ECO	FT80W/2G11/RS/835	–	PL-L 80W/835/4P	80	2G11
20624	FT80DL841/ECO	FT80W/2G11/RS/841	–	PL-L 80W/841/4P	80	2G11

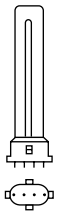
DULUX L SUPERSAVER® ECOLOGIC® Lamps

NAED	SYLVANIA	NEMA / GENERIC	GE	PHILIPS	WATTAGE	BASE
20518	FT40DL/28W/830/SS/ECO	FT28W/2G11/830	N/A	N/A	28	2G11
20519	FT40DL/28W/835/SS/ECO	FT28W/2G11/835	N/A	N/A	28	2G11
20488	FT40DL/28W/841/SS/ECO	FT28W/2G11/841	N/A	N/A	28	2G11
20117	FT40DL/25W/835/SS/ECO	FT28W/2G11/835	F40/25BX835/IS/WM	PL-L 40W/835/XEW/4P/IS 25W	25	2G11
20118	FT40DL/25W/841/SS/ECO	FT28W/2G11/841	F40/25BX840/IS/WM	PL-L 40W/841/XEW/4P/IS 25W	25	2G11

COMPACT FLUORESCENT LAMPS

The overall length of DULUX® compact fluorescent lamps is measured from the bottom of the base to the outside edge of the glass. In many cases, the bottom of the base is the bottom of the center post of the base of the lamp.


DULUX S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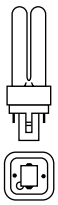
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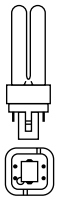
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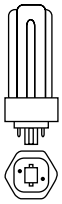
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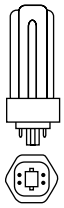
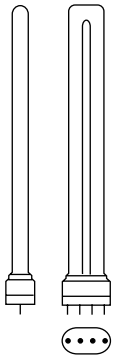
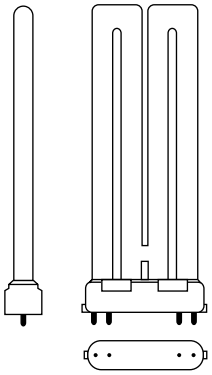

DULUX T/E
DULUX T/E/IN


DULUX L

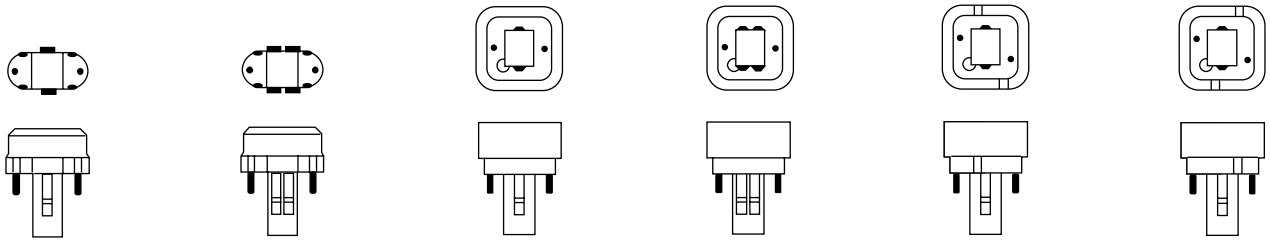

DULUX F

BASES

Pin-based compact fluorescent lamps have either 2 pins or 4 pins. Each 2-pin lamp has an internal starter and is designed for preheat, magnetic operation. The 4-pin lamps are designed for electronic ballast operation and are dimmable. These lamps have no internal starter; starting the lamps is a function of the ballast.

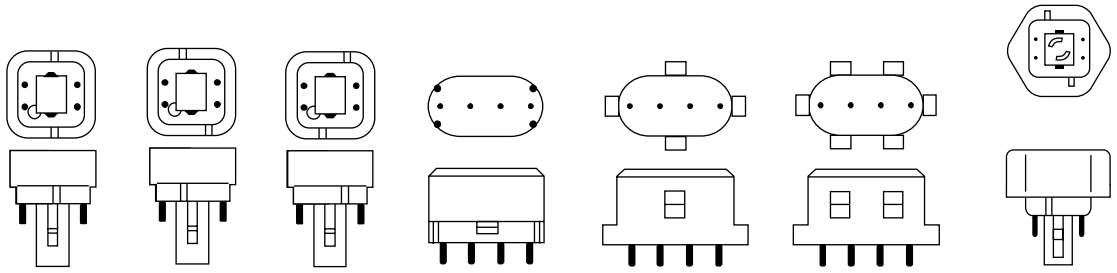
Medium screw base, compact fluorescent lamps have integral ballasts.

FOR CHOKE/STARTER OPERATION

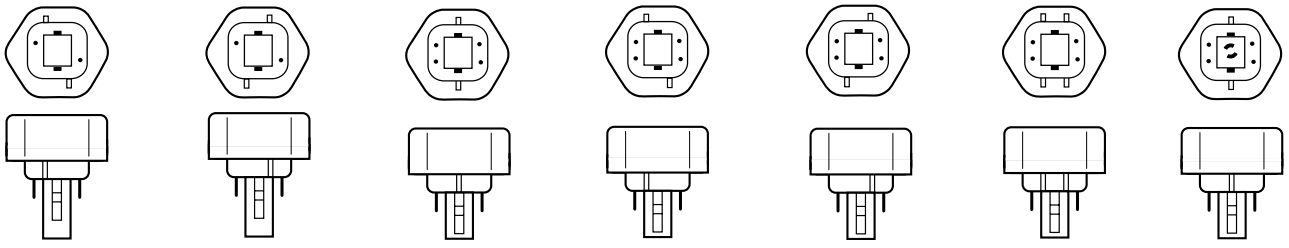


G 23 | GX 23 | G 23-2 | GX 23-2 | G 24 d2 | G24 d3

FOR ELECTRONIC OR DIMMING OPERATION



G 24 q-1 | G 24 q-2 | G 24 q-3 | 2 G 11 | 2 G 7 | 2 GX 7 | GX 24



GX 24 d-2 | GX 24 d-3 | GX 24 q-1 | GX 24 q-2 | GX 24 q-3 | GX 24 q-4 | GX 24 q-5

For weight and measurement information, please visit www.sylvania.com

LAMP DISPOSAL LABELING

The following information appears on packages of fluorescent lamps. For more information on lamp disposal labeling, see the inside back cover of this catalog.

Hg LAMP CONTAINS MERCURY

Manage in accordance with disposal laws
See www.lamprecycle.org or 1-866-666-6850

COMPACT FLUORESCENT LAMP COLORS

COLOR	COLOR ABBREVIATION	CORRELATED COLOR TEMPERATURE	COLOR RENDERING INDEX
DULUX® 2700K	827	2700	82
SOFT WHITE	Soft White	2900	82
WARM WHITE	WW	3000	52
DULUX SOFT WHITE	830	3000	82
DULUX 3000K	830	3000	82
DULUX 4100K	841	4100	82
DULUX 5000K	850	5000	82
DAYLIGHT™	D	6500	76

COMPACT FLUORESCENT COMPETITIVE GUIDES

NOTE: These tables are intended only as guides and may represent another lamp company's most similar product or product family rather than an identical match. Individual manufacturer's performance values should be consulted. Environmental conditions, ballast type and other auxiliary equipment may affect lamp performance.

COMPACT FLUORESCENT BRAND NAMES

SYLVANIA	GE*	PHILIPS**
DULUX®	BIAX	PL
DULUX S	Low wattage BIAX	PL
DULUX D, D/E	Double BIAX	PL-C
DULUX T, T/E	Triple BIAX	PL-T
DULUX F	–	–
DULUX L	High Lumen BIAX	PL-L
ECOLOGIC® (ECO®)	Ecolux (ECO)	ALTO

* Trademarks or registered trademarks of General Electric Company ** Trademarks or registered trademarks of Philips

COMPACT FLUORESCENT COLOR CROSS REFERENCE

SYLVANIA	GE	PHILIPS
827	SPX27	27
830	SPX30	30, 830
835	SPX35	35, 835
841	SPX41	41, 841
850	SPX50	50, 850
865	SPX65	865
950	–	950

DULUX® S/E 4-PIN Compact Fluorescent Lamps

for Dimming and Electronic Ballast

Nominal Wattage	Bulb	MOL (in)	MOL (mm)	Base	Product Number	Ordering Abbreviation	NEMA Generic Designation	Pkg Qty	Avg Rated Life (hrs)	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
5	S (T4)	3.4	85	2G7	20315	CF5DS/E/841	CFT5W/2G7/841	50	20000	4100	82	230 (200)	,1,2, 4,5,9
7	S (T4)	4.5	115	2G7	20312	CF7DS/E/827	CFT7W/2G7/827	50	20000	2700	82	400 (345)	,1,2, 4,5,9
					20316	CF7DS/E/841	CFT7W/2G7/841	50	20000	4100	82	400 (345)	,1,2, 4,5,9
9	S (T4)	5.7	145	2G7	20313	CF9DS/E/827	CFT9W/2G7/827	50	20000	2700	82	580 (500)	,1,2, 4,5,9
					20317	CF9DS/E/841	CFT9W/2G7/841	50	20000	4100	82	580 (500)	,1,2, 4,5,9
13	S (T4)	6.2	157	2GX7	20314	CF13DS/E/827	CFT13W/2GX7/827	50	10000	2700	82	800 (690)	,1,2, 4,5,9
					20284	CF13DS/E/830	CFT13W/2GX7/830	50	10000	3000	82	800 (690)	,1,2, 4,5,9
					20318	CF13DS/E/841	CFT13W/2GX7/841	50	10000	4100	82	800 (690)	,1,2, 4,5,9

DULUX® S PREHEAT 2-PIN ECOLOGIC® Compact Fluorescent Lamps

With starter in Lamp Base for Magnetic Ballasts

Nominal Wattage	Bulb	MOL (in)	MOL (mm)	Base	Product Number	Ordering Abbreviation	NEMA Generic Designation	Pkg Qty	Avg Rated Life (hrs)	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
5	S (T4)	4.2	107	G23	21279	CF5DS/827/ECO	CFT5W/G23/827	50	10000	2700	82	230 (200)	1,3,5,9,11
					21278	CF5DS/841/ECO	CFT5W/G23/841	50	10000	4100	82	230 (200)	1,3,5,9,11
7	S (T4)	5.3	135	G23	21277	CF7DS/827/ECO	CFT7W/G23/827	50	10000	2700	82	400 (345)	1,3,5,9,11
					21276	CF7DS/835/ECO	CFT7W/G23/835	50	10000	3500	82	400 (345)	1,3,5,9,11
					21274	CF7DS/841/ECO	CFT7W/G23/841	50	10000	4100	82	400 (345)	1,3,5,9,11
					21275	CF7DS/850/ECO	CFT7W/G23/850	50	10000	5000	82	400 (345)	1,3,5,9,11
9	S (T4)	6.5	165	G23	21272	CF9DS/827/ECO	CFT9W/G23/827	50	10000	2700	82	580 (500)	1,3,5,9,11
					21273	CF9DS/835/ECO	CFT9W/G23/835	50	10000	3500	82	580 (500)	1,3,5,9,11
					21270	CF9DS/841/ECO	CFT9W/G23/841	50	10000	4100	82	580 (500)	1,3,5,9,11
					21271	CF9DS/850/ECO	CFT9W/G23/850	50	10000	5000	82	580 (500)	1,3,5,9,11
13	S (T4)	7.1	180	GX23	21136	CF13DS/827/ECO	CFT13W/GX23/827	50	10000	2700	82	800 (690)	1,3,5,9,11
					21133	CF13DS/830/ECO	CFT13W/GX23/830	50	10000	3000	82	800 (690)	1,3,5,9,11
					21137	CF13DS/835/ECO	CFT13W/GX23/835	50	10000	3500	82	800 (690)	1,3,5,9,11
					21134	CF13DS/841/ECO	CFT13W/GX23/841	50	10000	4100	82	800 (690)	1,3,5,9,11
					21135	CF13DS/850/ECO	CFT13W/GX23/850	50	10000	5000	82	800 (690)	1,3,5,9,11

DULUX® D/E 4-PIN SUPERSAVER® ECOLOGIC® Compact Fluorescent Lamps

Nominal Wattage	Bulb	MOL (in)	MOL (mm)	Base	Product Number	Ordering Abbreviation	NEMA Generic Designation	Pkg Qty	Avg Rated Life (hrs)	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
15	D (T4)	5.8	147	G24Q-2	20224	CF18DD/E/15W/SS/830/ECO	CFQ18W/G24Q/830	50	16000	3000	82	1125 (970)	1,2,4,5,9
					20225	CF18DD/E/15W/SS/835/ECO	CFQ18W/G24Q/835	50	16000	3500	82	1125 (970)	1,2,4,5,9
					20226	CF18DD/E/15W/SS/841/ECO	CFQ18W/G24Q/841	50	16000	4100	82	1125 (970)	1,2,4,5,9
21	D (T4)	6.5	166	G24Q-3	20457	CF26DD/E/21W/SS/830/ECO	CFQ26W/G24Q/830	50	16000	3000	82	1525 (1310)	1,2,4,5,9
					20458	CF26DD/E/21W/SS/835/ECO	CFQ26W/G24Q/835	50	16000	3500	82	1525 (1310)	1,2,4,5,9
					20459	CF26DD/E/21W/SS/841/ECO	CFQ26W/G24Q/841	50	16000	4100	82	1525 (1310)	1,2,4,5,9

DULUX D/E 4-PIN ECOLOGIC Compact Fluorescent Lamps

Nominal Wattage	Bulb	MOL (in)	MOL (mm)	Base	Product Number	Ordering Abbreviation	NEMA Generic Designation	Pkg Qty	Avg Rated Life (hrs)	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
13	D (T4)	5.2	131	G24Q-1	20682	CF13DD/E/827/ECO	CFQ13W/G24Q/827	50	12000	2700	82	900 (775)	1,2,4,5,9
					20721	CF13DD/E/830/ECO	CFQ13W/G24Q/830	50	12000	3000	82	900 (775)	1,2,4,5,9
					20671	CF13DD/E/835/ECO	CFQ13W/G24Q/835	50	12000	3500	82	900 (775)	1,2,4,5,9
					20667	CF13DD/E/841/ECO	CFQ13W/G24Q/841	50	12000	4100	82	900 (775)	1,2,4,5,9
18	D (T4)	5.8	147	G24Q-2	20683	CF18DD/E/827/ECO	CFQ18W/G24Q/827	50	12000	2700	82	1150 (990)	1,2,4,5,9
					20724	CF18DD/E/830/ECO	CFQ18W/G24Q/830	50	12000	3000	82	1150 (990)	1,2,4,5,9
					20672	CF18DD/E/835/ECO	CFQ18W/G24Q/835	50	12000	3500	82	1150 (990)	1,2,4,5,9
					20668	CF18DD/E/841/ECO	CFQ18W/G24Q/841	50	12000	4100	82	1150 (990)	1,2,4,5,9
26	D (T4)	6.5	166	G24Q-3	20684	CF26DD/E/827/ECO	CFQ26W/G24Q/827	50	12000	2700	82	1710 (1470)	1,2,4,5,9
					20722	CF26DD/E/830/ECO	CFQ26W/G24Q/830	50	12000	3000	82	1710 (1470)	1,2,4,5,9
					20673	CF26DD/E/835/ECO	CFQ26W/G24Q/835	50	12000	3500	82	1710 (1470)	1,2,4,5,9
					20669	CF26DD/E/841/ECO	CFQ26W/G24Q/841	50	12000	4100	82	1710 (1470)	1,2,4,5,9

DULUX® D SUPERSAVER® 2-PIN ECOLOGIC® Compact Fluorescent Lamps

Nominal Wattage	Bulb	MOL (in)	MOL (mm)	Base	Product Number	Ordering Abbreviation	NEMA Generic Designation	Pkg Qty	Avg Rated Life (hrs)	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
16	D (T4)	6.0	153	G24D-2	20241	CF18DD/16W/SS/827/ECO	CFQ18W/G24D/827	50	10000	2700	82	1120 (950)	1,3,5,7,9,11
					20242	CF18DD/16W/SS/830/ECO	CFQ18W/G24D/830	50	10000	3000	82	1120 (950)	1,3,5,7,9,11
					20240	CF18DD/16W/SS/835/ECO	CFQ18W/G24D/835	50	10000	3500	82	1120 (950)	1,3,5,7,9,11
					20243	CF18DD/16W/SS/841/ECO	CFQ18W/G24D/841	50	10000	4100	82	1120 (950)	1,3,5,7,9,11
23	D (T4)	6.8	173	G24D-3	20237	CF26DD/23W/SS/827/ECO	CFQ26W/G24D/827	50	10000	2700	82	1700 (1445)	1,3,5,7,9,11
					20238	CF26DD/23W/SS/830/ECO	CFQ26W/G24D/830	50	10000	3000	82	1700 (1445)	1,3,5,7,9,11
					20236	CF26DD/23W/SS/835/ECO	CFQ26W/G24D/835	50	10000	3500	82	1700 (1445)	1,3,5,7,9,11
					20239	CF26DD/23W/SS/841/ECO	CFQ26W/G24D/841	50	10000	4100	82	1700 (1445)	1,3,5,7,9,11

DULUX® D PREHEAT 2-PIN ECOLOGIC® Compact Fluorescent Lamps

With starter in Lamp Base for Magnetic Ballasts

Nominal Wattage	Bulb	MOL (in)	MOL (mm)	Base	Product Number	Ordering Abbreviation	NEMA Generic Designation	Pkg Qty	Avg Rated Life (hrs)	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
9	D (T4)	4.3	110	G23-2	21122	CF9DD/827/ECO	CFQ9W/G23/827	50	10000	2700	82	525 (450)	1,3,5,9,11
					21123	CF9DD/835/ECO	CFQ9W/G23/835	50	10000	3500	82	525 (450)	1,3,5,9,11
13	D (T4)	4.6	118	GX23-2	21117	CF13DD/827/ECO	CFQ13W/GX23/827	50	10000	2700	82	780 (670)	1,3,5,9,11
					21119	CF13DD/830/ECO	CFQ13W/GX23/830	50	10000	3000	82	780 (670)	1,3,5,9,11
					21118	CF13DD/835/ECO	CFQ13W/GX23/835	50	10000	3500	82	780 (670)	1,3,5,9,11
					21120	CF13DD/841/ECO	CFQ13W/GX23/841	50	10000	4100	82	780 (670)	1,3,5,9,11
18	D (T4)	6.0	153	G24D-2	21109	CF18DD/827/ECO	CFQ18W/G24D/827	50	10000	2700	82	1150 (990)	1,3,5,9,11
					21112	CF18DD/830/ECO	CFQ18W/G24D/830	50	10000	3000	82	1150 (990)	1,3,5,9,11
					21110	CF18DD/835/ECO	CFQ18W/G24D/835	50	10000	3500	82	1150 (990)	1,3,5,9,11
					21111	CF18DD/841/ECO	CFQ18W/G24D/841	50	10000	4100	82	1150 (990)	1,3,5,9,11
26	D (T4)	6.8	173	G24D-3	21113	CF26DD/827/ECO	CFQ26W/G24D/827	50	10000	2700	82	1710 (1470)	1,3,5,9,11
					21116	CF26DD/830/ECO	CFQ26W/G24D/830	50	10000	3000	82	1710 (1470)	1,3,5,9,11
					21114	CF26DD/835/ECO	CFQ26W/G24D/835	50	10000	3500	82	1710 (1470)	1,3,5,9,11
					21115	CF26DD/841/ECO	CFQ26W/G24D/841	50	10000	4100	82	1710 (1470)	1,3,5,9,11

DULUX® T/E/IN Amalgam, 4-PIN SUPERSAVER® ECOLOGIC® Compact Fluorescent Lamps

Nominal Wattage	Bulb	(in)	Avg (mm)	Base	Product Number	Ordering Abbreviation	NEMA Generic Designation	Pkg Qty	Avg Rated Life (hrs)	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Approx Lumens Initial (Mean) @35ºC/95ºF	Notes
21	T (T4)	5.0	126	GX24Q-3	21100	CF26DT/E/IN/21W/830/SS/ECO	CFTR26W/GX24q/30	50	18000	3000	82	1380 (1185)	1410 (1215)	1,2,4,5,9,10
					21101	CF26DT/E/IN/21W/835/SS/ECO	CFTR26W/GX24q/35	50	18000	3500	82	1380 (1185)	1410 (1215)	1,2,4,5,9,10
					21102	CF26DT/E/IN/21W/841/SS/ECO	CFTR26W/GX24q/41	50	18000	4100	82	1380 (1185)	1410 (1215)	1,2,4,5,9,10
28	T (T4)	5.6	142	GX24Q-3	21106	CF32DT/E/IN/28W/830/SS/ECO	CFTR32W/GX24q/30	50	18000	3000	82	1835 (1580)	1875 (1615)	1,2,4,5,9,10
					21107	CF32DT/E/IN/28W/835/SS/ECO	CFTR32W/GX24q/35	50	18000	3500	82	1835 (1580)	1875 (1615)	1,2,4,5,9,10
					21108	CF32DT/E/IN/28W/841/SS/ECO	CFTR32W/GX24q/41	50	18000	4100	82	1835 (1580)	1875 (1615)	1,2,4,5,9,10
38	T (T4)	6.5	163	GX24Q-4	21103	CF42DT/E/IN/38W/830/SS/ECO	CFTR42W/GX24q/30	50	18000	3000	82	2450 (2105)	2500 (2150)	1,2,4,5,9,10
					21104	CF42DT/E/IN/38W/835/SS/ECO	CFTR42W/GX24q/35	50	18000	3500	82	2450 (2105)	2500 (2150)	1,2,4,5,9,10
					21105	CF42DT/E/IN/38W/841/SS/ECO	CFTR42W/GX24q/41	50	18000	4100	82	2450 (2105)	2500 (2150)	1,2,4,5,9,10

DULUX® T/E/IN Amalgam, 4-PIN ECOLOGIC® Compact Fluorescent Lamps

Nominal Wattage	Bulb	Avg (in)	Avg (mm)	Base	Product Number	Ordering Abbreviation	NEMA Generic Designation	Pkg Qty	Avg Rated Life (hrs)	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Approx Lumens Initial (Mean) @35ºC/95ºF	Notes
18	T (T4)	4.4	111	GX24Q-2	20875	CF18DT/E/IN/827/ECO	CFTR18W/GX24Q/827	50	12000	2700	82	1165 (1000)	1200 (1030)	1,2,4,5,9,10
					20876	CF18DT/E/IN/830/ECO	CFTR18W/GX24Q/830	50	12000	3000	82	1165 (1000)	1200 (1030)	1,2,4,5,9,10
					20877	CF18DT/E/IN/835/ECO	CFTR18W/GX24Q/835	50	12000	3500	82	1165 (1000)	1200 (1030)	1,2,4,5,9,10
					20878	CF18DT/E/IN/841/ECO	CFTR18W/GX24Q/841	50	12000	4100	82	1165 (1000)	1200 (1030)	1,2,4,5,9,10
26	T (T4)	5.0	126	GX24Q-3	20879	CF26DT/E/IN/827/ECO	CFTR26W/GX24Q/827	50	16000	2700	82	1745 (1500)	1800 (1550)	1,2,4,5,9,10
					20880	CF26DT/E/IN/830/ECO	CFTR26W/GX24Q/830	50	16000	3000	82	1745 (1500)	1800 (1550)	1,2,4,5,9,10
					20881	CF26DT/E/IN/835/ECO	CFTR26W/GX24Q/835	50	16000	3500	82	1745 (1500)	1800 (1550)	1,2,4,5,9,10
					20882	CF26DT/E/IN/841/ECO	CFTR26W/GX24Q/841	50	16000	4100	82	1745 (1500)	1800 (1550)	1,2,4,5,9,10
32	T (T4)	5.6	142	GX24Q-3	20883	CF32DT/E/IN/827/ECO	CFTR32W/GX24Q/827	50	16000	2700	82	2330 (2000)	2400 (2065)	1,2,4,5,9,10
					20884	CF32DT/E/IN/830/ECO	CFTR32W/GX24Q/830	50	16000	3000	82	2330 (2000)	2400 (2065)	1,2,4,5,9,10
					20885	CF32DT/E/IN/835/ECO	CFTR32W/GX24Q/835	50	16000	3500	82	2330 (2000)	2400 (2065)	1,2,4,5,9,10
					20886	CF32DT/E/IN/841/ECO	CFTR32W/GX24Q/841	50	16000	4100	82	2330 (2000)	2400 (2065)	1,2,4,5,9,10
42	T (T4)	6.5	163	GX24Q-4	20887	CF42DT/E/IN/827/ECO	CFTR42W/GX24Q/827	50	12000	2700	82	3105 (2670)	3200 (2750)	1,2,4,5,9,10
					20888	CF42DT/E/IN/830/ECO	CFTR42W/GX24Q/830	50	12000	3000	82	3105 (2670)	3200 (2750)	1,2,4,5,9,10
					20871	CF42DT/E/IN/835/ECO	CFTR42W/GX24Q/835	50	12000	3500	82	3105 (2670)	3200 (2750)	1,2,4,5,9,10
					20890	CF42DT/E/IN/841/ECO	CFTR42W/GX24Q/841	50	12000	4100	82	3105 (2670)	3200 (2750)	1,2,4,5,9,10
57	T (T4)	7.76	197	GX24Q-5	20896	CF57DT/E/IN/830/ECO	CFTR57W/GX24Q/830	50	12000	3000	82	4170 (3585)	4300 (3700)	1,2,4,5,9,10
					20897	CF57DT/E/IN/835/ECO	CFTR57W/GX24Q/835	50	12000	3500	82	4170 (3585)	4300 (3700)	1,2,4,5,9,10
					20899	CF57DT/E/IN/841/ECO	CFTR57W/GX24Q/841	50	12000	4100	82	4170 (3585)	4300 (3700)	1,2,4,5,9,10


DULUX T, DULUX T/E


DULUX L

DULUX® T/E 4-PIN ECOLOGIC® Compact Fluorescent Lamps

Nominal Wattage	Bulb	MOL (in)	MOL (mm)	Base	Product Number	Ordering Abbreviation	NEMA Generic Designation	Pkg Qty	Avg Rated Life (hrs)	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
13	T (T4)	4.2	106	GX24Q-1	20891	CF13DT/E/827/ECO	CFTR13W/GX24Q/827	50	12000	2700	82	900 (775)	1,2,4,5,9
					20892	CF13DT/E/830/ECO	CFTR13W/GX24Q/830	50	12000	3000	82	900 (775)	1,2,4,5,9
					20893	CF13DT/E/835/ECO	CFTR13W/GX24Q/835	50	12000	3500	82	900 (775)	1,2,4,5,9
					20894	CF13DT/E/841/ECO	CFTR13W/GX24Q/841	50	12000	4100	82	900 (775)	1,2,4,5,9
26	T (T4)	5.2	124	GX24Q-3	20767	CF26DT/E/827/ECO	CFTR26W/GX24Q/827	50	12000	2700	82	1800 (1550)	1,2,4,5,9

DULUX® T PREHEAT 2-PIN ECOLOGIC® Compact Fluorescent Lamps

Nominal Wattage	Bulb	MOL (in)	MOL (mm)	Base	Product Number	Ordering Abbreviation	NEMA Generic Designation	Pkg Qty	Avg Rated Life (hrs)	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
26	T (T4)	5.4	138	GX24D-3	20454	CF26DT/827/ECO	CFTR26W/GX24D/827	50	12000	2700	82	1800 (1550)	1,3,5,9,11

DULUX® L SUPERSAVER® ECOLOGIC® Compact Fluorescent Lamps

Nominal Wattage	Bulb	MOL (in)	MOL (mm)	Base	Product Number	Ordering Abbreviation	NEMA Generic Designation	Pkg Qty	Avg Rated Life (hrs)	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
28	L (T5)	22.4	570	2G11	20518	FT40DL/28W/830/SS/ECO	FT28W/2G11/830	10	20000	3000	82	2800 (2410)	1,2,4,5,9,12
					20519	FT40DL/28W/835/SS/ECO	FT28W/2G11/835	10	20000	3500	82	2800 (2410)	1,2,4,5,9,12
					20488	FT40DL/28W/841/SS/ECO	FT28W/2G11/841	10	20000	4100	82	2800 (2410)	1,2,4,5,9,12
25	L (T5)	22.4	570	2G11	20117	FT40DL/25W/835/SS/ECO	FT25W/2G11/835	10	20000	3500	82	2500 (2300)	1,2,4,5,9,12
					20118	FT40DL/25W/841/SS/ECO	FT25W/2G11/841	10	20000	4100	82	2500 (2300)	1,2,4,5,9,12

DULUX® L High Lumen ECOLOGIC® Compact Fluorescent Lamps

Nominal Wattage	Bulb	MOL (in)	MOL (mm)	Base	Product Number	Ordering Abbreviation	NEMA Generic Designation	Pkg Qty	Avg Rated Life (hrs)	CCT (K)	CRI	Approx Lumens Initial (Mean) @25ºC/77ºF	Notes
18	L (T5)	9.0	229	2G11	20587	FT18DL/830/ECO	FT18W/2G11/830	10	12000	3000	82	1250 (1075)	1,2,4,5,9
					20588	FT18DL/835/ECO	FT18W/2G11/835	10	12000	3500	82	1250 (1075)	1,2,4,5,9
					20589	FT18DL/841/ECO	FT18W/2G11/841	10	12000	4100	82	1250 (1075)	1,2,4,5,9
	L (T5)	10.5	267	2G11	20595	FT18DL/830/RS/ECO	FT18W/2G11/RS/830	10	20000	3000	82	1250 (1075)	1,2,4,5,9
					20594	FT18DL/835/RS/ECO	FT18W/2G11/RS/835	10	20000	3500	82	1250 (1075)	1,2,4,5,9
					20593	FT18DL/841/RS/ECO	FT18W/2G11/RS/841	10	20000	4100	82	1250 (1075)	1,2,4,5,9
24	L (T5)	12.9	326	2G11	20597	FT24DL/830/ECO	FT24W/2G11/830	10	12000	3000	82	1800 (1550)	1,2,4,5,6,9
					20580	FT24DL/835/ECO	FT24W/2G11/835	10	12000	3500	82	1800 (1550)	1,2,4,5,6,9
					20596	FT24DL/841/ECO	FT24W/2G11/841	10	12000	4100	82	1800 (1550)	1,2,4,5,6,9
36	L (T5)	16.6	422	2G11	20581	FT36DL/830/ECO	FT36W/2G11/830	10	12000	3000	82	2900 (2495)	1,2,4,5,6,9
					20582	FT36DL/835/ECO	FT36W/2G11/835	10	12000	3500	82	2900 (2495)	1,2,4,5,6,9
					20583	FT36DL/841/ECO	FT36W/2G11/841	10	12000	4100	82	2900 (2495)	1,2,4,5,6,9
40	L (T5)	22.6	573	2G11	20584	FT40DL/830/RS/ECO	FT40W/2G11/RS/830	10	20000	3000	82	3150 (2710)	1,2,4,5,9,12
					20585	FT40DL/835/RS/ECO	FT40W/2G11/RS/835	10	20000	3500	82	3150 (2710)	1,2,4,5,9,12
					20586	FT40DL/841/RS/ECO	FT40W/2G11/RS/841	10	20000	4100	82	3150 (2710)	1,2,4,5,9,12
					20576	FT40DL/850/RS/ECO	FT40W/2G11/RS/850	10	20000	5000	82	3150 (2710)	1,2,4,5,9,12
50	L (T5)	22.6	573	2G11	20278	FT50DL/835/RS/ECO	FT50W/2G11/RS/835	10	14000	3500	82	4300 (3655)	1,2,4,5,9,12
					20276	FT50DL/841/RS/ECO	FT50W/2G11/RS/841	10	14000	4100	82	4300 (3655)	1,2,4,5,9,12
55	L (T5)	21.1	535	2G11	20590	FT55DL/830/ECO	FT55W/2G11/830	10	12000	3000	82	4800 (4130)	1,2,4,5,9
					20591	FT55DL/835/ECO	FT55W/2G11/835	10	12000	3500	82	4800 (4130)	1,2,4,5,9
					20592	FT55DL/841/ECO	FT55W/2G11/841	10	12000	4100	82	4800 (4130)	1,2,4,5,9
					20725	FT55DL/954/ECO	FT55W/2G11/50	10	12000	5400	90	4800 (4130)	1,2,4,5,9

SYMBOLS & FOOTNOTES FOR COMPACT FLUORESCENT LAMPS

Symbol	Description
✹	New item introduced within the past year.
	This ECOLOGIC® lamp was designed to pass the Federal TCLP criteria for classification as non-hazardous waste in most states. Disposal regulations may vary; check local and state regulations.
	Lead-Free Glass.

Footnote	Description
1	Approximate initial lumens after 100 hours operation.
2	Minimum starting temperature is a function of the ballast; consult the ballast manufacturer.
3	2-pin CF lamps are not suitable for use in frequently cycled applications or with occupancy sensors. 2-pin CF lamps should never be installed in 4-pin sockets regardless if lamp will fit.
4	There is a NEMA supported, industry issue where T2, T4 and T5 fluorescent and compact fluorescent lamps operated on high frequency ballasts may experience an abnormal end-of-life phenomenon. This end-of-life phenomenon can result in one or both of the following: (1) Bulb wall cracking near the lamp base. (2) The lamp can overheat in the base area and possibly melt the base and socket. NEMA recommends that high frequency compact fluorescent ballasts have an end-of-life shutdown circuit which will safely and reliably shut down the system in the rare event of an abnormal end-of-life failure mode described above. For additional information refer to NEMA papers on their WEBSITE at www.NEMA.org.
5	The life ratings of fluorescent lamps are based on 3 hour burning cycles under specified conditions and with ballast meeting ANSI specifications. If burning cycle is increased, there will be a corresponding increase in the average hours life.
6	These lamps may also be operated on rapid start circuits. On rapid start circuits the 24 watt lamp operates at 27 watts and the 36 watt lamp operated at 39 watts. Rated lamp life is unchanged.
7	Energy savings not realized on 120V operation.
8	DULUX F lamps can typically be operated on DULUX L and PENTRON HO ballasts of the same/similar wattage. Check with the ballast manufacturer to verify lamp/ballast compatibility.
9	Rule of thumb for Compact Fluorescent Lamps: Divide wattage of incandescent lamp by 4 to determine approximate wattage of compact fluorescent lamp that will provide similar light output.
10	Optimum light output for DULUX T/E IN amalgam compact fluorescent lamps occurs at approximately 35ºC/95ºF ambient temperature when the lamp is operated in the base up position. The lumen value listed refers to the optimum light output. Non-amalgam compact fluorescent lamps provide at least 90% light output from 60-100ºF in the base up position, the temperature range is narrower for horizontal or base down position.
11	Minimum starting temperature: CF5: -22ºF; CF7: -4ºF; CF9: 14ºF; CF13DS: 14ºF; CF13DD: -4ºF; CF18DD: 5ºF; CF18DT: -4ºF; CF26: 14ºF.
12	Operates on Instant Start or Programmed Start ballasts.

High Intensity Discharge

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Color coding system:

Premium products Standard products Enhanced red (R9) color rendering products High Pressure Sodium lamps

Other Products to be discontinued

OSRAM SYLVANIA: THE LEADER IN ENERGY-SAVING HID LAMPS

UNDERSTANDING HIGH INTENSITY DISCHARGE LIGHTING

A brief description of the catalog format and related terminology will assist the reader in understanding the information presented in this section.

All product families are listed in ascending wattage, followed by alphabetical bulb designation to simplify lamp identification. Performance ratings are based on tests conducted under controlled conditions on AC circuits with auxiliary equipment meeting current published ANSI specifications.

Lamp performance under typical service conditions may vary from rated values. Ratings and specifications are subject to change without notice.

ANSI CODE

This is a unique code that describes the class and the electrical characteristics of the lamp and ballast as well as the fixture requirements. The code is developed and assigned by the American National Standards Institute (ANSI). It is intended to aid in matching the lamp to both the correct ballast and to a luminaire with the required features. The ANSI CODE consists of type of lamp (S = HPS, H = Mercury, M = Metal Halide, L = LPS, C = Ceramic Metal Halide), followed by the ballast number, and for metal halide and Ceramic metal halide lamps followed by the fixture requirement (O, E, S, F).

The emergence of electronic ballasts to operate metal halide lamps has produced additional need to separate the lamp designation of quartz and ceramic metal halide lamps, as there can be some important differences in system performance. Therefore the C lamp designation from NEMA has been introduced going forward for future differentiation of ceramic metal halide lamps and they will begin to be labeled accordingly.

ARC LENGTH

Arc length is the dimension of the arc discharge measured from one electrode tip to the other. This is useful for optical design of reflectors and affects fixture efficiency.

AVERAGE LIFE (HOURS)

The average life of a lamp is based on vertical operation (unless otherwise noted) of representative lamps operated under controlled conditions of at least 10 hours per start (except for M1500 and BRITELINE® lamps, which are based on 5 hours per start). Average life is defined as the total operation hours at which 50% (Median) of any group of lamps is still operating (except for most High Pressure Sodium and Mercury lamps, for which 65% of the lamps are operating at the end of life denoted by a "+" next to the life rating). Variations in operating conditions such as bulb and base temperatures and line voltage can also affect lamp life.

Regular operation of lamps with off times less than the hot restrike time will shorten lamp life. For hot restrike values of specific lamp types, please refer to the SYLVANIA Metal Halide Lamp Specification Guide.

Operating cycles shorter than 10 hours per start will reduce lamp life as follows:

5 hours / start – Approximately 75% of rating

2.5 hours / start – Approximately 55% of rating

1.25 hours / start – Approximately 40% of rating

BASE

Most SYLVANIA HID lamp bases for general lighting are made of corrosion-resistant brass with special lubricant to provide easy removal at end of lamp life. See page 69 for all base illustrations.

GU6.5 – Bipin bases are used on the smallest HID lamps and conveniently twist&lock feature provides secure installation.

G8.5 – Durable bipin bases have special center presses that secure lamps in the socket.

G12 – Ceramic bipin bases are used on T6, T7.5 single ended lamps.

E26 Medium – Medium (MED) bases are used on lamps in E17 bulbs and are limited to 175W maximum.

E26 Medium Skirted – Medium skirted (Med Skt) bases consist of a medium brass base with a skirt, which is mechanically connected to a PAR38 bulb.

E39 Mogul – All (MOG) bases are embossed with letters and numbers representing months and years. The date of installation can be recorded by marking the letter of the current month and the number that coincides with the last digit of the current year.

EX39 Exclusionary Mogul Base – Exclusionary Mogul bases (EXCL MOG) are bases used on metal halide lamps having shrouded arc tubes, permitting them to be used in open fixture applications. These bases are compatible with exclusionary or standard mogul sockets.

E39 POM – Position Oriented Mogul (POM) bases are used on lamps designed to operate only in the horizontal position and require a special POM socket. A pin located on the base engages in a slot within the POM socket ensuring proper operating position of the lamp within the fixture.

Rx7s / R7s Recessed Single Contact – SYLVANIA double-ended HID lamps with recessed single contact (RSC) bases have silver plated contacts to provide maximum electrical contact.

BULB

Each bulb description consists of a letter to indicate bulb shape, followed by numbers that indicate maximum bulb diameter in 1/8 inch increments. For example, a BT37 bulb is a blown shape with a tubular top, 3-7/8 of an inch or 4-5/8 inches in diameter. Illustrations of bulb shapes are shown on page 69.

Although SYLVANIA HID bulbs are made of glass designed to resist thermal shock in normal applications, they must be shielded from direct contact with liquids, such as rain, during operation to avoid bulb breakage.

COLOR RENDERING INDEX (CRI)

Color Rendering Index (CRI) is an international scale (numbering system) up to 100 indicating the relative color rendering quality of a light source when compared to a standard reference light source of the same chromaticity (color temperature). The CRI expresses the degree to which colors will appear "familiar" or "natural" under the light source selected. In general, the higher the CRI number, the better the color rendering properties of the light source being measured. The color rendering index of any two like sources should only be compared if those sources have the same correlated color temperature (CCT).

CORRELATED COLOR TEMPERATURE (CCT)

The correlated color temperature of a light source, expressed in Kelvin (K), is a means of describing the appearance or chromaticity of the source. The correlated color temperature of the light source contributes to the visual appearance of the lighted space. "Warm" light sources have a low color temperature (2000-3000K) and feature more light in the red/orange/yellow range. Light with a higher color temperature (>4000K) features more blue and is referred to as "cool."

With new installations, or group relamps, all color performance evaluations should be made after at least 100 hours of operation (at recommended operating cycles) to allow the lamps to stabilize. Additional changes in chemistry within the arc tube over the life of the lamp may also cause the color temperature to shift as the lamp gets closer to the end of it's rated life. To minimize color variation within an installation, it is recommended that HID lamps be group relamped and run on equal operating cycles.

DIMMING HID

Most SYLVANIA HID products can be dimmed on stepped, bi-level dimming systems provided specific guidelines are followed. Generally, most Metalarc® metal halide lamps can be dimmed down to 50% of rated wattage depending on the lamp type and operating position. LUMALUX® high pressure sodium lamps can also be dimmed down to 50% of rated wattage. In addition to lower light output, HID lamps may shift in overall color and exhibit a lower color rendering index (CRI) when operated in a dimmed mode. Some restrictions apply to both the operation of the ballast and lamp. For more information on dimming, please reference NEMA guidelines or contact a SYLVANIA representative.

FIXTURE REQUIREMENT

Developed by the American National Standard Institute (ANSI), the fixture requirement code describes the type of fixture required for each lamp type. See lamp warnings for additional information and proper operating instructions.

Operating cycles shorter than 10 hours per start will reduce lamp life as follows:

E = Lamps classified as E-type are to be used only in suitably rated enclosed luminaires.

O = Lamps classified as O-type, comply with ANSI Standard C78.389 for containment testing and may be used in open luminaires.

S = When operated within 15 degrees of vertical, this lamp may be operated in an open luminaire provided the installation is not near people or flammable or combustible material, otherwise it must be operated in a suitably enclosed luminaire.

F = F-rated lamps require an enclosed fixture with a UV filter and lens interlock.

The 2005 NEC requires that luminaires which 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 an ANSI Type-O metal halide lamp. (Exception: This requirement will not apply to open luminaires with thick-glass parabolic reflector PAR lamps.)

UNDERSTANDING HIGH INTENSITY DISCHARGE LIGHTING (CONTINUED)

FIXTURE REQUIREMENT (continued)

The 2005 NEC also requires that metal halide luminaires for new construction/ major renovations in the playing and spectator areas of indoor sports,mixed use, and all purpose facilities, which are subject to physical damage, must be of a type that protects the lamp with a glass or plastic lens. Open luminaires will not be permitted.

For more information regarding the 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 NEMA.org.

HOT RESTRIKE

In most instances, if an HID lamp experiences a momentary power interruption or sudden voltage drop, the lamp may extinguish. A lamp that is still hot will not restart immediately. Because the arc tube within the lamp must cool down before it can re-start, HID lamps have hot restrike times ranging from 1-15 minutes depending on the product type.

KEY TO DATE OF MANUFACTURE

Consult your SYLVANIA Sales Representative or call 1-800-LIGHTBULB.

LAMP WARNINGS

HID Metal Halide and Mercury lamps are marked with an "R" on their packaging. These letters provide safety information about the lamp. Below is the text used by the FDA to describe each of the letters.

> **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.

LIGHT CENTER LENGTH (LCL)

The light center length of HID lamps is a measurement from the center of the arc tube to the bottom of the lamp base.

LUMENS

Initial lumen ratings are based on photometry under controlled conditions of at least 10 hours per start in the prescribed position at rated lamp wattage after 100 operating hours. SOX lamp ratings are based on measurements at constant input voltage. Lamp performance under typical service conditions may vary from rated values. Operating universal METALARC® lamps in off-vertical positions will result in reduced lumen output.

Mean lumens are measured on ANSI reference circuits at rated wattage (SOX lamp ratings are based on input voltage) at 40% of average rated life except for those lamps with a "+" next to their life rating; these lamps are measured at 50% of average rated life. All measurements are based on ballast operation on systems with current crest factors of 1.8 or less. Higher current crest factors reduce values. In actual applications on CW or CWA ballasts, mean lumens may be higher than published ratings.

Unless otherwise noted, all photometry measurements are made on an ANSI reference ballast at rated lamp wattage.

MAXIMUM OVERALL LENGTH (MOL)

The maximum overall length of single-ended lamps is the maximum distance from the top of the bulb to the bottom of the base. For double-ended lamps, it is the maximum distance from end-to-end (excluding any leadwires).

ORDERING ABBREVIATION

Ordering abbreviation provides a shorthand description of the lamp, using a unique code, which can be used when ordering a lamp if you do not know the product number. This information can be found on the lamp etch.

PACKAGE QUANTITY

This identifies the number of lamps contained in a standard shipping carton.

PRODUCT NUMBER

The product number is a five-digit number used to identify a specific SYLVANIA lamp and should be used when ordering.

WARM UP TIME

Most HID lamps do not have instant on capabilities. It may take several minutes for the arc tube to stabilize before optimal light output is achieved.

WATTS

Watts shown are nominal lamp watts only.

HOW TO READ PRODUCT INFORMATION – HID

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Ballast Code	Pkg Qty	Lamp Finish	Operating Position	Fix Req	Avg Rated Life (hrs)	Approx Lumens (Initial)	(Mean)	CRI	CCT (K)
100	E17	E26 Med	67506	LU100/MED	S54	20	Clear	Universal	O	24000+	9500	8000	22	2100
320	BT37	E39 Excl Mogul	64851	MCP320/C/PS/BU-ONLY/ 840/BT37 PB	M154/O	6	Coated	Base up within 15º only	O	20000	36,000	27,000	88	3900
360	BT37	E39 Mogul	64655	MS360/SS/BU-HOR	M59/S	6	Clear	BU-HOR	S	20000V 15000H	36,000V 30,000H	23,500V 19,000H	65	4000
1000	BT37	E39 Mogul	64351	M1000/PS/U/BT37	M141/E	6	Clear	Universal	E	15000V 9000H	110,000V 107,800H	96,000V 86,300H	65	3800

Please refer to the "Understanding High Intensity Discharge" section on this and previous pages for definitions and explanations of the category headers.

HOW TO READ ORDERING ABBREVIATIONS

MS360/SS/BU-HOR		MCP320/C/PS/BU-ONLY/840/BT37 PB		LU100/D/MED		H39KC-175/DX	
MS	SUPER METALARC®	MCP	METALARC® Ceramic PRO-TECH®	LU	LUMALUX®	H39	ANSI Ballast Number
360	Wattage	320	Wattage	100	Wattage	175	Wattage
SS	SUPERSAVER®	C	Coated	D	Coated	DX	Brite White Deluxe Coated
BU-HOR	Operating Position: Base up through Horizontal	PS	Pulse Start	MED	Medium Base		
		BU-ONLY	Operating Position: Base up only				
		840	80+ CRI; 4000 CCT				
		BT37	Bulb Type				
		PB	POWERBALL				

Specifications subject to change without notice.

HID BRAND NAME GUIDE

Note: These tables are intended only as guides and may represent another lamp company's most similar product or product family rather than an identical match. Individual manufacturer's performance values should be consulted.

FLUORESCENT BRAND NAMES

SYLVANIA	GE*	PHILIPS**
METALARC®	Multi-Vapor	Metal Halide
METALARC POWERBALL®	ConstantColor CMH	MasterColor
METALARC PRO-TECH®	Protected High Output Multi-Vapor	Protected Metal Halide
SUPER METALARC	High Output Multi-Vapor	Metal Halide
METALARC Pulse Start	PulseArc Multi-Vapor	Pulse Start Metal Halide
METALARC SUPERSAVER®	Watt-Miser Multi-Vapor	Metal Halide
METALARC BRITELINE®	Arcstream MQI	Double-Ended Metal Halide

*Trademark or registered trademark of General Electric Company

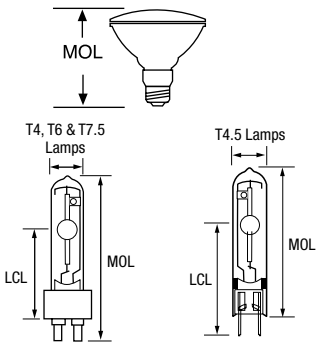
SYLVANIA	GE*	PHILIPS**
LUMALUX®	Lucalox	Ceramalux
LUMALUX / ECO®	Ecolux	Ceramalux ALTO
LUMALUX PLUS®/ ECO	Ecolux NC	Ceramalux ALTO NC
LUMALUX Standby	Standby Longlife Lucalox	Ceramalux Instant Restrike
SOX Low Pressure Sodium	SOX Low Pressure Sodium	SOX Low Pressure Sodium

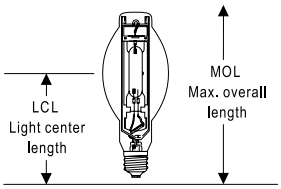
**Trademark or registered trademark of Philips

PHYSICAL DIMENSIONS

BRITELINE®	PHYSICAL SIZE	(dimensions in mm)
Bulb	**LCL**	**MOL**
T7	127	256
T8	127	254
T9	127	254

MERCURY VAPOR		(dimensions in inches)
Bulb	**LCL**	**MOL**
E17	3.75	5.44
ET23.5	5	7.5
ED28	5	8.31
ED37	7	11.5
BT56	9.5	15.38
PAR38	–	5.44



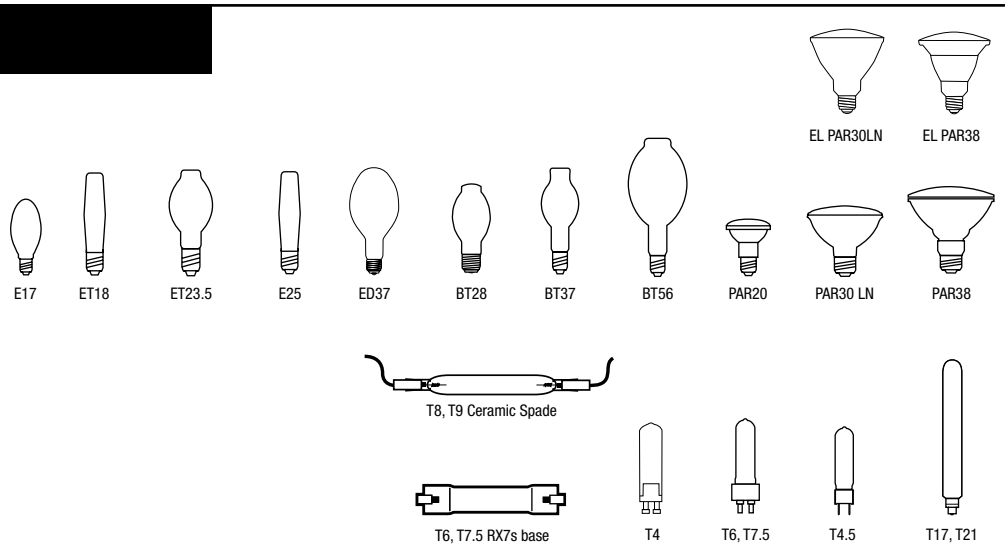


METALARC® METAL HALIDE Physical size of all Metalarc lamps		(dimensions in inches)
Bulb	**LCL**	**MOL**
T4/TF	1.18	2.24
T4.5/TC	2	3.19
T6	2.2	3.94
T6 (DE)	2.25	4.5
T7.5	2.2	4.13
PAR20	–	3.65
PAR30LN	–	4.76
PAR38	–	5.32
E17/ED17	3.4	5.44
ET18 (250W)	5.75	9.75
ET18 (400W)	6.14	9.75
ET23.5	4.49	6.97
BT28/ED28	5	8.31
BT37	7	11.5
BT56	9.5	15.38

LUMALUX® HIGH PRESSURE SODIUM Physical size of all LUMALUX lamps		(dimensions in inches)
Bulb	**LCL**	**MOL**
T7	5	10.06
T14.5	6.89	11.22
E17	3.43	5.43
ET18	5.75	9.75
ET23.5	5	7.75
E25	8.75	15.08
BT28	5	8.98
BT37	7	11.5

BULBS

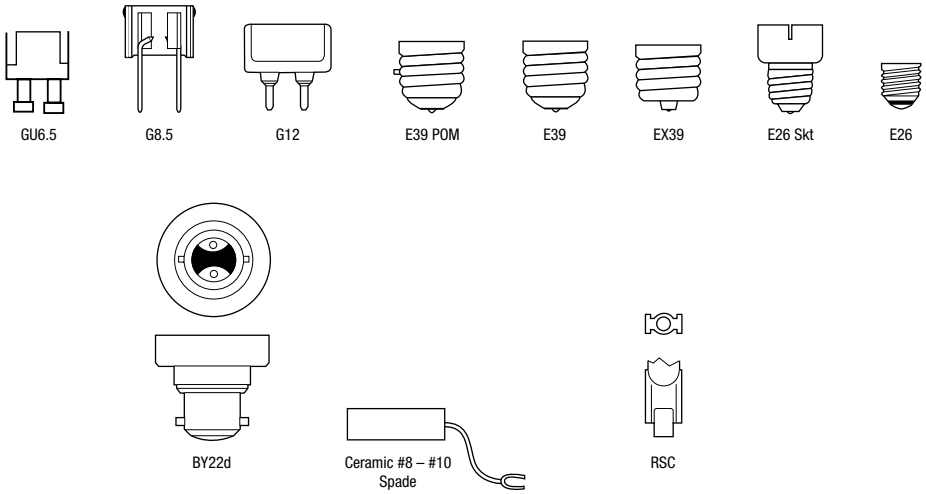
A bulb designation consists of a letter(s) to indicate the shape and a number(s) to indicate the approximate maximum diameter in eighths of an inch. Thus, an E17 lamp is an Ellipsoidal shape and 1-7/8 of an inch or 2-1/8 inches in diameter. Other letter designations include: BT = Bulbous Tubular; E or ED = Ellipsoidal; ET = Ellipsoidal Tubular; PAR = Parabolic; R = Reflector; T = Tubular.



BASES

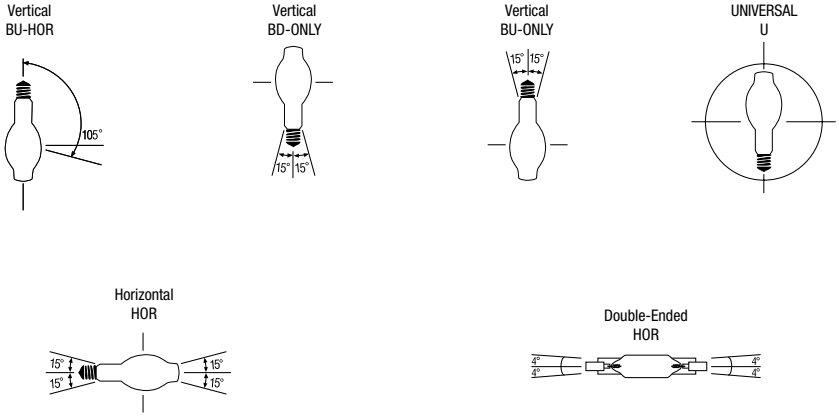
Lamps with screw bases have one lead-in wire soldered or welded to the center contact and the other soldered or welded to the upper rim of the base shell.

Bases with ceramic bodies have internal leads welded to either silver-plated contacts or external lead wires.



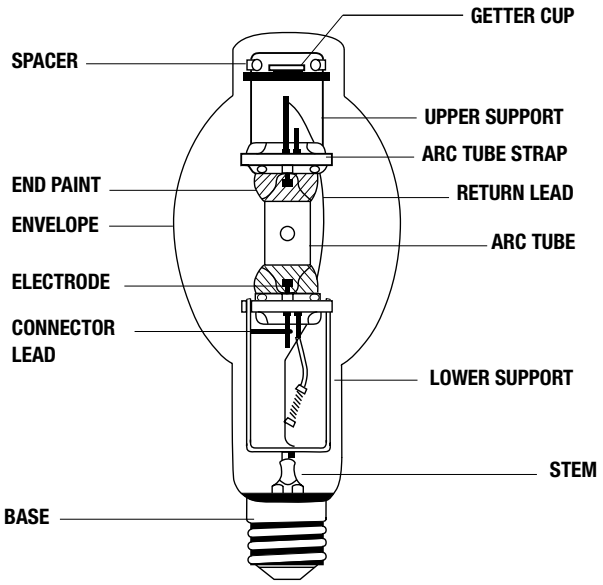
OPERATING POSITIONS

A designated operating position assures maximum lamp performance. Where it is not specified, the lamp is suitable for operation in any position.



Specifications subject to change without notice.

GUIDE TO METAL HALIDE LAMPS



METALARC® Metal Halide lamps are designed for general lighting applications such as retail, commercial, industrial lighting and outdoor floodlighting where good color, long product life and high efficiency are desired. OSRAM SYLVANIA currently offers nine families of Metal Halide lamps:

STANDARD METALARC (M) – Offered in a range of wattages (from 175-1500 watts), standard METALARC metal halide lamps allow for design flexibility with multiple light source solutions to choose from. METALARC lamps have significantly higher efficacy than mercury vapor or incandescent products and considerably better CRI than mercury vapor and high pressure sodium lamps.

COMPACT METALARC (M/BT##) – These lamps have reduced outer jacket sizes compared to standard metal halide lamps for use in smaller fixtures. The reduced bulb diameter allows fixture manufacturers to design more versatile, less expensive and highly efficient luminaries.

SUPER METALARC (MS) – Super METALARC lamps are position dedicated, which means that they are specifically designed to be run in particular operating positions. Because of this feature, these lamps exhibit improved performance over standard, universal operating metal halide lamps of similar wattage. Product features include long life, higher maintained lumens and increased efficacy.

METALARC® PRO-TECH® (MP) – These are specially designed lamps that incorporate a protective shroud to contain a non-passive arc tube failure. METALARC PRO-TECH lamps can be used in open or enclosed fixtures. Dedicated bases are standard on both low and high wattage lamp types.

METALARC POWERBALL® CERAMIC (MC or MCP) – POWERBALL lamps use a patented round ceramic arc tube, which allows for a more uniform arc tube temperature, higher color rendering (>85) and improved color consistency. These lamps are ideal for applications that demand the best in color performance.

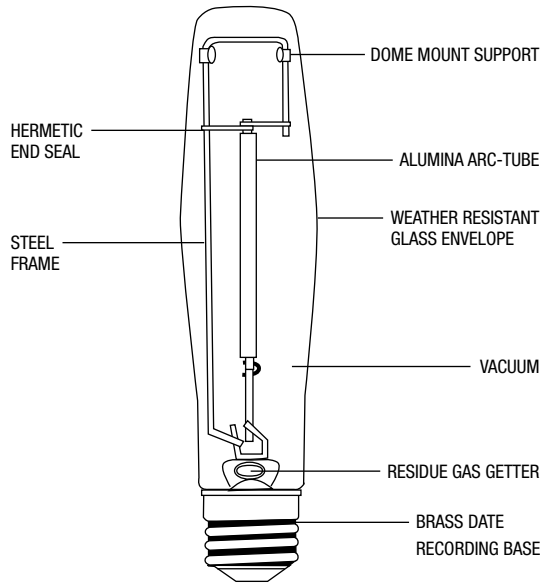
METALARC POWERBALL® EL (MCP) – The self-ballasted POWERBALL EL lamps offer energy saving solutions for applications desired superior light quality and are ideal replacements for halogen or incandescent lamps.

METALARC PULSE START (M/PS) – METALARC Pulse Start lamps utilize metal halide performance with proven ignitor technology for longer life, improved lumen maintenance and reduced color shift over lamp life compared to standard metal halide products. Lamp configurations include low and high wattage types, both clear and coated. METALARC PRO-TECH designs are also available for open fixture applications. All METALARC products lower than 175W and all METALARC POWERBALL products utilize Pulse Start technology exclusively.

METALARC SUPERSAVER® (M/SS) – Constructed with an enhanced arc tube for peak performance, METALARC SUPERSAVER lamps are designed as energy-saving, replacement metal halide lamps. The 360W SUPERSAVER lamp is a direct retrofit for existing 400W products, the 950W SUPERSAVER replaces 1000W lamps and the 150W SUPERSAVER replaces 175W lamps – no ballast change is required.

METALARC BRITELINE® (M) – These double-ended lamps are designed for compact fixtures, which provide excellent optical control and high efficiency. These higher wattage lamps are particularly well suited for sports lighting and outdoor floodlighting applications.

GUIDE TO HIGH PRESSURE SODIUM LAMPS



High Pressure Sodium lamps are one of the most efficient HID sources available today. These lamps are used for general lighting applications where high efficiency and long life are desired while color rendering is not critical. Typical applications include street lighting, parking lot lighting, building floodlighting and general area lighting.

LUMALUX PLUS® / ECO® AND LUMALUX PLUS – These environmentally friendlier lamps contain significantly less Mercury than standard high pressure sodium lamps. They will not cycle at the end of life and are rated for 40,000 hours life. All lamps operate on existing high pressure sodium ballasts. LUMALUX Plus / ECO lamps are designed with lead-free bases and they pass the existing Federal TCLP limits.*

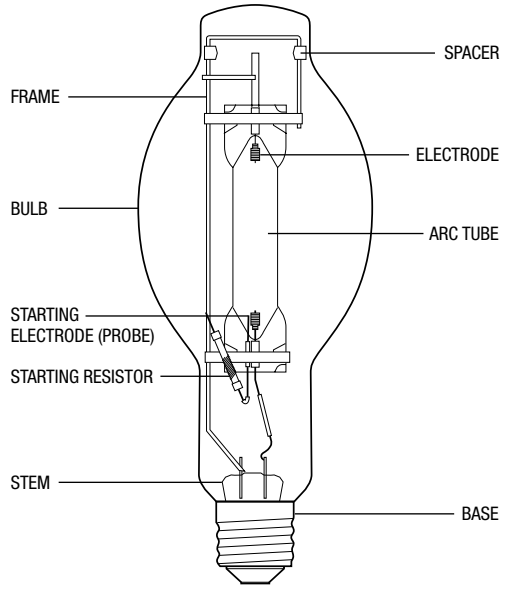
LUMALUX® AND LUMALUX / ECO – Available in a broad range of wattages, in both clear and coated configurations, LUMALUX and LUMALUX / ECO lamps are ideal for a variety of applications. LUMALUX medium based lamps are available in wattages ranging from 35-150 watts while mogul based lamps are offered in 50-1000 watts. The mogul based LUMALUX / ECO lamps operate on standard high pressure sodium ballasts and pass the Federal TCLP text.*

LUMALUX STANDBY – These lamps are designed with two arc tubes to provide instant restrike capability in the event of a momentary power interruption. With almost twice the life of standard high pressure sodium lamps, LUMALUX Standby lamps are a great way to reduce maintenance costs.

SOX – These energy efficient low pressure sodium lamps emit a characteristic yellow light that is ideal for certain exterior street and area lighting.

*based on NEMA LL Series Standards

GUIDE TO HIGH MERCURY VAPOR LAMPS



OSRAM SYLVANIA Mercury lamps are designed primarily for use in general lighting applications where good efficiency and long life are desired while color rendering requirements are moderate. Applications include street lighting, industrial hi-bay, parking lot lighting and general flood lighting.

STANDARD MERCURY – Available in a wide range of lamp types from 75-1000 watts, in both clear and coated configurations, Mercury vapor lamps are ideal for a variety of lighting applications. PAR lamps offer floodlighting and ultra-violet spectra for special lighting applications.

Specifications subject to change without notice.


EL PAR30LN


PAR20


PAR30LN


PAR38

METALARC® POWERBALL® EL ECOLOGIC® Lamps

SELF-BALLASTED CERAMIC METAL HALIDE LAMPS FOR OPEN FIXTURES ONLY – UL1993 LISTED FOR DRY AND DAMP LOCATIONS

See product information bulletins (HID057 and HID062) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	Pkg Qty	Beam Type	Beam Angle	Operating Position	Avg Rated Life (hrs)	MBCP	Approx Lumens (Initial)	CRI	CCT (K)	Lamp Efficacy (LPW)
24	PAR30LN	E26Med	64902	MCP24EL/PAR30LN/U/828/SP10/ECO	6	SP	10°	Universal	12000	21500	1220	82	2800	51
			64901	MCP24EL/PAR30LN/U/828/NFL25/ECO	6	NFL	25°	Universal	12000	5000	1220	82	2800	51
			64903	MCP24EL/PAR30LN/U/828/FL30/ECO	6	FL	30º	Universal	12000	3700	1220	82	2800	51
			64904	MCP24EL/PAR30LN/U/828/FL40/ECO	6	FL	40°	Universal	12000	2500	1220	82	2800	51

METALARC® POWERBALL® Ceramic PAR ECOLOGIC® Lamps

HIGH CRI, PULSE START, UV STOP METAL HALIDE LAMPS FOR OPEN OR ENCLOSED FIXTURES

See product information bulletin (HID052) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code[1]/ Fixture Req.	Pkg Qty	Beam Type	Beam Angle	Operating Position	Avg Rated Life (hrs)	MBCP	Approx Lumens (Initial)	CRI (K)	CCT (K)	Lamp Efficacy (LPW)
20	PAR30LN	E26Med	64860	MCP20PAR20/U/830/FL/ECO PB	C156/0	12	FL	30°	Universal	12000	2650	900	82	3000	45
			64879	MCP20PAR30LN/U/830/SP/ECOPB	C156/0	6	SP	10°	Universal	12000	21000	1200	82	3100	60
			64878	MCP20PAR30LN/U/830/FL/ECOPB	C156/0	6	FL	30°	Universal	12000	4000	1200	82	3100	60
39	PAR20	E26Med	64824	MCP39PAR20/U/830/SPPB	C130/0	12	SP	10°	Universal	12000	20000	2000	87	3000	51
			64826	MCP39PAR20/U/830/FLPB	C130/0	12	FL	30°	Universal	12000	5000	2000	87	3000	51
	PAR30LN	E26Med	64898	MCP39PAR30LN/U/940/FL/ECO	C130/0	6	FL	30°	Universal	12000	7500	2200	90	4200	56
			64880	MCP39PAR30LN/U/830/SP/ECOPB	C130/0	6	SP	10°	Universal	12000	39600	2300	85	3000	59
			64881	MCP39PAR30LN/U/830/FL/ECOPB	C130/0	6	FL	30°	Universal	12000	8000	2300	85	3000	59
70	PAR30LN	E26Med	64224	MCP70PAR30LN/U/940/FL/ECO	C139/0	6	FL	27°	Universal	12000	13000	4000	90	4200	57
			64201	MCP70PAR30LN/U/930/SP/ECOPB	C139/0	6	SP	12°	Universal	12000	42000	3600	95	3000	51
			64202	MCP70PAR30LN/U/930/FL/ECOPB	C139/0	6	FL	30°	Universal	12000	12000	3600	95	3000	51
	PAR38	E26Med Skt[2]	64749	MCP70PAR38/U/830/SP/ECOPB	C98/0	6	SP	15°	Universal	15000	40000	4300	88	3000	61
			64750	MCP70PAR38/U/830/FL/ECOPB	C98/0	6	FL	25°	Universal	15000	16000	4300	88	3000	61
			64751	MCP70PAR38/U/VWFL/830/ECOPB	C98/0	6	VWFL	65°	Universal	15000	3500	4300	88	3000	61
100	PAR38	E26Med Skt[2]	64752	MCP100PAR38/U/830/SP/ECOPB	C90/0	6	SP	15°	Universal	15000	58000	6500	88	3000	65
			64753	MCP100PAR38/U/830/FL/ECOPB	C90/0	6	FL	25°	Universal	15000	25000	6500	88	3000	65
			64754	MCP100PAR38/U/830/VWFL/ECOPB	C90/0	6	VWFL	60°	Universal	15000	6000	6500	88	3000	65
150	PAR38	E26Med Skt[2]	64841	MCP150/PAR38/U/830/SP/ECOPB	C102/0	6	SP	15°	Universal	15000	50000	9100	88	3000	61
			64842	MCP150/PAR38/U/830/FL/ECOPB	C102/0	6	FL	25°	Universal	15000	28000	9100	88	3000	61

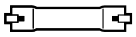
[1] The first letter of the ANSI code represents the lamp type; "C" for ceramic metal halide and "M" for quartz metal halide. The numbers following the lamp type refer to the electrical characteristics required by the ballast to start and operate the lamp reliably. Ceramic, "C", or quartz, "M" lamps with the same electrical characteristic number will operate on the same ballast (per ANSI C78.380-2007). For example, a 150W ceramic lamp with a C102 designation will operate on a 150W metal halide ballast with an M102 designation and vice versa.

[2] Lamps with a E26 medium skirt base are not compatible with exclusionary medium sockets.


T4


T4.5


T6, T7.5


T6, T7.5 – RX7s

METALARC® POWERBALL® Ceramic TUBULAR SINGLE ENDED AND DOUBLE ENDED Lamps

HIGH CRI, PULSE START, UV STOP METAL HALIDE LAMPS FOR ENCLOSED FIXTURES ONLY

See product information bulletin (HID054) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code[1]/ Fixture Req.	Pkg Qty	Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)	CRI	CCT (K)	Lamp Efficacy (LPW)
TF													
15	T4	GU6.5	69043	MC15TF/U/GU6.5/830	C186/E	12	Clear	Universal	15000	1200 (900[2])	82	3000	80
20	T4	GU6.5	68842	MC20TF/U/GU6.5/830	C156/E	12	Clear	Universal	15000	1700 (1275)	85	3000	85
39	T4	GU6.5	69044	MC39TF/U/GU6.5/930	C130/E	12	Clear	Universal	15000	3400 (2550[2])	90	3000	87
TC													
20	T4.5	G8.5	64882	MC20TC/U/G8.5/830PB	C156/E	12	Clear	Universal	15000	1700 (1275)	83	3000	85
39	T4.5	G8.5	64791	MC39TC/U/G8.5/830PB	C130/E	12	Clear	Universal	15000	3400 (2720)	82	3000	87
70	T4.5	G8.5	64825	MC70TC/U/G8.5/930PB	C139/E	12	Clear	Universal	15000	6300 (5040)	95	3000	90
T6 and T7.5													
39	T6	G12	64162	MC39T6/U/G12/930	C130/E	12	Clear	Universal	15000	3100 (2470)	93	3000	72
			64363	MC39T6/U/G12/830PB	C130/E	12	Clear	Universal	15000	3400 (2720)	82	3000	87
			64325	MC39T6/U/G12/940PB	C130/E	12	Clear	Universal	15000	3300 (2640)	90	4200	85
70	T6	G12	64338	MC70T6/U/G12/940PB	C139/E	12	Clear	Universal	15000	6700 (5360)	93	4200	96
			64200	MC70T6/U/G12/930PB	C139/E	12	Clear	Universal	15000	6400 (5120)	95	3000	91
			64361	MC70T6/U/G12/830PB	C139/E	12	Clear	Universal	15000	7000 (5600)	87	3000	100
100	T6	G12	64160	MC100T6/U/G12/830	C191/E	12	Clear	Universal	15000	9500 (7600[2])	85	3000	95
150	T7.5	G12	64337	MC150T7.5/U/G12/940PB	C142/E	12	Clear	Universal	15000	14500 (11600)	95	4200	97
			64359	MC150T7.5/U/G12/830	C142/E	12	Clear	Universal	15000	15500 (12400)	89	3000	103
70	T6	RX7s	64793	MC70T6/DE/830PB	C139/E	12	Clear	HOR ±45°	12000	6900 (5520)	88	3000	99
150	T7.5	RX7s	64794	MC150T7.5/DE/830PB	C142/E	12	Clear	HOR ±45°	12000	14800 (11840)	91	3000	99

[1] The first letter of the ANSI code represents the lamp type; "C" for ceramic metal halide and "M" for quartz metal halide. The numbers following the lamp type refer to the electrical characteristics required by the ballast to start and operate the lamp reliably. Ceramic, "C", or quartz, "M" lamps with the same electrical characteristic number will operate on the same ballast (per ANSI C78.380-2007). For example, a 150W ceramic lamp with a C102 designation will operate on a 150W metal halide ballast with an M102 designation and vice versa.

[2] Preliminary data, visit www.sylvania.com for updates.

Specifications subject to change without notice.


E17


ET23.5

METALARC® POWERBALL® Ceramic E17 & ET23.5 Lamps

HIGH CRI, PULSE START METAL HALIDE LAMPS FOR ENCLOSED FIXTURES

See product information bulletin (HID053) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)	CRI	CCT (K)	Lamp Efficacy (LPW)
E17													
70	E17	E26Med	64862	MC70/U/MED/830	C98/E	12	Clear	Universal	20000	6500 (4850)	88	3000	93
100	E17	E26Med	64864	MC100/U/MED/830	C90/E	12	Clear	Universal	20000	9700 (7150)	88	3000	97
150	E17	E26Med	64866	MC150/U/MED/830	C102/E	12	Clear	Universal	20000	15100 (11200)	85	3000	101
ET23.5													
100	ET23.5	E39	64918	MC100/U/ET23.5/942	C90/E	20	Clear	Universal	24000	10000 (7000)	94	4200	100
150	ET23.5	E39	64915	MC150/U/ET23.5/942	C102/E	20	Clear	Universal	24000	15000 (10500)	90	4200	100


E17


BT28


BT37

METALARC® POWERBALL® Ceramic PRO-TECH® E17 & High Wattage Lamps

HIGH CRI, PULSE START METAL HALIDE LAMPS FOR OPEN OR ENCLOSED FIXTURES

See product information bulletin (HID053) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code[1]/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)	CRI	CCT (K)	Lamp Efficacy (LPW)
50	E17	EX26Med	64840	MCP50/U/MED/830PB	C110/0	12	Clear	Universal	12000	4100 (2850)	88	3000	88
			64849	MCP50/C/U/MED/830PB	C110/0	12	Coated	Universal	12000	3800 (2640)	88	2900	88
70	E17	EX26Med	64193	MCP70/U/MED/940PB	C98/0	12	Clear	Universal	20000	6000 (4365)	93	4000	93
			64194	MCP70/C/U/MED/940PB	C98/0	12	Coated	Universal	20000	5600 (4000)	93	3800	93
			64739	MCP70/U/MED/830PB	C98/0	12	Clear	Universal	20000	5900 (4365)	88	3000	88
			64740	MCP70/C/U/MED/830PB	C98/0	12	Coated	Universal	20000	5500 (3900)	88	3000	88
100	E17	EX26Med	64322	MCP100/U/MED/940PB	C90/0	12	Clear	Universal	20000	8200 (6150)	93	4000	93
			64743	MCP100/U/MED/830PB	C90/0	12	Clear	Universal	20000	9000 (6500)	88	3000	88
			64744	MCP100/C/U/MED/830PB	C90/0	12	Coated	Universal	20000	8100 (5100)	88	3000	88
150	E17	EX26Med	64741	MCP150/U/MED/830PB	C102/0	12	Clear	Universal	20000	13000 (9200)	88	3000	87
			64742	MCP150/C/U/MED/830PB	C102/0	12	Coated	Universal	20000	12000 (8100)	88	3000	80
200	BT28	EX39Excl Mogul	64260	MCP200/PS/BU-ONLY/940	C190/0	6	Clear	BU ±15°	20000	21000 (17000[2])	90	4200	105
250	BT28	EX39Excl Mogul	64786	MCP250/PS/BU-ONLY/940PB	C153/0	6	Clear	BU ±15°	20000	24500 (20700)	94	4200	96
			64821	MCP250/C/PS/BU-ONLY/940PB	C153/0	6	Coated	BU ±15°	20000	22500 (18000)	94	4000	90
320	BT37	EX39Excl Mogul	64834	MCP320/PS/BU-ONLY/840PB	C154/0	6	Clear	BU ±15°	20000	37500 (28125)	88	4000	117
			64851	MCP320/C/PS/BU-ONLY/840PB	C154/0	6	Coated	BU ±15°	20000	36000 (27000)	88	3900	113

Lamps between 175W and 400W operating on ballasts having a sustaining voltage less than 270V, lamp life may be significantly reduced.

[1] The first letter of the ANSI code represents the lamp type; "C" for ceramic metal halide and "M" for quartz metal halide. The numbers following the lamp type refer to the electrical characteristics required by the ballast to start and operate the lamp reliably. Ceramic, "C", or quartz, "M" lamps with the same electrical characteristic number will operate on the same ballast (per ANSI C78.380-2007). For example, a 150W ceramic lamp with a C102 designation will operate on a 150W metal halide ballast with an M102 designation and vice versa.

[2] Preliminary data, visit www.sylvania.com for latest rating.


ED17


ED28


ET23.5

METALARC® Pulse Start Lamps

HIGH OUTPUT, REDUCED COLOR SHIFT METAL HALIDE LAMPS FOR ENCLOSED FIXTURES

See product information bulletins (HID021 and HID059) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)	CRI	CCT (K)	Lamp Efficacy (LPW)
70	E17	E26Med	64836	M70/U/MED	M98/E	12	Clear	Universal	12000	5600 (3300)	65	4000	80
100	E17	E26Med	64818	M100/U/MED	M90/E	12	Clear	Universal	12000	8500 (4675)	65	4000	85
150	E17	E26Med	64785	M150/U/MED	M102/E	12	Clear	Universal	12000	14000 (11000)	65	4300	93
175	ED17	E26Med	64171	MS175/PS/BU-ONLY/MED	M152/E	12	Clear	BU ±15°	15000	17500 (12800)	65	4000	100
			64170	MS175/C/PS/BU-ONLY/MED	M152/E	12	Coated	BU ±15°	15000	16600 (12500)	70	3700	95
	ED28	E39Mogul	64319	M175/PS/U	M152/E	6	Clear	Universal	12000V 9000H	14,400V (10,000V) 12,800H (8,300H)	65	4000	82 73
			64815	MS175/PS/BU-ONLY	M152/E	12	Clear	BU ±15°	15000	17500 (12800)	65	4000	100
			64816	MS175/C/PS/BU-ONLY	M152/E	12	Coated	BU ±15°	15000	16600 (12500)	70	3700	95
200	ET23.5	E39Mogul	64837	MS200/PS/BU-ONLY/ET23.5	M136/E	12	Clear	BU ±15°	15000	19000 (13300)	65	4200	95
	BT28	E39Mogul	64838	MS200/PS/BU-ONLY/BT28	M136/E	6	Clear	BU ±15°	15000	19000 (13500)	65	4000	95
			64839	MS200/C/PS/BU-ONLY/BT28	M136/E	6	Coated	BU ±15°	15000	18000 (12800)	70	3800	90
250	BT28	E39Mogul	64320	M250/PS/U	M153/E	6	Clear	Universal	15000V 12000H	21000V (15400V) 18000H (11000H)	65	3800	88 76
			64578	MS250/PS/BU-ONLY	M153/E	6	Clear	BU ±15°	20000[1]	23000 (17000)	65	4200	92
			64617	MS250/C/PS/BU-ONLY	M153/E	6	Coated	BU ±15°	20000[1]	21500 (15500)	70	3600	86

Lamps between 175W and 400W operating on ballasts having a sustaining voltage less than 270V, lamp life may be significantly reduced.
Lamps > 400W operating on ballasts having a sustaining voltage less than 310V, lamp life may be significantly reduced.
[1] 20,000 average rated life based on 10 hrs/start. 30,000 average rated life based on 120 hrs/start.


BT28


BT37

METALARC® Pulse Start Lamps (Cont'd)

HIGH OUTPUT, REDUCED COLOR SHIFT METAL HALIDE LAMPS FOR ENCLOSED FIXTURES

See product information bulletins (HID021 and HID059) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)	CRI	CCT (K)	Lamp Efficacy (LPW)
320	BT28	E39Mogul	64507	MS320/PS/BU-HOR	M154/E	6	Clear	BU-HOR	20000V 15000H	30000V (21000V) 28000H (19700H)	65	4300	94 88
			64646	MS320/C/PS/BU-HOR	M154/E	6	Coated	BU-HOR	20000V 15000H	30000V (19700V) 28000H (18400H)	70	3900	94 88
400	BT28	E39Mogul	64188	M400/PS/U/BT28	M155/E	6	Clear	Universal	20000V 15000H	36000V (25500V) 31000H (22400H)	65	4000	90 78
			64191	MS400/PS/BD-ONLY/BT28	M155/E	6	Clear	BD ±15°	20000	40000 (32500)	65	4100	100
			64189	MS400/PS/BU-ONLY/BT28	M155/E	6	Clear	BU ±15°	20000	40000 (32500)	65	4100	100
	BT37	E39Mogul	64321	M400/PS/U	M155/E	6	Clear	Universal	20000V 15000H	36000V (25500V) 31000H (22400H)	65	4000	90 78
			64525	MS400/PS/BU-ONLY	M155/S	6	Clear	BU ±15°	20000[1]	42000 (35700)	65	4000	105
			64527	MS400/C/PS/BU-ONLY	M155/S	6	Coated	BU ±15°	20000[1]	42000 (35700)	70	3600	105
750	BT37	E39Mogul	64787	MS750/PS/BU-HOR/BT37	M149/E	6	Clear	BU-HOR	20000V 9000H	78000V (67000V) 68000H (56000H)	65	4000	104 91
			64822	MS750/C/PS/BU-HOR/BT37	M149/E	6	Coated	BU-HOR	20000V 9000H	75000V (63000V) 65000H (53000H)	70	3700	100 87
1000	BT37	E39Mogul	64351	M1000/PS/U/BT37	M141/E	6	Clear	Universal	15000V 9000H	110000V (96000V) 107800H (86300H)	65	3800	110 108

Lamps between 175W to 400W operated on ballasts having a sustaining voltage less than 270V, lamp life may be significantly reduced.
Lamps > 400W operating on ballasts having a sustaining voltage less than 310V, lamp life may be significantly reduced.
[1] 20,000 average rated life based on 10 hrs/start. 30,000 average rated life based on 120 hrs/start.


E17


BT28


BT37

METALARC® PRO-TECH® Pulse Start Lamps

HIGH OUTPUT, REDUCED COLOR SHIFT METAL HALIDE LAMPS FOR OPEN OR ENCLOSED FIXTURES

See product information bulletins (HID021 and HID059) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)	CRI	CCT (K)	Lamp Efficacy (LPW)
50	E17	EX26Med	64587	MP50/U/MED	M110/0	20	Clear	Universal	20000V 10000H	3450 (1900)	70	3000	69
			64588	MP50/C/U/MED	M110/0	20	Coated	Universal	20000V 10000H	3200 (1820)	70	2900	64
70	E17	EX26Med	64547	MP70/U/MED	M98/0	20	Clear	Universal	15000V 10000H	5200 (3400)	75	3000	74
			64546	MP70/C/U/MED	M98/0	20	Coated	Universal	15000V 10000H	4700 (3100)	75	2900	67
100	E17	EX26Med	64417	MP100/U/MED	M90/0	20	Clear	Universal	15000V 10000H	8500 (5525)	75	3000	85
			64418	MP100/C/U/MED	M90/0	20	Coated	Universal	15000V 10000H	7900 (5800)	75	2900	79
150	E17	EX26Med	64402	MP150/U/MED	M102/0	20	Clear	Universal	15000V 10000H	12900 (8000)	75	3000	86
			64406	MP150/C/U/MED	M102/0	20	Coated	Universal	15000V 10000H	11600 (7500)	75	2900	77
250	BT28	EX39Excl Mogul	64789	MP250/PS/BU-ONLY	M153/0	6	Clear	BU ±15°	15000	22500 (17000)	65	4000	90
			64790	MP250/C/PS/BU-ONLY	M153/0	6	Coated	BU ±15°	15000	21000 (16000)	70	4000	84
320/350	BT28	EX39Excl Mogul	64391	MP320/350/PS/BU-ONLY/BT28	M154/0	6	Clear	BU ±15°	20000	28600 (21000)	65	3800	89
					M131/0					33500 (24000)		3600	105
			64349	MP320/350/C/PS/BU-ONLY/BT28	M154/0	6	Coated	BU ±15°	20000	27700 (19000)	70	3600	87
					M131/0					32000 (22000)		3600	91
350/400	BT37	EX39Excl Mogul	64769	MP350/400/PS/BU-ONLY	M131/0	6	Clear	BU ±15°	20000	33000 (24500)	65	3700	94
					M155/0					40000 (29500)		3500	100
			64770	MP350/400/C/PS/BU-ONLY	M131/0	6	Coated	BU ±15°	20000	32000 (23000)	70	3500	91
					M155/0					39000 (28000)		3300	10


ED17


BT28


BT37


BT56

METALARC® PRO-TECH® Lamps

PROBE START METAL HALIDE LAMPS FOR OPEN OR ENCLOSED FIXTURES

See product information bulletin (HID058) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)	CRI	CCT (K)	Lamp Efficacy (LPW)
175	ED17	EX26Med	64733	MP175/BU-ONLY/MED	M57/O	20	Clear	BU ±15°	10000	14400 (10800)	65	3600	82
	BT28	EX39Excl Mogul	64773	MP175/BU-ONLY	M57/O	6	Clear	BU ±15°	10000	14400 (10200)	65	4000	82
			64774	MP175/C/BU-ONLY	M57/O	6	Coated	BU ±15°	10000	12800 (7800)	70	3800	73
250	BT28	EX39Excl Mogul	64404	MP250/BU-ONLY	M58/O	6	Clear	BU ±15°	10000	23000 (17000)	65	4000	92
			64405	MP250/C/BU-ONLY	M58/O	6	Coated	BU ±15°	10000	20000 (14350)	70	3800	80
400	BT37	EX39Excl Mogul	64705	MP400/BU-ONLY	M59/O	6	Clear	BU ±15°	20000	40000 (26000)	65	3600	100
			64706	MP400/C/BU-ONLY	M59/O	6	Coated	BU ±15°	20000	38500 (25000)	70	3400	96
			64717	MP400/BD-ONLY	M59/O	6	Clear	BD ±15°	20000	40000 (26000)	65	3600	100
1000	BT56	EX39Excl Mogul	64714	MP1000/BU-ONLY	M47/O	6	Clear	BU ±15°	15000	109000 (87500)	65	3500	109
			64716	MP1000/C/BU-ONLY	M47/O	6	Coated	BU ±15°	15000	102000 (82000)	70	3200	102

SUPER METALARC® Lamps

HIGH OUTPUT, POSITION DEDICATED PROBE START METAL HALIDE LAMPS FOR ENCLOSED FIXTURES

See product information bulletin (HID034) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)	CRI	CCT (K)	Lamp Efficacy (LPW)
250	BT28	E39POM	64448	MS250/HOR	M58/E	6	Clear	HOR ±15°	10000	23000 (15000)	65	4200	92
400	BT28	E39POM	64443	MS400/HOR/BT28	M59/E	6	Clear	HOR ±15°	20000	39000 (26000)	65	4200	98
	BT37	E39POM	64445	MS400/HOR	M59/E	6	Clear	HOR ±15°	20000	39000 (25000)	65	4200	98
		E39Mogul	64450	MS400/BU-ONLY	M59/S	6	Clear	BU ±15°	20000	42000 (26000)	65	4000	105
			64452	MS400/C/BU-ONLY	M59/S	6	Coated	BU ±15°	20000	42000 (24700)	70	3600	105
1000	BT56	E39Mogul	64435	MS1000/BU-ONLY	M47/S	6	Clear	BU ±15°	18000	115000 (92000)	65	4000	115
			64436	MS1000/BD-ONLY	M47/S	6	Clear	BD ±15°	18000	115000 (92000)	65	4000	115


BT28


BT37


BT56

METALARC® SUPERSAVER® Lamps

ENERGY SAVING PROBE START METAL HALIDE LAMPS, DIRECT RETROFIT FROM STANDARD 175W, 400W OR 1000W SYSTEMS

See product information bulletin (HID022) for product details.

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code[1]/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)	CRI	CCT (K)	Lamp Efficacy (LPW)
150	BT28	E39Mogul	64719	M150/SS/U/BT28	M107/E	6	Clear	Universal	10000V 7500H	13000V (7500V) 12000H (8500H)	65	4000	87 80
360	BT37	E39Mogul	64655	MS360/SS/BU-HOR	M165/S	6	Clear	BU-HOR	20000V 15000H	36000V (23500V) 30000H (19000H)	65	4000	100 83
			64656	MS360/C/SS/BU-HOR	M165/S	6	Coated	BU-HOR	20000V 15000H	36000V (22500V) 30000H (19000H)	70	3600	100 83
			64737	MSP360/SS/BU-ONLY	M165/O	6	Clear	BU ±15°	20000	35000 (23500)	65	4000	97
			64738	MSP360/C/SS/BU-ONLY	M165/O	6	Coated	BU ±15°	20000	34000 (22500)	70	3600	94
950	BT56	E39Mogul	64850	M950/SS/U/BT56	M176/E	6	Clear	Universal	18000V 12000H	103000V (80000V) 90000H (64000H)	65	4000	108 95

[1] 150W lamps operate on M57 or M107 ballasts.
360W lamps operate on M59 or M165 ballasts.
950W lamps operate on M47 or M176 ballasts.


E17


BT28


ET18


BT37

METALARC® Standard Probe Start Lamps
PROBE START METAL HALIDE LAMPS

See product information bulletin (HID033) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)	CRI	CCT (K)	Lamp Efficacy (LPW)
175	E17	E26Med	64479	M175/U/MED	M57/E	20	Clear	Universal	10000V 7500H	14400V (9300V) 12800H (9300H)	65	4000	82 73
			64480	M175/C/U/MED	M57/E	20	Coated	Universal	10000V 7500H	13000V (8400V) 11080H (8400H)	70	3600	74 63
	BT28	E39Mogul	64471	M175/U	M57/E	6	Clear	Universal	10000V 7500H	14400V (9300V) 12800H (9300H)	65	4200	82 73
			64472	M175/C/U	M57/E	6	Coated	Universal	10000V 7500H	14000V (8400V) 12000H (8400H)	70	3800	80 69
250	ET18	E39Mogul	64474	M250/U/ET18	M58/E	10	Clear	Universal	10000V 10000H	22000V (17500V) 20000H (13500H)	65	4000	88 80
	BT28	E39Mogul	64457	M250/U	M58/E	6	Clear	Universal	10000V 7500H	22000V (15000V) 20000H (13000H)	65	4200	88 80
			64458	M250/C/U	M58/E	6	Coated	Universal	10000V 7500H	21500V (17000V) 19500H (14000H)	70	3800	86 78
400	ET18	E39Mogul	64575	M400/U/ET18	M59/E	10	Clear	Universal	20000V 15000H	36000V (25000V) 33000H (21500H)	65	4000	90 83
	BT28	E39Mogul	64488	M400/U/BT28	M59/E	6	Clear	Universal	20000V 15000H	36000V (25500V) 32000H (20500H)	65	4000	90 80
			64489	M400/C/U/BT28	M59/E	6	Coated	Universal	20000V 15000H	36000V (22500V) 32000H (19000H)	70	3600	90 80
	BT37	E39Mogul	64490	M400/U	M59/S	6	Clear	Universal	20000V[1] 15000H	36000V (23500V) 32000H (20500H)	65	4000	90 80
			64492	M400/C/U	M59/S	6	Coated	Universal	20000V[1] 15000H	36000V (22500V) 32000H (20500H)	70	3700	90 80

[1] 20,000 average rated life based on 10 hrs/start. 30,000 average rated life based on 120 hrs/start.
Lumens will be lower for operating positions other than base up. See lumen tilt factor curve in the Metal Halide Specification Guide (HID017).


BT37


BT56

METALARC® Standard Probe Start Lamps (Cont'd)
PROBE START METAL HALIDE LAMPS

See product information bulletin (HID033) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)	CRI	CCT (K)	Lamp Efficacy (LPW)
1000	BT37	E39Mogul	64469	M1000/U/BT37	M47/E	6	Clear	Universal	15000V 9000H	110000V (96000V) 107800H (86300H)	65	3800	110 108
	BT56	E39Mogul	64468	M1000/U	M47/S	6	Clear	Universal	18000V 12000H	110000V (86000V) 107800H (86000H)	65	4000	110 108
1000	BT56	E39Mogul	64470	M1000/C/U	M47/S	6	Coated	Universal	18000V 12000H	107000V (80000V) 101600H (80700H)	70	3400	107 102
1500	BT56	E39Mogul	64431	M1500/BU-HOR	M48/E	6	Clear	BU-HOR	3000[2]	170000V (140000V) 153000H (127400H)	70	4000	113 102

[2] Published rated life based on 5 hours per start. Life rating will increase to 6,000 hours if operated for at least 10 hours per start in the base up position. Lumens will be lower for operating positions other than base up. See lumen tilt factor curve in the Metal Halide Specification Guide (HID017).


E17


ET18


ET23.5


E25

LUMALUX PLUS® and LUMALUX PLUS® ECOLOGIC® Lamps

NON-CYCLING HIGH PRESSURE SODIUM, LONG LIFE

See product information bulletin (HID018) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)	CRI	CCT (K)	Lamp Efficacy (LPW)
50	ET23.5	E39Mogul	67607	LU50/PLUS/ECO	S68/0	20	Clear	Universal	40000	4000 (3140)	22	1900	80
70	E17	E26Medium	67322	LU70/PLUS/MED	S62/0	20	Clear	Universal	40000	6300 (5610)	22	1900	90
	ET23.5	E39Mogul	67497	LU70/PLUS/ECO	S62/0	20	Clear	Universal	40000	6300 (5020)	22	1900	90
100	E17	E26Medium	67323	LU100/PLUS/MED	S54/0	20	Clear	Universal	40000	10000 (8600[4])	22	2100	100
	ET23.5	E39Mogul	67559	LU100/PLUS/ECO	S54/0	20	Clear	Universal	40000	10000 (7940[4])	22	2100	100
150	ET23.5	E39Mogul	67494	LU150/55/PLUS/ECO[1]	S55/0	20	Clear	Universal	40000	16000 (14010[4])	22	2100	107
200	ET18	E39Mogul	67495	LU200/PLUS/ECO	S66/0	20	Clear	Universal	40000	22000 (19030)	22	2100	110
250	ET18	E39Mogul	67572	LU250/PLUS/ECO	S50/0	20	Clear	Universal	40000	29000 (26200)	22	2100	116
310	ET18	E39Mogul	67660	LU310/PLUS/ECO	S67/0	20	Clear	Universal	40000	37000 (34090)	22	2100	119
400	ET18	E39Mogul	67312	LU400/PLUS/ECO	S51/0	20	Clear	Universal	40000	50000 (42740)	22	2100	125
1000	E25	E39Mogul	67316	LU1000/PLUS[3]	S52/0	6	Clear	Universal	30000+	130000 (124000[2])	22	2100	130

[1] LU150/100 (100V) and LU150/55 (55V) lamps are not interchangeable.
[2] Mean lumens are measured on ANSI reference circuits at rated wattage at 40% of average rated life except for those lamps with a "+" next to their life rating; these lamps are measured at 50% of average rated life.
[3] Use with 5000V pulse rated sockets only.
[4] Lamp lumen maintenance is 90% at 30,000 hours.


ET23.5


ET18


E25

LUMALUX® STANDBY Lamps
DUAL ARC TUBE, INSTANT RESTRIKE[2], LONG LIFE

See product information bulletin (HID036) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life[2] (hrs)	Approx Lumens Initial (Mean)	CRI	CCT (K)	Lamp Efficacy (LPW)
70	ET23.5	E39Mogul	67540	LU70/SBY	S62/0	20	Clear	Universal	40000	6050 (4950)	22	1900	86
100	ET23.5	E39Mogul	67542	LU100/SBY	S54/0	20	Clear	Universal	40000	9500 (7600)	22	2100	95
150	ET23.5	E39Mogul	67544	LU150/55/SBY[1]	S55/0	20	Clear	Universal	40000	15700 (12100)	22	2100	105
200	ET18	E39Mogul	67586	LU200/100/SBY[1]	S66/0	20	Clear	Universal	40000	21500 (18000)	22	2100	108
250	ET18	E39Mogul	67582	LU250/SBY	S50/0	20	Clear	Universal	40000	27500 (23200)	22	2100	110
400	ET18	E39Mogul	67584	LU400/SBY	S51/0	20	Clear	Universal	40000	47500 (40000)	22	2100	119
1000	E25	E39Mogul	67543	LU1000/SBY[3]	S52/0	6	Clear	Universal	30000	127000 (115000)	22	2100	127

[1] LU150/100 (100V) and LU150/55 (55V) lamps are not interchangeable.
[2] Standby (instant restrike) feature not guaranteed beyond 24,000 operating hours.
[3] Use with 5000V pulse rated sockets only.

PLANTASTAR® Lamps
PLANT GROWTH / HORTICULTURE

See product information bulletin (HID044) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)	CRI	CCT (K)	Lamp Efficacy (LPW)
1000	E25	E39Mogul	67314	LU1000/PLANTASTAR[3]	S52/0	6	Clear	Universal	24000	130000 (124000)	22	2100	130

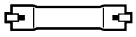
[3] Use with 5000V pulse rated sockets only.


ET23.5


BT28


ET18


BT37


T7, RX7s


E25

LUMALUX® Standard and LUMALUX® ECOLOGIC® Lamps

See product information bulletin (HID027) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean[2])	CRI	CCT (K)	Lamp Efficacy (LPW)
E39 Mogul													
50	ET23.5	E39Mogul	67510	LU50/ECO	S68/0	20	Clear	Universal	30000+	4000 (3200)	22	1900	80
70	ET23.5	E39Mogul	67512	LU70/ECO	S62/0	20	Clear	Universal	30000+	6300 (5500)	22	1900	90
100	ET23.5	E39Mogul	67514	LU100/ECO	S54/0	20	Clear	Universal	30000+	9500 (7150)	22	2100	95
			67515	LU100/D	S54/0	20	Coated	Universal	30000+	8800 (5620)	22	2100	88
150	ET23.5	E39Mogul	67516	LU150/55/ECO[1]	S55/0	20	Clear	Universal	30000+	16000 (12230)	22	2100	107
			67517	LU150/55/D[1]	S55/0	20	Coated	Universal	30000+	14000 (12500)	22	2100	93
	BT28	E39Mogul	67518	LU150/100[1]	S56/0	10	Clear	Universal	30000+	15700 (13550)	22	2100	105
200	ET18	E39Mogul	67576	LU200/ECO	S66/0	20	Clear	Universal	30000+	22000 (19800)	22	2100	110
250	ET18	E39Mogul	67578	LU250/ECO	S50/0	20	Clear	Universal	30000+	29000 (24700)	22	2100	116
	BT28	E39Mogul	67521	LU250/D	S50/0	10	Coated	Universal	30000+	26000 (24400)	22	2100	104
310	ET18	E39Mogul	67580	LU310/ECO	S67/0	20	Clear	Universal	30000+	37000 (32900)	22	2100	119
400	ET18	E39Mogul	67533	LU400/ECO	S51/0	20	Clear	Universal	30000+	50000 (40300)	22	2100	125
	T7	RX7s RSC	67527	LU400T7/RSC	S51/0	10	Clear	Horizontal	24000	45000 (41400)	21	2100	113
750	BT37	E39Mogul	67547	LU750[3]	S111/0	6	Clear	Universal	24000+	105000 (94500)	22	2100	140
1000	E25	E39Mogul	67307	LU1000/ECO[3]	S52/0	6	Clear	Universal	24000+	130000 (124000)	22	2100	130

[1] LU150/100 (100V) and LU150/55 (55V) lamps are not interchangeable.
[2] Mean lumens are measured on ANSI reference circuits at rated wattage at 40% of average rated life except for those lamps with a "+" next to their life rating; these lamps are measured at 50% of average rated life.
[3] Use with 5000V pulse rated sockets only.

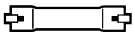
LUMALUX® Standard and LUMALUX® ECOLOGIC® Lamps (Cont'd)

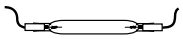
See product information bulletin (HID027) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)[2]	CRI	CCT (K)	Lamp Efficacy (LPW)
E26 Medium													
35	E17	E26Medium	67500	LU35/MED	S76/0	20	Clear	Universal	16000+	2250 (2050)	22	1900	64
			67501	LU35/D/MED	S76/0	20	Coated	Universal	16000+	2100 (1935)	22	1900	60
50	E17	E26Medium	67502	LU50/MED	S68/0	20	Clear	Universal	24000+	4000 (3600)	21	1900	80
			67503	LU50/D/MED	S68/0	20	Coated	Universal	24000+	3700 (3420)	22	1900	74
70	E17	E26Medium	67504	LU70/MED	S62/0	20	Clear	Universal	24000+	6300 (5350)	22	1900	90
			67505	LU70/D/MED	S62/0	20	Coated	Universal	24000+	5800 (4900)	22	1900	83
100	E17	E26Medium	67506	LU100/MED	S54/0	20	Clear	Universal	24000+	9500 (8000)	22	2100	95
150	E17	E26Medium	67508	LU150/55/MED[1]	S55/0	20	Clear	Universal	24000+	15800 (13400)	22	2100	102
			67509	LU150/55/D/MED[1]	S55/0	20	Coated	Universal	24000+	14500 (12300)	22	2100	97

[1] LU150/100 (100V) and LU150/55 (55V) lamps are not interchangeable.

[2] Mean lumens are measured on ANSI reference circuits at rated wattage at 40% of average rated life except for those lamps with a "+" next to their life rating; these lamps are measured at 50% of average rated life.


T7, T8 RX7s base


T8, T9 Ceramic Spade


E17


PAR38


ET23.5


ED37, ED28


BT56

METALARC® BRITELINE® Lamps
DOUBLE-ENDED HIGH OUTPUT SPORT LIGHTING – ENCLOSED FIXTURES ONLY

See product information bulletin (HID028) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)	CRI	CCT (K)	Lamp Efficacy (LPW)
1500	T7	RX7s RSC	66619	M1500T7/DE	M_F[1]	10	Clear	HOR ±4°	3000	150000 (127500)	65	4200	100
	T8	Cer #8-10 Spade	66632	M1500T8/DE	M133/F	10	Clear	HOR ±4°	6000	150000 (127500)	65	4200	100
2000	T8	RX7s RSC	66627	M2000T8/DE	M_F[1]	10	Clear	HOR ±4°	3000	200000 (170000)	65	4000	100
	T9	Cer #8-10 Spade	66631	M2000T9/DE	M134/F	10	Clear	HOR ±4°	3000	180000 (153000)	65	4200	90

Use in equipment where gasket material is protected from all lamp radiation.
Use with 4-5kV igniter.
For use where seal temperature does not exceed 350C.
[1] Consult your OSRAM SYLVANIA Lighting Representative for lamp/ballast compatibility.

Mercury Vapor Lamps

See product information bulletin (HID047) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Beam Type	Beam Angle	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean[1])	CRI	CCT (K)	Lamp Efficacy (LPW)
75	E17	E26Med	69402	H43AV-75/DX	H43/0	20			Coated	Universal	16000+	2700 (1800)	45	4300	36
100	E17	E26Med	69403	H38AV-100/DX	H38/0	20			Coated	Universal	18000+	4000 (3560)	45	4000	40
	PAR38	ADMedSkt	68843	H44GS-100SP	H44/0	12	SP	8°		Universal	16000	2500 (1950)	20	5900	25
		E26Med Skt	68846	H44GS-100/MDSKSP	H44/0	12	SP	8°		Universal	16000	2500 (1950)	20	5900	25
	ET23.5	E39Mogul	69408	H38JA-100/DX	H38/0	20			Coated	Universal	24000+	4100 (3300)	45	4000	41
175	ED28	E39Mogul	69444	H39KB-175	H39/0	6			Clear	Universal	24000+	7700 (7150)	22	5900	44
			69445	H39KC-175/DX	H39/0	6			Coated	Universal	24000+	8400 (6800)	45	4000	48
250	ED28	E39Mogul	69448	H37KC-250/DX	H37/0	6			Coated	Universal	24000+	12500 (10000)	45	4000	50
400	ED37	E39Mogul	69449	H33CD-400	H33/0	6			Clear	Universal	24000+	20000 (18700)	22	5900	50
			69450	H33GL-400/DX	H33/0	6			Coated	Universal	24000+	23000 (16200)	43	4000	58
1000	BT56	E39Mogul	69331	H36GW-1000/DX	H36/0	6			Coated	Universal	24000+	58000 (48500)	45	4000	58

[1] Mean lumens are measured on ANSI reference circuits at rated wattage at 40% of average rated life except for those lamps with a "+" next to their life rating; these lamps are measured at 50% of average rated life.

Low Pressure Sodium SOX Lamps

See product information bulletin (HID051) for product details

Watts	Bulb	Base	Product Number	Ordering Abbreviation	ANSI Code/ Fixture Req.	Pkg Qty	Lamp Finish	Operating Position	Avg Rated Life (hrs)	Approx Lumens Initial (Mean)	CCT (K)	Lamp Efficacy (LPW)
18	T17	BY22d	69510	SOX18	L69/E	12	Clear	BU	18000	1800 (1620)	1700	100
35	T17	BY22d	69511	SOX35 Plus	L70/E	12	Clear	BU	18000	4550 (4095)	1700	130
55	T17	BY22d	69512	SOX55	L71/E	12	Clear	BU	18000	7800 (6735)	1700	142
90	T21	BY22d	69513	SOX90 Plus	L72/E	12	Clear	HOR	18000	14300 (12155)	1700	159
135	T21	BY22d	69514	SOX135 Plus	L73/E	12	Clear	HOR	18000	22600 (19210)	1700	167
180	T21	BY22d	69519	SOX1806PK	L74/E	6	Clear	HOR	18000	32000 (22400)	1700	178

NOTES:

MANUFACTURERS' CROSS REFERENCE

HIGH INTENSITY DISCHARGE LAMPS

OSRAM SYLVANIA	PHILIPS	GE
METALARC® POWERBALL® EL ECOLOGIC® Metal Halide Lamps		
MCP24EL/PAR30LN/U/828/SP10/ECO	–	–
MCP24EL/PAR30LN/U/828/NFL25/ECO	–	–
MCP24EL/PAR30LN/U/828/FL40/ECO	–	–
MCP24EL/PAR38/U/830/SP10/ECO	CDM-i25W/830/PAR38/10/ALTO	CMHI23P38SP/ECO
MCP24EL/PAR38/U/830/NFL25/ECO	CDM-i25W/830/PAR38/25/ALTO	CMHI23P38FL/ECO
MCP24EL/PAR38/U/830/FL40/ECO	CDM-i25W/830/PAR38/40/ALTO	CMHI23P38WFL/ECO
METALARC® POWERBALL® Ceramic PAR ECOLOGIC® Metal Halide Lamps		
MCP20PAR20/U/830/FL/ECO PB	CDM20/PAR20/M/FL/3K/ALTO	CMH20PAR20/FL
MCP20PAR30LN/U/830/SP/ECOPB	CDM20/PAR30L/M/SP/3K/ALTO	CMH20PAR30/SP10
MCP39PAR20/U/830/SPPB	CDM35/PAR20/M/SP/3K/ALTO	CMH39UPAR20SP10
MCP39PAR20/U/830/FLPB	CDM35/PAR20/M/FL/3K/ALTO	CMH39UPAR20FL25
MCP39PAR30LN/U/940/FL/ECO	–	CMH39PAR30L/FL4K
MCP39PAR30LN/U/830/SP/ECOPB	CDM35/PAR30L/M/SP/3K/ALTO	CMH39PAR30L/SP10
MCP39PAR30LN/U/830/FL/ECOPB	CDM35/PAR30L/M/FL/3K/ALTO	CMH39PAR30L/FL25
MCP39PAR30LN/U/830/VWFL/ECOPB	–	–
MCP70PAR30LN/U/940/FL/ECO	CDM70/PAR30L/M/FL/4K/ALTO	–
MCP70PAR30LN/U/930/SP/ECOPB	CDM70/PAR30L/M/SP/3K/ALTO	CMH70PAR30L830SP
MCP70PAR30LN/U/930/FL/ECOPB	CDM70/PAR30L/M/FL/3K/ALTO	CMH70PAR30L830FL
MCP70PAR38/U/830/SP/ECOPB	CDM70/PAR38/SP/3K/ALTO	CMH70PAR38SP/ECO
MCP70PAR38/U/830/FL/ECOPB	CDM70/PAR38/FL/3K/ALTO	CMH70PAR38FL/ECO
MCP70PAR38/U/VWFL/830/ECOPB	–	CMH70PAR38WF/ECO
MCP100PAR38/U/830/SP/ECOPB	CDM100/PAR38/SP/3K/ALTO	CMH100PAR38SPECO
MCP100PAR38/U/830/FL/ECOPB	CDM100/PAR38/FL/3K/ALTO	CMH100PAR38FLECO
MCP100PAR38/U/830/VWFL/ECOPB	–	CMH100PAR38WFECO
MCP150/PAR38/U/830/SP/ECOPB	–	–
MCP150/PAR38/U/830/FL/ECOPB	–	–

HIGH INTENSITY DISCHARGE LAMPS

OSRAM SYLVANIA	PHILIPS	GE
METALARC® POWERBALL® Ceramic Tubular Single-Ended Metal Halide Lamps		
MC15TF/U/GU6.5/830	–	–
MC20TF/U/GU6.5/830	CDM20/TM/830	CMH20T/U830GU6.5
MC39TF/U/GU6.5/830	CDM35/TM/930	CMH39T/U930GU6.5
MC20TC/U/G8.5/830PB	CDM20/TC/830	CMH20TC/U830G8.5
MC39TC/U/G8.5/830PB	CDM35/TC/830	CMH39TCUVCU830G8
MC70TC/U/G8.5/930PB	CDM70/TC/830	CMH70TCU830G8.5
MC39T6/U/G12/930	–	–
MC39T6/U/G12/830PB	CDM Elite 35/T6/930	–
MC39T6/U/G12/940PB	CDM35/T6/842	CMH39T/U/942/G12
MC70T6/U/G12/940PB	CDM70/T6/942	CMH70TU/942/G12
MC70T6/U/G12/930PB	CDM Elite 70/T6/930	CMH70U930G12ULR
MC70T6/U/G12/830PB	CDM70/T6/830	CMH70TU/830/G12
MC100T6/U/G12/830	–	–
MC150T7.5/U/G12/940PB	CDM150/T6/942	CMH150TU/942/G12
MC150T7.5/U/G12/830	CDM150/T6/830	CMH150TU/830/G12
METALARC® POWERBALL® Ceramic Tubular Double-Ended Metal Halide Lamps		
MC70T6/DE/830PB	CDM70/TD/830	CMH70/TD/830RX7S
MC150T7.5/DE/830PB	CDM150/TD/830	CMH150TD830RX7S
METALARC® POWERBALL® Ceramic E17 & ET23.5 Metal Halide Lamps		
MC70/U/MED/830	MHC70/U/M/3K/ALTO	CMH70/U/830/MED
MC70/C/U/MED/830	MHC70/C/U/M/3K/ALTO	CMH70/C/U/830MED
MC100/U/MED/830	MHC100/U/M/3K ALTO	CMH100/U/830/MED
MC100/C/U/MED/830	MHC100/C/U/M/3K/ALTO	CMH100/C/U830MED
MC150/U/MED/830	MHC150/U/M/3K/ALTO	–
MC150/C/U/MED/830	MHC150/C/U/3K/ALTO	–
MC100/U/ET23.5/942	CDM100/U/PS/4K	–
MC150/U/ET23.5/942	CDM150/U/PS/4K	–
METALARC® POWERBALL® Ceramic PRO-TECH® Metal Halide Lamps		
MCP50/U/MED/830PB	MHC50/U/MP/3K/ALTO	–
MCP50/C/U/MED/830PB	–	–
MCP70/U/MED/940PB	MHC70/U/MP/4K/ALTO	CMH70U942MED/O
MCP70/C/U/MED/940PB	MHC70/C/U/MP/4K/ALTO	CMH70CU942MED/O
MCP70/U/MED/830PB	MHC70/U/MP/3K/ALTO	CMH70U830MED/O
MCP70/C/U/MED/830PB	MHC70/C/U/MP/3K/ALTO	CMH70CU830MED/O
MCP100/U/MED/940PB	MHC100/U/MP/4K/ALTO	–
MCP100/C/U/MED/940PB	MHC100/C/U/MP/4K/ALTO	–
MCP100/U/MED/830PB	MHC100/U/MP/3K/ALTO	–
MCP100/C/U/MED/830PB	MHC100/C/U/MP/3K/ALTO	–
MCP150/U/MED/830PB	MHC150/U/MP/3K/ALTO	CMH150U830MED/O
MCP150/C/U/MED/830PB	MHC150/C/U/MP/3K/ALTO	CMH150CU830MED/O
MCP200/PS/BU-ONLY/940	–	–
MCP250/PS/BU-ONLY/940PB	CDM250/V/O/PS/4K/ALTO	CMH250/V/PA/O
MCP250/C/PS/BU-ONLY/940PB	CDM250/C/V/O/PS/4K/ALTO	CMH250/C/V/PA/O
MCP320/PS/BU-ONLY/840PB	–	CMH320/V/PA/O
MCP320/C/PS/BU-ONLY/840PB	–	CMH320/C/V/PA/O

Specifications subject to change without notice.

MANUFACTURERS' CROSS REFERENCE

HIGH INTENSITY DISCHARGE LAMPS

OSRAM SYLVANIA	PHILIPS	GE
METALARC® Pulse Start Metal Halide Lamps		
M70/U/MED	–	MVR70/U/MED
M70/C/U/MED	–	MVR70/C/U/MED
M100/U/MED	–	MVR100/U/MED
M100/C/U/MED	–	MVR100/C/U/MED
M150/U/MED	–	MVR150/U/MED
M150/C/U/MED	–	MVR150/C/U/MED
MS175/PS/BU-ONLY/MED	MS175/M/BU/PS	MVR175/VBU/MEDPA
MS175/C/PS/BU-ONLY/MED	–	MVR175/CVBUMEDPA
M175/PS/U	–	–
MS175/PS/BU-ONLY	MS175/BU/PS	–
MS175/C/PS/BU-ONLY	MS175/C/BU/PS	–
MS200/PS/BU-ONLY/ET23.5	–	–
MS200/PS/BU-ONLY/BT28	–	–
MS200/C/PS/BU-ONLY/BT28	–	–
M250/PS/U	MS250/U/PS	MVR250/U/PA
MS250/PS/BU-ONLY	MS250/BU/PS	MVR250/VBU/PA
MS250/C/PS/BU-ONLY	–	MVR250/C/VBU/PA
MS320/PS/BU-HOR	MS320/U/PS	MVR320/VBU/HO/PA
MS320/C/PS/BU-HOR	MS320/C/U/PS	MVR320/C/VBUHOPA
M400/PS/U/BT28	–	–
MS400/PS/BD-ONLY/BT28	–	MVR400CVBUED28PA
MS400/PS/BU-ONLY/BT28	–	MVR400/VBUED28PA
M400/PS/U	MS400/U/PS	MVR400/U/PA
MS400/PS/BU-ONLY	MS400/BU/PS	MVR400/VBU/XHOPA
MS400/C/PS/BU-ONLY	MS400/C/BU/PS	MVR400/CVBUXHOPA
MS750/PS/BU-HOR/BT37	MS750/BU/BT37/PS	MVR750/VBU/PA
MS750/C/PS/BU-HOR/BT37	–	MVR750/C/VBU/PA
M1000/PS/U/BT37	MS1000/BU/BT37/PS	MVR1000U/BT37/PA
METALARC® PRO-TECH® Pulse Start Metal Halide Lamps		
MP50/U/MED	–	MXR50/U/MED/O
MP50/C/U/MED	–	MXR50/C/U/MED/O
MP70/U/MED	–	MXR70/U/MED/O
MP70/C/U/MED	–	MXR70/C/U/MED/O
MP100/U/MED	–	MXR100/U/MED/O
MP100/C/U/MED	–	MXR100/C/U/MED/O
MP150/U/MED	–	MXR150/U/MED/O
MP150/C/U/MED	–	MXR150/C/U/MED/O
MP250/C/PS/BU-ONLY	–	MPR250/C/VBU/O
MP250/PS/BU-ONLY	MP250/BU/PS	MPR250/VBU/O
MP320/350/PS/BU-ONLY/BT28	–	MPR320/C/PA/ED28
MP320/350/C/PS/BU-ONLY/BT28	–	–
MP350/400/PS/BU-ONLY	MP350/BU/PS	MPR350/VBU/PA
MP350/400/C/PS/BU-ONLY	MP350/C/BU/PS	MPR350/C/VBU/PA

HIGH INTENSITY DISCHARGE LAMPS

OSRAM SYLVANIA	PHILIPS	GE
METALARC® PRO-TECH® Metal Halide Lamps		
MP175/BU-ONLY/MED	–	–
MP175/BU-ONLY	MP175/BU	MPR175/VBU/O
MP175/C/BU-ONLY	–	MPR175/C/VBU/O
MP250/BU-ONLY	MP250/BU	MPR250/VBU/O
MP250/C/BU-ONLY	–	MPR250/C/VBU/O
MP400/BU-ONLY	–	MPR400/VBU/HO/O
MP400/C/BU-ONLY	–	MPR400C/VBU/HO/O
MP400/BD-ONLY	–	–
MP1000/BU-ONLY	MP1000/BU	MPR1000/VBU/O
MP1000/C/BU-ONLY	–	–
SUPER METALARC® Metal Halide Lamps		
MS175/HOR	–	MVR175/HOR
MS250/HOR	–	MVR250/HOR
MS400/HOR/BT28	–	MVR400/HOR/BT28
MS400/HOR	–	MVR400/HOR/MOG
MS400/BU-ONLY	MS400/BU	MVR400/VBU/XHO
MS400/C/BU-ONLY	MS400/C/BU	MVR400/C/VBU/XHO
MS1000/BU-ONLY	MS1000/BU	MVR1000/VBU/HO
MS1000/C/BU-ONLY	MS1000/C/BU	MVR1000/C/VBU/HO
MS1000/BD-ONLY	–	–
METALARC® SUPERSAVER® Metal Halide Lamps		
M150/SS/U/BT28	–	MVR150/U/WM
MS360/SS/BU-HOR	MS360/BU/EW	MVR360/VBU/WM/HO
MS360/C/SS/BU-HOR	MS360/C/BU/EW	MVR360C/VBUWMXHO
MSP360/SS/BU-ONLY	MP360BU/EW	MPR360VBUWM/HO/O
MSP360/C/SS/BU-ONLY	MP360/C/BU/EW	MPR360CVBUWMHO/O
M950/SS/U/BT56	–	–
METALARC® Standard Probe Start Metal Halide Lamps		
M175/U/MED	MH175/U/M	MVR175/U/MED
M175/C/U/MED	MH175/C/U/M	MVR175/C/U/MED
M175/U	MH175/U	MVR175/U
M175/C/U	MH175/C/U	MVR175/C/U
M250/U/ET18	–	–
M250/U	MH250/U	MVR250/U
M250/C/U	MH250/C/U	MVR250/C/U
M400/U/ET18	–	–
M400/U/BT28	MH400/U/ED28	MVR400/U/ED28
M400/C/U/BT28	–	MVR400/C/U/ED28
M400/U	MH400/U	MVR400/U
M400/C/U	MH400/C/U	MVR400/C/U
M1000/U/BT37	MH1000/U/BT37	MVR1000/U/BT37
M1000/U	MH1000/U	MVR1000/U
M1000/C/U	MH1000/C/U	MVR1000/C/U
M1500/BU-HOR	–	MVR1500/HBU

Specifications subject to change without notice.

MANUFACTURERS' CROSS REFERENCE

HIGH INTENSITY DISCHARGE LAMPS

OSRAM SYLVANIA	PHILIPS	GE
LUMALUX PLUS® and LUMALUX PLUS® ECOLOGIC® High Pressure Sodium Lamps		
LU50/PLUS/ECO	C50S68/ALTO NC HPS	–
LU70/PLUS/MED	–	–
LU70/PLUS/ECO	C70S62/ALTO NC HPS	LU70/ECO/NC
LU100/PLUS/MED	–	–
LU100/PLUS/ECO	C100S54/ALTO NC HPS	LU100/ECO/NC
LU150/55/PLUS/ECO	C150S55/ALTO NC HPS	LU150/55/ECO/NC
LU200/PLUS/ECO	C200S66/ALTO NC HPS	LU200/ECO/NC
LU250/PLUS/ECO	C250S50/ALTO NC HPS	LU250/ECO/NC
LU310/PLUS/ECO	–	–
LU400/PLUS/ECO	C400S51/ALTO NC HPS	LU400/ECO/NC
LU1000/PLUS	C1000S52/ALTO NC HPS	–
LUMALUX® STANDBY High Pressure Sodium Lamps		
LU70/SBY	C70S62/2	LU70/SBY/XL
LU100/SBY	C100S54/2	LU100/SBY/XL
LU150/55/SBY	C150S55/2	LU150/55/SBY/XL
LU200/100/SBY	–	LU200/SBY/XL
LU250/SBY	C250S50/2	LU250/SBY/XL
LU400/SBY	C400S51/2	LU400/SBY/XL
LU1000/SBY	C1000S52/2	LU1000/SBY/XL
PLANTASTAR® High Pressure Sodium Lamps		
LU1000/PLANTASTAR	C1000S52/AGROLITE XT	–
LUMALUX® Standard and LUMALUX® ECOLOGIC® High Pressure Sodium Lamps		
LU50/ECO	C50S68/ALTO	LU50/H/ECO
LU50/D	C50S68/D/ALTO	LU50/D/H/E/CO
LU70/ECO	C70S62/ALTO	LU70/H/ECO
LU70/D	–	LU70/D/H/ECO
LU100/ECO	C100S54/ALTO	LU100/H/ECO
LU100/D	–	LU100/D
LU150/55/ECO	C150S55/ALTO	LU150/55/H/ECO
LU150/55/D	–	–
LU150/100	C150S56/ALTO	–
LU200/ECO	C200S66/ALTO	LU200/H/ECO
LU250/ECO	C250S50/ALTO	LU250/H/ECO
LU250/D	–	LU250/D
LU310/ECO	–	LU310
LU400/ECO	C400S51/ALTO	LU400/H/ECO
LU400T7/RSC	–	LU400/TD
LU750	–	LU750
LU1000/ECO	C1000S52/ALTO	LU1000/ECO
LU35/MED	C35S76/M	LU35/MED
LU35/D/MED	C35S76/D/M	LU35/D/MED
LU50/MED	C50S68/M	LU50/MED
LU50/D/MED	C50S68/D/M	LU50/D/MED
LU70/MED	C70S62/M	LU70/MED
LU70/D/MED	C70S62/D/M	LU70/D/MED
LU100/MED	C100S54/M	LU100/MED
LU150/55/MED	C150S55/M	LU150/MED
LU150/55/D/MED	C150S55/D/M	LU150/D/MED

HIGH INTENSITY DISCHARGE LAMPS

OSRAM SYLVANIA	PHILIPS	GE
METALARC BRITELINE® Metal Halide Lamps		
M1500T7/DE	–	SPL1500/H/652
M1500T8/DE	–	–
M2000T8/DE	–	–
M2000T9/DE	–	MQI/2000/T9/40
Mercury Vapor Lamps		
H43AV-75/DX	H43AV-75/DX	HR75DX43
H38AV-100/DX	H38MP-100/DX	HR100DX38/MED
H44GS-100SP	–	–
H44GS-100/MDSKSP	–	–
H38JA-100/DX	H38JA-100/DX	HR100DX38
H39KB-175	H39KB-175	HR175A39
H39KC-175/DX	H39KC-175/DX	HR175DX39
H37KC-250/DX	H37KC-250/DX	HR250DX37
H33CD-400	–	HR400A33
H33GL-400/DX	H33GL-400/DX	HR400DX33
H36GW-1000/DX	H36GW-1000/DX	HR1000DX36
Low Pressure Sodium SOX Lamps		
SOX18	SOX-E18	SOX18
SOX35 Plus	SOX35	SOX35
SOX55	SOX55	SOX55
SOX90 Plus	SOX90	SOX90
SOX135 Plus	SOX135	SOX135
SOX1806PK	SOX180	–

Specifications subject to change without notice.

OPEN FIXTURE RATED, METALARC® POWERBALL® EL INTEGRATED PAR30LN AND PAR38, O-TYPE LAMP

R **⚠ WARNING**

ANSI Luminaire Code O
OPEN FIXTURE Permissible

THE FOLLOWING INSTRUCTIONS MUST BE COMPLIED WITH TO AVOID RISK OF PERSONAL INJURY, PROPERTY DAMAGE AND POOR LAMP PERFORMANCE.

I. ULTRAVIOLET RADIATION EXPOSURE – WARNING: This lamp can cause serious skin burns and eye inflammation from shortwave ultraviolet radiation if the 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 product conforms to the following federal regulations: USA: 21 CFR 1040.30 and CANADA: SOR/80-381.

II. RUPTURE RISKS: This Metal Halide lamp is constructed of an outer glass bulb with an internal arc-tube. Metal Halide arc-tubes operate at high pressure and at very high temperatures and can unexpectedly rupture due to internal causes or external factors such as a ballast failure or misapplication. An arc-tube rupture can burst and shatter the outer glass bulb resulting in the discharge of glass fragments and extremely hot particles. In the event of such rupture, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

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

1. **Re-lamp fixture 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. (See catalog for rated life.)
2. Only operate with compatible fixture at 120V input.
3. This lamp is not intended for use with emergency fixtures or emergency exit lights.
4. Do not operate with an external ballast as ballast is integrated into the lamp.
5. Do not use with dimmers. Do not use on electronic timers, photocells, lighted switches or any other switches that do not meet UL20 Sec. 7.6.15.
6. Before lamp installation or replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
7. **Do not use lamp if lens, reflector or housing is visibly damaged.**
8. **Do not use in totally enclosed, recessed fixture.**
9. Protect lamp, lamp socket and wiring against moisture, corrosive atmosphere and excessive heat.
10. Suitable for dry and damp locations. Risk of electric shock – Do not use where directly exposed to water.
11. Time should be allowed for lamp color to stabilize when turned on for the first time. All lamp ratings are based on 100 hours of operation. Movement or vibration may cause variation in color and appearance.
12. Lamps may require 10-15 minutes to re-light if there is a loss of power to the socket.
13. Take care in handling and disposing of this lamp. If arc-tube is broken, avoid skin contact with any of the contents and fragments. See Product Safety Data Sheet for further details.
14. This product complies with the requirements of FCC 47 CFR §18 non-consumer. This product may cause interference with radios, televisions, wireless telephones and remote controls. If interference occurs, move the product away from these devices or plug into a different outlet. Do not install this near maritime safety communications equipment or other critical navigation or communications equipment operating between 0.45-30 MHz. For additional product information, call 1-800-LIGHTBULB (1-800-544-4828).
15. This Class A RFLD complies with the Canadian standard ICES-005.

IV. NOTES:

1. This lamp is intended for use in open fixtures since it was designed to contain a ruptured arc-tube and thereby minimize the resultant risks of personal injury, property damage, burns and fire.
2. **This lamp contains an arc tube with a fill gas containing less than 10 nCi of Kr-85 and is distributed by OSRAM SYLVANIA Products Inc. 100 Endicott St. Danvers, MA 01923.**

ENCLOSED FIXTURE RATED, METALARC® POWERBALL® CERAMIC TUBULAR SINGLE- AND DOUBLE-ENDED LAMPS WITH G12, G8.5, G6.5 & RX7S BASES, UV-FILTER OUTER JACKET, E-TYPE LAMP

R **⚠ WARNING**

ANSI Luminaire Code E
ENCLOSED FIXTURE

THE FOLLOWING INSTRUCTIONS MUST BE COMPLIED WITH TO AVOID RISK OF PERSONAL INJURY, PROPERTY DAMAGE AND POOR LAMP PERFORMANCE.

I. **RUPTURE RISKS:** This Metal Halide lamp is constructed of a UV-attenuating outer quartz bulb with an internal ceramic arc tube. Metal Halide arc tubes operate at high pressure and at very high temperatures and can unexpectedly rupture due to internal causes or external factors such as a ballast failure or misapplication. An arc tube rupture can burst and shatter the outer glass bulb resulting in the discharge of glass fragments and extremely hot particles. In the event of such rupture, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

TO REDUCE THESE RISKS:

1. **Only operate lamp in an enclosed fixture with a lens/diffuser material able to contain hot lamp fragments (up to 2192°F, 1200°C for a ceramic arc tube and 2012°F, 1100°C for quartz). If you are uncertain, contact your fixture manufacturer.**
2. **Only operate lamp with compatible ballast and fixture. (See catalog for specific information.)**
3. **Only operate lamp in designated operating positions. (See catalog for illustration.)**
4. **Lamp must be turned off for a minimum of fifteen minutes at least once a week.**
5. **Never expose operating lamp to moisture (such as rain, sleet or snow).**
6. **Replace lamp if outer glass bulb is scratched, cracked or damaged in any way.**
7. **Electrically insulate any metal support in contact with the outer bulb to avoid glass decomposition.**
8. **Replace lamp at or before the end of rated life. (See catalog for rated life.)**

II. **ELECTRICAL SHOCK AND BURN HAZARD:** Do not remove or insert lamp while power is on. If outer glass bulb is broken, shut off power immediately and remove lamp after it has cooled.

III. **ULTRAVIOLET RADIATION EXPOSURE:**
WARNING: This lamp can cause serious skin burns and eye inflammation from shortwave ultraviolet radiation if the 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 product conforms to the following federal regulations: USA: 21 CFR 1040.30 and CANADA: SOR/80-381.

IV. **LAMP INSTALLATION:**

1. Ensure that lamp is securely seated in the socket.
2. If lamp is touched with bare hands, clean fingerprints off with alcohol and wipe dry with clean, lint-free cloth.
3. All sockets must be rated to withstand the maximum pulse voltage output of the ballast.
4. Never install the lamp into an ordinary household socket or a fixture intended for tungsten halogen lamps.

V. **BROKEN ARC TUBE:** Take care in handling and disposing of this lamp. If arc tube is broken, avoid skin contact with any of the contents and fragments. See Product Safety Data Sheet for further details.

ENCLOSED FIXTURE RATED METALARC®, E-TYPE LAMP

R **⚠ WARNING**

ANSI Luminaire Code E
ENCLOSED FIXTURE

THE FOLLOWING INSTRUCTIONS MUST BE COMPLIED WITH TO AVOID RISK OF PERSONAL INJURY, PROPERTY DAMAGE AND POOR LAMP PERFORMANCE.

I. **RUPTURE RISKS:** This Metal Halide lamp is constructed of a UV-attenuating outer quartz bulb with an internal arc-tube. Metal Halide arc-tubes operate at high pressure and at very high temperatures and can unexpectedly rupture due to internal causes or external factors such as a ballast failure or misapplication. An arctube rupture can burst and shatter the outer glass bulb resulting in the discharge of glass fragments and extremely hot particles. In the event of such rupture, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

TO REDUCE THESE RISKS:

1. **Only operate lamp in an enclosed fixture with a lens/diffuser material able to contain hot lamp fragments (up to 2192°F, 1200°C for a ceramic arc tube and 2012°F, 1100°C for quartz). If you are uncertain, contact your fixture manufacturer.**
2. **Only operate lamp with compatible ballast and fixture. (See catalog for specific information.)**
3. **Only operate lamp in designated operating positions. (See catalog for illustration.)**
4. **Lamp must be turned off for a minimum of fifteen minutes at least once a week.**
5. **Never expose an operating lamp to moisture (such as rain, sleet or snow).**
6. **Replace lamp if outer glass bulb is scratched, cracked or damaged in any way.**
7. **Electrically insulate any metal support in contact with the outer bulb to avoid glass decomposition.**
8. **Replace lamp at or before the end of rated life. (See catalog for rated life.)**

FOR APPLICATIONS WHERE AN ADDITIONAL MEASURE OF SAFETY IS DESIRED, LAMPS USING AN INTERNAL SHIELD DESIGNED TO CONTAIN AN ARC-TUBE RUPTURE ARE AVAILABLE.

II. **ELECTRICAL SHOCK AND BURN HAZARD:** Do not remove or insert lamp while power is on. If outer glass bulb is broken, shut off power immediately and remove lamp after it has cooled.

III. **ULTRAVIOLET RADIATION EXPOSURE:**
WARNING: This lamp can cause serious skin burns and eye inflammation from shortwave ultraviolet radiation if the 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 product conforms to the following federal regulations: USA: 21 CFR 1040.30 and CANADA: SOR/80-381.

IV. **LAMP INSTALLATION:**
1. Screw lamp firmly but not forcibly into socket to avoid breakage.
2. All horizontal lamps with position oriented mogul (POM) bases (with locating pin) require a POM socket. Do not remove pin from base.
3. All pulse start lamps require a socket rated to withstand a 4000 volt pulse.
4. Never install the lamp into an ordinary household socket.

V. **BROKEN ARC TUBE:** Take care in handling and disposing of this lamp. If arc-tube is broken, avoid skin contact with any of the contents and fragments. See Product Safety Data Sheet for further details.

OPEN FIXTURE RATED, METALARC® PRO-TECH®, O-TYPE LAMP

R **⚠ WARNING**

ANSI Luminaire Code O
OPEN FIXTURE permissible

THE FOLLOWING INSTRUCTIONS MUST BE COMPLIED WITH TO AVOID RISK OF PERSONAL INJURY, PROPERTY DAMAGE AND POOR LAMP PERFORMANCE.

I. RUPTURE RISKS: This Metal Halide lamp is constructed of an outer glass bulb with an internal arc-tube. Metal Halide arc-tubes operate at high pressure and at very high temperatures and can unexpectedly rupture due to internal causes or external factors such as a ballast failure or misapplication. An arc-tube rupture can burst and shatter the outer glass bulb resulting in the discharge of glass fragments and extremely hot particles. In the event of such rupture, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

TO REDUCE THESE RISKS:

1. **Only operate with compatible ballast and fixture. (See catalog for specific information.)**
2. **Only operate lamp in designated operating positions. (See catalog for illustration.)**
3. **Lamp must be turned off for a minimum of fifteen minutes at least once a week.**
4. **Never expose operating lamp to moisture (such as rain, sleet or snow).**
5. **Replace lamp if outer glass bulb is scratched, cracked or damaged in any way.**
6. **Electrically insulate any metal support in contact with the outer glass bulb to avoid glass decomposition.**
7. **Replace lamp at or before the end of rated life. (See catalog for rated life.)**

This lamp is intended for use in open fixtures since it contains a special shield which was designed to contain a ruptured arc-tube and thereby minimize the resultant risks of personal injury, property damage, burns and fire. In applications where an additional measure of safety is desired, an enclosed fixture may be used with a lens/diffuser material able to contain hot lamp fragments (up to 2192°F, 1200°C for a ceramic arc tube and 2012°F, 1100°C for quartz). If you are uncertain, contact your fixture manufacturer.

II. ELECTRICAL SHOCK AND BURN HAZARD: Do not remove or insert lamp while power is on. If outer glass bulb is broken, shut off power immediately and remove lamp after it has cooled.

III. ULTRAVIOLET RADIATION EXPOSURE:
WARNING: This lamp can cause serious skin burns and eye inflammation from shortwave ultraviolet radiation if the 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 product conforms to the following federal regulations: USA: 21 CFR 1040.30 and CANADA: SOR/80-381.

IV. LAMP INSTALLATION:

1. Screw lamp firmly but not forcibly into socket to avoid breakage.
2. All pulse start lamps require a socket rated to withstand a 4000 volt pulse.
3. Never install the lamp into an ordinary household socket.

V. BROKEN ARC TUBE: Take care in handling and disposing of this lamp. If arc-tube is broken, avoid skin contact with any of the contents and fragments. See Product Safety Data Sheet for further details.

METALARC®, S-TYPE LAMP

R **⚠ WARNING**

ANSI Luminaire Code S
ENCLOSED FIXTURE/Open if meets requirement of Paragraph I.1 below

THE FOLLOWING INSTRUCTIONS MUST BE COMPLIED WITH TO AVOID RISK OF PERSONAL INJURY, PROPERTY DAMAGE AND POOR LAMP PERFORMANCE.

I. RUPTURE RISKS: This Metal Halide lamp is constructed of an outer glass bulb with an internal arc-tube. Metal Halide arc-tubes operate at high pressure and at very high temperatures and can unexpectedly rupture due to internal causes or external factors such as a ballast failure or misapplication. An arc-tube rupture can burst and shatter the outer glass bulb resulting in the discharge of glass fragments and extremely hot particles. In the event of such rupture, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

TO REDUCE THESE RISKS:

1. **Only operate lamp in an enclosed fixture with a lens/diffuser material able to contain hot lamp fragments (up to 2012°F, 1100°C). If you are uncertain, contact your fixture manufacturer. When operated within 15° of vertical, this lamp may be operated in an open fixture PROVIDED THE INSTALLATION IS NOT NEAR PEOPLE OR FLAMMABLE OR COMBUSTIBLE MATERIAL.**
2. **Only operate lamp with compatible ballast and fixture. (See catalog for specific information.)**
3. **Only operate lamp in designated operating positions. (See catalog for illustration.)**
4. **Lamp must be turned off for a minimum of fifteen minutes at least once a week.**
5. **Never expose an operating lamp to moisture (such as rain, sleet or snow).**
6. **Replace lamp if outer glass bulb is scratched, cracked or damaged in any way.**
7. **Electrically insulate any metal support in contact with the outer bulb to avoid glass decomposition.**
8. **Replace lamp at or before the end of rated life. (See catalog for rated life.)**

FOR APPLICATIONS WHERE AN ADDITIONAL MEASURE OF SAFETY IS DESIRED, LAMPS USING AN INTERNAL SHIELD DESIGNED TO CONTAIN AN ARC-TUBE RUPTURE ARE AVAILABLE.

II. ELECTRICAL SHOCK AND BURN HAZARD: Do not remove or insert lamp while power is on. If outer glass bulb is broken, shut off power immediately and remove lamp after it has cooled.

III. ULTRAVIOLET RADIATION EXPOSURE:
WARNING: This lamp can cause serious skin burns and eye inflammation from shortwave ultraviolet radiation if the 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 product conforms to the following federal regulations: USA: 21 CFR 1040.30 and CANADA: SOR/80-381.

IV. LAMP INSTALLATION:

1. Screw lamp firmly but not forcibly into socket to avoid breakage.
2. All horizontal lamps with position oriented mogul (POM) bases (with locating pin) require a POM socket. Do not remove pin from base.
3. All pulse start lamps require a socket rated to withstand a 4000 volt pulse.
4. Never install the lamp into an ordinary household socket.

V. BROKEN ARC TUBE: Take care in handling and disposing of this lamp. If arc-tube is broken, avoid skin contact with any of the contents and fragments. See Product Safety Data Sheet for further details.

METALARC® BRITELINE®, F-TYPE LAMP

⚠ WARNING

ANSI Luminaire Code F
ENCLOSED FIXTURE with UV Filter and lens interlock required

THE FOLLOWING INSTRUCTIONS MUST BE COMPLIED WITH TO AVOID RISK OF PERSONAL INJURY, PROPERTY DAMAGE AND POOR LAMP PERFORMANCE.

I. RUPTURE RISKS: This Metal Halide lamp is constructed with a quartz arc-tube which operates at high pressure and at very high temperatures. The arc-tube can unexpectedly rupture due to internal causes or external factors such as a ballast failure or misapplication resulting in the discharge of glass fragments and extremely hot particles. In the event of such rupture, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

TO REDUCE THESE RISKS:

1. **Only operate lamp in an enclosed fixture with a lens/diffuser material able to contain hot lamp fragments (up to 2012°F, 1100°C). If you are uncertain contact your fixture manufacturer.**
2. **Only operate lamp with compatible ballast and fixture.**
3. **Only operate lamp in horizontal position.**
4. **Lamp must be turned off for a minimum of fifteen minutes at least once a week.**
5. **Never expose operating lamp to moisture (such as rain, sleet or snow).**
6. **Replace lamp if bulb is scratched, cracked or damaged in any way.**
7. **Keep all metals at least 3 inches from the body of the arc tube to avoid glass decomposition.**
8. **Replace lamp at or before the end of rated life.**

II. ULTRAVIOLET RADIATION HAZARD:

THIS LAMP EMITS ULTRAVIOLET (UV) POWER DURING OPERATION AND IS IN RISK GROUP 3 PER ANSI-IESNA Rp-27.3-96. THIS LAMP CAN CAUSE SERIOUS SKIN BURNS AND EYE INJURY FROM SHORTWAVE ULTRAVIOLET RADIATION. **IT MUST** BE OPERATED IN AN ENCLOSED FIXTURE WHICH FILTERS OUT THE HARMFUL SHORTWAVE ULTRAVIOLET RADIATION. IF YOU ARE UNCERTAIN, CONTACT YOUR FIXTURE MANUFACTURER.

A power interlock device is required to automatically turn off the lamp if the fixture assembly is opened. It is strongly recommended that a power interlock device also turn off power to the lamp if the fixture lens is broken. If the fixture lens breaks and the lamp remains on, turn off power immediately and repair before reenergizing.

This lamp is to be used **ONLY** in a fixture specifically designed for use with this lamp and recommended for its use by the equipment manufacturer.

III. ELECTRICAL SHOCK AND BURN HAZARD: Do not remove or insert lamp while power is on. Allow lamp to cool before removing.

IV. LAMP INSTALLATION:

Do not remove lamp from package until ready for use and then handle only with clean cotton gloves. If lamp is handled, fingerprints, grease or oils may be removed from the bulb by wiping with alcohol. This will remove materials which cause whitish spotting (devitrification) and premature lamp failure. Dry lamp carefully with clean cotton cloth.

1. Install lamp without undue pressure.
2. Ensure that lamp electrical connections are secure and nothing is touching bulb.
3. All seal gaskets and wire insulation must be shielded from the UV radiation produced by this lamp.
4. Fixture wiring must have a temperature rating of 250°C and a minimum voltage rating of 600V RMS for all lamps except the 1500T7 lamp which must have a voltage rating of 1500V RMS.
5. For maximum performance, all double-ended lamps must be operated with the arc-tube tip up.

V. BROKEN ARC TUBE: Take care in handling and disposing of this lamp. If arc-tube is broken, avoid skin contact with any of the contents and fragments. See Product Safety Data Sheet for further details.

LUMALUX®, LUMALUX® / ECO®, LUMALUX PLUS® / ECO® AND LUMALUX® STANDBY LAMPS

⚠ WARNING

ANSI LUMINAIRE Code F
ENCLOSED FIXTURE with UV Filter and lens interlock required

THE FOLLOWING INSTRUCTIONS MUST BE COMPLIED WITH TO AVOID RISK OF PERSONAL INJURY, PROPERTY DAMAGE AND POOR LAMP PERFORMANCE.

I. OPERATE WITH COMPATIBLE BALLAST AND FIXTURE ONLY:
This lamp must be operated in a fixture and ballast which has an ANSI designation identical to that found on the lamp outer glass bulb. (with the exception of the LU/PLUS on Cooper ignitor 220C173G11, which may have compatibility issues).

II. ELECTRICAL SHOCK AND BURN HAZARD: Do not remove or insert lamp while power is on. If outer glass bulb is broken, shut off power immediately and remove lamp after it has cooled.

III. INSTALLATION AND OPERATING INSTRUCTIONS:
See catalog for specific operating parameters.

1. A specially designed socket which is electrically rated to withstand a 4000 volt pulse is required for all High Pressure Sodium lamps except for the 750 and 1000 watt lamps which require a socket rated to withstand a 5000 volt pulse.
2. These lamps have a vacuum jacket and may implode if broken. For added safety, wear safety glasses and gloves when installing or removing lamps.
3. To avoid burn injury, allow lamp to cool before removing from fixture.
4. Screw lamp firmly but not forcibly into socket to avoid breakage.
5. Replace lamps at or before end of rated life. (See catalog for rated life.)
6. Never install it into an ordinary household socket.
7. This lamp may be operated in any position.

IV. PROPER CARE AND MAINTENANCE:
To reduce the possibility of a rupture and premature lamp failure:

1. Do not use with luminaires which would cause an excessive increase in arc-tube operating voltage.
2. Do not expose operating lamp to moisture (such as rain, sleet or snow).
3. Replace lamp if outer glass bulb has been scratched, cracked or damaged in any way.
4. Electrically insulate any metal support in contact with the outer glass bulb to avoid glass decomposition.

V. BROKEN ARC TUBE: Take care in handling and disposing of this lamp. If arc-tube is broken, avoid skin contact with any of the contents and fragments. See Product Safety Data Sheet for further details.

LUMALUX® DOUBLE-ENDED QUARTZ JACKETED LAMPS

⚠ WARNING

ANSI LUMINAIRE Code F
ENCLOSED FIXTURE with UV Filter and lens interlock required

THE FOLLOWING INSTRUCTIONS MUST BE COMPLIED WITH TO AVOID RISK OF PERSONAL INJURY, PROPERTY DAMAGE AND POOR LAMP PERFORMANCE.

I. OPERATE WITH COMPATIBLE BALLAST AND FIXTURE ONLY:
This lamp must be operated in a fixture and ballast which has an ANSI designation identical to that found on the lamp outer glass bulb.

II. ULTRAVIOLET RADIATION HAZARD: THIS LAMP EMITS ULTRAVIOLET (UV) POWER DURING OPERATION AND IS IN RISK GROUP 2 PER ANSI-IESNA Rp-27.3-96. THIS LAMP CAN CAUSE SERIOUS SKIN BURNS AND EYE INJURY FROM SHORTWAVE ULTRAVIOLET RADIATION. IT **MUST** BE OPERATED IN AN ENCLOSED FIXTURE WHICH FILTERS OUT THE HARMFUL SHORTWAVE ULTRAVIOLET RADIATION. IF YOU ARE UNCERTAIN, CONTACT YOUR FIXTURE MANUFACTURER.

A power interlock device is required to automatically turn off the lamp if the fixture assembly is opened. It is strongly recommended that a power interlock device also turn off power to the lamp if the fixture lens is broken. If the fixture lens breaks and the lamp remains on, turn off power immediately and repair before reenergizing.

This lamp is to be used **ONLY** in a fixture specifically designed for use with this lamp and recommended for its use by the equipment manufacturer.

III. ELECTRICAL SHOCK AND BURN HAZARD: Do not remove or insert lamp while power is on. Allow lamp to cool before removing.

IV. LAMP INSTALLATION AND FIXTURE:
Do not remove lamp from package until ready for use and then handle only with clean cotton gloves. If lamp is handled, fingerprints, grease or oils may be removed from the bulb by wiping with alcohol. This will remove materials which cause whitish spotting (devitrification) and premature lamp failure. Dry lamp carefully with clean cotton cloth.

1. Install lamp without undue pressure.
2. Ensure that lamp electrical connections are secure and nothing is touching bulb.
3. All seal gaskets and wire insulation must be shielded from the UV radiation produced by this lamp.
4. Fixture wiring must have a temperature rating of 250ºC and a minimum voltage rating of 600V RMS.
5. Never install it into a fixture designed for use with tungsten halogen lamps.
6. Do not expose operating lamp to moisture (such as rain, sleet or snow).
7. Replace lamp if outer glass bulb has been scratched, cracked or damaged in any way.

V. BROKEN ARC-TUBE: Take care in handling and disposing of this lamp. If arc-tube is broken, avoid skin contact with any of the contents and fragments. See Product Safety Data Sheet for further details.

STANDARD MERCURY "R" LAMPS

R **⚠ WARNING**

THE FOLLOWING INSTRUCTIONS MUST BE COMPLIED WITH TO AVOID RISK OF PERSONAL INJURY, PROPERTY DAMAGE AND POOR LAMP PERFORMANCE.

I. **RUPTURE RISKS:** This Mercury lamp is constructed of an outer glass bulb with an internal arc-tube made of quartz. Mercury arc-tubes operate at high pressure and at very high temperatures and can unexpectedly rupture due to internal causes or external factors such as a ballast failure or misapplication. An arc-tube rupture can burst and shatter the outer glass bulb resulting in the discharge of glass fragments and extremely hot quartz particles. In the event of such rupture, **THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.**

TO REDUCE THESE RISKS:

1. **Only operate lamp with compatible ballast and fixture. (See catalog for specific information.)**
2. **Fixture lens/diffuser material must be able to contain hot lamp fragments (as high as 1832ºF, 1000ºC). If you are uncertain, contact your fixture manufacturer.**
3. **Never expose an operating lamp to moisture (such as rain, sleet or snow).**
4. **Replace lamp if outer glass bulb is scratched, cracked or damaged in any way.**
5. **Electrically insulate any metal support in contact with the outer bulb to avoid glass decomposition.**
6. **Replace lamp at or before the end of rated life. (See catalog for rated life.)**

II. **ELECTRICAL SHOCK AND BURN HAZARD:** Do not remove or insert lamp while power is on. If outer glass bulb is broken, shut off power immediately and remove lamp after it has cooled.

III. **ULTRAVIOLET RADIATION EXPOSURE:**
WARNING: THIS LAMP CAN CAUSE SERIOUS SKIN BURNS AND EYE INFLAMMATION FROM SHORTWAVE ULTRAVIOLET RADIATION IF THE 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 PRODUCT CONFORMS TO THE FOLLOWING FEDERAL REGULATIONS:
USA: 21 CFR 1040.30 AND CANADA: SOR/80-381.

IV. **INSTALLATION:**
1. Screw lamp firmly but not forcibly into socket to avoid breakage.
2. To avoid damaging a lamp, never install it into an ordinary household socket.
3. This lamp may be operated in any position.

V. **BROKEN ARC-TUBE:** Take care in handling and disposing of this lamp. If arc-tube is broken, avoid skin contact with any of the contents and fragments. See Product Safety Data Sheet for further details.

SOX LAMPS

R **⚠ WARNING**

THE FOLLOWING INSTRUCTIONS MUST BE COMPLIED WITH TO AVOID RISK OF PERSONAL INJURY, PROPERTY DAMAGE AND POOR LAMP PERFORMANCE.

I. BURNS AND FIRE HAZARD:

Sox lamps contain a quantity of sodium which may heat from a reaction with moisture in the air or on the skin if a lamp is broken. Hot sodium will burn spontaneously when exposed to the air. Sodium lamps must be packed, shipped and stored in the wrapping provided to reduce the risk of breakage.

II. IMPLOSION HAZARD:

Always wear safety glasses when handling lamp. Low pressure sodium lamps are made of glass and are evacuated and could therefore implode if damaged or handled incorrectly. Replace lamp if outer glass bulb has been scratched, cracked or damaged in any way. To reduce the possibility of a lamp cracking or breaking, do not expose operating lamp to rain, snow or water.

III. ELECTRICAL SHOCK AND BURN HAZARD:

Do not remove or insert lamp when power is on. If outer glass bulb is broken, shut off power immediately and remove lamp after it has cooled.

IV. OPERATE WITH COMPATIBLE BALLAST AND FIXTURE ONLY:

This lamp must be operated in a fixture and ballast which was specifically designed for use with this lamp.

V. INSTALLATION AND OPERATING INSTRUCTIONS:

1. When operated in other than the base up orientation, single-based “SOX” lamps from 35 watts to 180 watts must be supported at the end opposite to the base in such a way as to allow for thermal expansion and contraction along the lamp axis.
2. Install lamp firmly but not forcibly into socket to avoid breakage.
3. For maximum system performance, replace lamp at or before end of rated life. (See catalog for rated life.)
4. Only operate lamps in designated operating positions. (See catalog for illustration.)

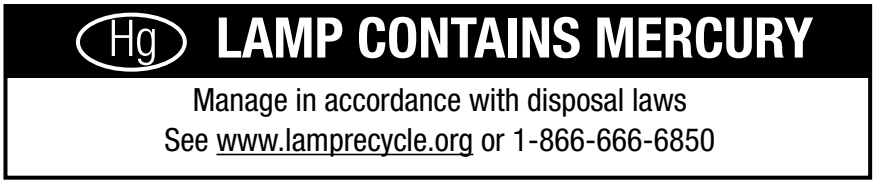
VI. LAMP DISPOSAL:

To avoid the risk of personal injury or property damage from sodium reaction when disposing of spent lamps, the following procedure should be followed:

1. Before commencing, operator must be outfitted with appropriate OSHA-approved face mask, gloves and apron.
2. Place no more than 20 lamp(s) in a large, dry container. (Do not exceed one-quarter of the container height.)
3. Break lamp(s) into small pieces inside the container in a dry atmosphere and in a well ventilated area.
4. From a safe distance, carefully pour enough tap water into container to cover all materials.
5. After a few minutes, the reaction of the sodium with the large quantity of water will produce a mild sodium hydroxide solution which may be disposed of in accordance with applicable federal, state and local regulations.

LAMP DISPOSAL LABELING

The following information appears on the packages of high intensity discharge lamps that contain mercury. For more information on lamp disposal labeling, see the inside back cover of this catalog.



For weight and measure information, please visit www. sylvania.com.
For more information about HID lamp warranties, please visit the warranty section of this catalog.

Ballast

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Color coding system:

High Efficiency Professional Other Products to be discontinued Residential Only

The system is the solution.

OSRAM SYLVANIA is the global leader in lighting systems. One of the significant trends in lighting technology is the move toward optimized lamp and ballast systems...we've been at the forefront with the system solution®, a family of ideally designed energy saving lamps and electronic ballast combinations. OSRAM SYLVANIA has the competitive advantage with years of experience in designing, developing and supporting integrated systems — both in ballasts and lamps. Our global network of design and manufacturing brings ballast and lamp knowledge together to produce innovative and cost-effective energy saving systems.

- Committed to providing energy efficient ballasts & lamps
- Innovative system solutions that exceed customer expectations
- Offer new energy saving, higher efficiency, lower power systems
- These systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry

It's the system solution, only from SYLVANIA.

the system solution®

QUICKTRONIC® High Efficiency

The High Efficiency Series features energy-saving electronic T8 ballasts that save up to an additional 6% (2 to 5 watts) over standard electronic ballasts. Features also include <10% THD and Universal Voltage.

- High Efficiency Systems over 90% efficient (maximize energy savings)
- Up to 60% savings
- Over 100 LPW (lumens/watt) with OCTRON® SUPERSAVER® lamps
- Lowest power T8 Instant Start Systems
- Same Light, Less Power

QUICKTRONIC Professional

Professional Series products incorporate one or more value added features such as <10% THD, PROStart®, Instant Start, Universal Voltage, etc.

QUICKTRONIC

T8 Instant Start <20% THD Products.

Universal Voltage (120-277V)

Universal voltage models operate from 120-277V, eliminating "incorrect line voltage" wiring errors and reducing the number of models in inventory by half.

"Squiggle"

The "sine wave" graphic logo of the Electronics & Controls division of OSRAM SYLVANIA signifies the transition from old technology to the high frequency, high efficiency electronic systems of the future. SYLVANIA has officially changed the "squiggle" to green.

The Original System Solution

The first matched T8 lamp and ballast systems for optimized performance and longer life.

T8 & T5 POWERSENSE® Dimming

The industry's first product to operate from either Power-line Fluorescent controllers or low-voltage (0-10 Vdc) controls.

- Efficient – Highest energy efficiency dimming system
- Versatile – Controls flexibility and universal-voltage
- Intelligent – Senses faulty wiring and lamp failure

High Efficiency DULUX® L Systems

QHE energy saving FT40DL/25W & FT40DL/28W SUPERSAVER® Systems:

- SAME LIGHT, LESS POWER
- Universal input voltage (120-277V)
- QUICKSENSE® end of lamp life sensing
- Auto reset

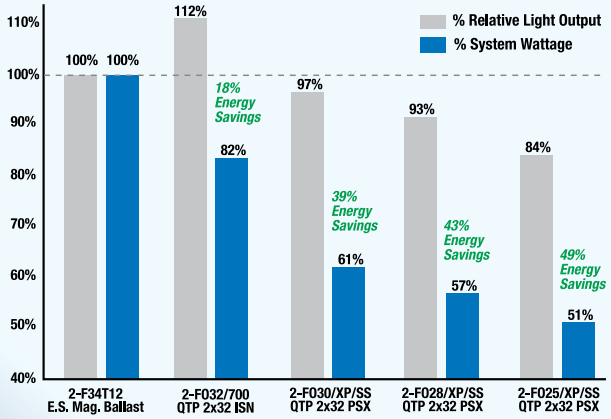
Banded Packaging

New Banded Packaging has replaced the shrink-wrapped product for added benefits:

- Distributor friendly; easy stocking for individual ballast sales
- Contractor friendly; easy handling; no tangled wires
- Reduces waste
- Easily removable bands

SUPERSAVER® Xtreme Systems

New High Efficiency QUICKTRONIC® PROStart® PSX Universal Voltage ballasts, when combined with OCTRON® SUPERSAVER® energy saving high performance T8 lamps, provide the lowest power PROStart T8 systems available.



Key System Features:

- PROStart Xtreme: For frequent switching, longest lamp life
- Universal input voltage (120-277)
- Available in 0.71 ballast factor

MULTI-WATT

New electronic ballasts that offer the versatility to operate multiple lamp types of various wattages. These multi-watt and multi-lamp models also can vary the number of lamps operated (i.e. 1 or 2 lamps), reducing the amount of ballast types required.

Dual Entry CFL

Dual entry, color coded connectors located on the side and bottom allow for increased mounting flexibility with one ballast and also increased ease of installation.

T5HO HELIOS™ Dimming

Electronic ballast with continuous 100-1% dimming range. They can be controlled by a wide variety of 0-10 volt DC control devices, including daylight sensors, building automation systems and compatible wall box dimming controllers.

DALI Digital Dimming

DALI digital control technology offers full-range continuous dimming, individual fixture control and feedback. The communications protocol is “DALI”, an acronym for “Digital Addressable Lighting Interface”. DALI is the worldwide standard for digital lighting control.

PROStart®

A programmed rapid starting method for fluorescent lamps that achieves up to 100,000 switching cycles which is ideal for use on occupancy sensors.

- Exclusive lamp warranty for occupancy sensor applications

PENTRON® HO

New T5 high output fluorescent lamp systems provide almost twice the lumen output of standard lamps and allow new low profile fixtures to be designed.

QUICKSENSE®

The patented end-of-lamp-life sensing technology that helps prevent lamp overheating and established the benchmark for industry recommendations for T5 and smaller diameter lamps.

PLUS (High Ballast Factor) Systems

T8 lamps are run at higher lumen levels to allow fewer lamps or higher light levels.

ICETRON® Systems

Unique “Inductively Coupled Electrodeless Fluorescent Lamp Systems” that provide 100,000 hour rated lamp life for use in high maintenance cost areas.

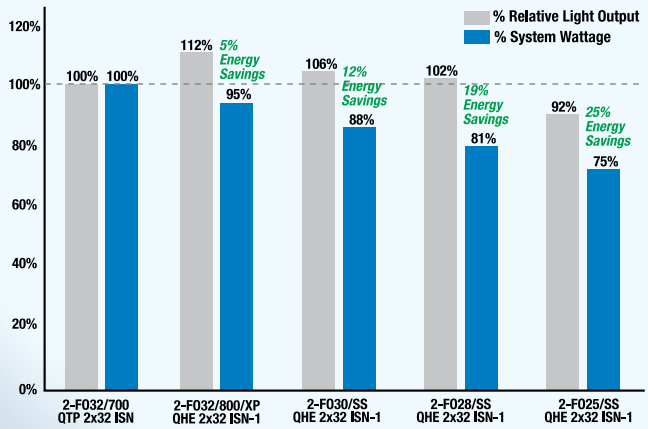
Electronic Metal Halide Systems

QUICKTRONIC® MH features a state of the art electronic design to deliver performance levels unattainable with standard magnetic based lighting systems. Provides energy savings up to 50% compared to magnetic ballasts.

QUICKTRONIC® High Efficiency Type CC & Lamp Striation Control (LSC) Models

Offer the same energy saving benefits as the High Efficiency QHE ballasts with two additional advantages:

- Meets UL Type CC (Commercial Cabinet) Rating: New micro-controller circuity reduces arcing caused by loose or improper lamp pin to socket connections.
- Lamp Striation Control, (LSC): LSC circuitry minimizes lamp striations/ strobing that can occur at lower temperatures and especially in T8 energy saving lamps.
  (Please consult manufacturers for additional details.)



Key System Features:

- Lowest power T8 Instant Start Systems
- Over 100 LPW (lumens/watt) with OCTRON® SUPERSAVER® lamps
- Provides 30-50% energy savings when compared to F40T12 Magnetic Systems
- QHE/SS Systems provide up to 25% savings compared to standard T8 systems
- Universal input voltage (120-277)

QUICKTRONIC® High Efficiency T8 Systems

Meet NEMA Premium Electronic Ballast Program Requirements

SYLVANIA QUICKTRONIC® QHE High Efficiency energy saving electronic T8 ballasts offer several advantages:

- Meet NEMA Premium Electronic Ballast Program Requirements and qualify for utility incentives
- Deliver 30-60% energy savings when compared to F34T12 magnetically ballasted systems
- Offer up to 6% (2-5 Watt) energy savings over standard electronic ballasts
- Achieve over 100 lumens per watt (LPW) with OCTRON® 800 XP® SUPERSAVER® lamps
- Available in:
  - Instant Start and PROStart® (Programmed Rapid Start)
  - Bi-level QUICKSTEP® and POWERSENSE® Dimming models
- Save energy (less power) thus more beneficial to the environment by helping to reduce pollution and greenhouse gas emissions
- Excellent for the most stringent energy codes and sustainability focused projects

Meet Requirements of NEMA Premium Electronic Ballast Program

The NEMA Premium Electronic Ballast Program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors (BEF) established by the Consortium for Energy Efficiency (CEE). For additional information on this program visit: www.cee1.org or www.nema.org.

OSRAM SYLVANIA has a variety of high efficiency instant start, programmed rapid start, dimming and bi-level ballasts that comply with the NEMA Premium Electronic Ballast Program. Be sure to look for the “NEMA Premium” mark on our QUICKTRONIC® High Efficiency electronic ballast systems. These systems allow you to meet the increasing demands of the energy efficiency lighting requirements.

NEMA Premium

QUICKTRONIC® High Efficiency T8 Instant Start Systems

NEMA Premium

32 T8 Instant Start Universal Voltage (120-277V) — **Lamp Striation Control**

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
				LOW BALLAST FACTOR							
	QHE 1X32T8/UNV ISL-SC	0.21/0.09	F032/700	2800	1	0.78	2185	1965	25	87	3.12
49837	Banded Pack	0.21/0.09	F032/XP	3000	1	0.78	2340	2200	25	94	3.12
49861	*10-Pack*	0.20/0.09	F030/SS	2850	1	0.78	2225	2090	24	93	3.25
		0.19/0.08	F028/SS	2725	1	0.78	2125	2000	22	97	3.55
		0.17/0.08	F025/SS	2475	1	0.78	1930	1815	20	97	3.90
	QHE 2X32T8/UNV ISL-SC	0.41/0.18	F032/700	2800	2	0.78	4370	3930	48	91	1.63
49838	Banded Pack	0.41/0.18	F032/XP	3000	2	0.78	4680	4400	48	98	1.63
49863	*10-Pack*	0.38/0.16	F030/SS	2850	2	0.78	4445	4180	45	99	1.73
		0.35/0.15	F028/SS	2725	2	0.78	4250	3995	42	101	1.86
		0.32/0.14	F025/SS	2475	2	0.78	3860	3630	38	102	2.05
	QHE 3X32T8/UNV ISL-SC	0.61/0.27	F032/700	2800	3	0.78	6550	5895	73/72	90/91	1.08
49839	Banded Pack	0.61/0.27	F032/XP	3000	3	0.78	7020	6600	73/72	96/98	1.08
49865	*10-Pack*	0.58/0.25	F030/SS	2850	3	0.78	6670	6270	68	98	1.15
		0.53/0.23	F028/SS	2725	3	0.78	6380	5995	63	101	1.24
		0.48/0.21	F025/SS	2475	3	0.78	5790	5445	57	102	1.37
	QHE 4X32T8/UNV ISL-SC	0.80/0.35	F032/700	2800	4	0.78	8735	7860	95	92	0.82
49840	Banded Pack	0.80/0.35	F032/XP	3000	4	0.78	9360	8800	95	99	0.82
49867	*10-Pack*	0.75/0.32	F030/SS	2850	4	0.78	8890	8360	89	100	0.88
		0.71/0.31	F028/SS	2725	4	0.78	8500	7990	84	101	0.93
		0.62/0.27	F025/SS	2475	4	0.78	7720	7260	76/75	102/103	1.04
				NORMAL BALLAST FACTOR							
	QHE 1X32T8/UNV ISN-SC	0.25/0.11	F032/700	2800	1	0.88	2465	2220	28	88	3.14
49968	Banded Pack	0.25/0.11	F032/XP	3000	1	0.88	2640	2480	28	94	3.14
49851	*10-Pack*	0.22/0.09	F030/SS	2850	1	0.88	2510	2360	26	97	3.38
		0.21/0.09	F028/SS	2725	1	0.88	2400	2255	25	96	3.52
		0.19/0.09	F025/SS	2475	1	0.88	2175	2045	22	99	4
	QHE 2X32T8/UNV ISN-SC	0.47/0.20	F032/700	2800	2	0.88	4930	4435	55	90	1.6
49969	Banded Pack	0.47/0.20	F032/XP	3000	2	0.88	5280	4965	55	96	1.6
49853	*10-Pack*	0.44/0.19	F030/SS	2850	2	0.88	5015	4715	52	96	1.69
		0.40/0.18	F028/SS	2725	2	0.88	4800	4510	48	100	1.83
		0.36/0.16	F025/SS	2475	2	0.88	4355	4095	43	101	2.05
	QHE 3X32T8/UNV ISN-SC	0.69/0.30	F032/700	2800	3	0.88	7390	6650	83/82	89/90	1.07
49970	Banded Pack	0.69/0.30	F032/XP	3000	3	0.88	7920	7445	83/82	95/97	1.07
49855	*10-Pack*	0.66/0.28	F030/SS	2850	3	0.88	7525	7075	78/77	96/98	1.14
		0.61/0.26	F028/SS	2725	3	0.88	7195	6760	72	100	1.22
		0.55/0.23	F025/SS	2475	3	0.88	6530	6140	65/64	101/102	1.38
	QHE 4X32T8/UNV ISN-SC	0.91/0.39	F032/700	2800	4	0.88	9855	8870	108/107	91/92	0.82
49971	Banded Pack	0.91/0.39	F032/XP	3000	4	0.88	10,560	9925	108/107	98/99	0.82
49857	*10-Pack*	0.86/0.37	F030/SS	2850	4	0.88	10,030	9430	102/101	98/99	0.87
		0.80/0.35	F028/SS	2725	4	0.88	9590	9015	95	101	0.93
		0.71/0.30	F025/SS	2475	4	0.88	8710	8190	85	102	1.04

QHE ISL and ISN models above also operate FB032, FB031, F025, FB024, F017, FB016, FB030/SS (30W), FB029/SS (29W)

QHE ballasts operate additional T8 lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.

[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.

ecologic3

SYLVANIA OCTRON® ECOLOGIC3 fluorescent lamps are designed to satisfy the Federal Toxicity Characteristic Leaching Procedure (TCLP) criteria for classification as non-hazardous waste in most states.* ECOLOGIC3 represents a more comprehensive approach to sustainability encompassing high efficiency, long life and RoHS/TCLP compliance. *Regulations may vary. Check your local and state regulations.

NEMA Premium

NEMA Premium Ballast (NPB) program compliant. The NPB program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors, (BEF) established by the CEE, (Consortium for Energy Efficiency). For additional information on this program go to: www.cee1.org or www.nema.org.

All data shown is for primary lamp types only. Complete data is available in the SYLVANIA QUICKTRONIC® Electronic Ballast Technology & Specification Guide and at www.sylvania.com

QUICKTRONIC® High Efficiency T8 Instant Start Systems

NEMA Premium

32 T8 Instant Start Universal Voltage (120-277V) — **Lamp Striation Control**

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
				MEDIUM BALLAST FACTOR							
	QHE 2x32T8/UNV ISM-SC	0.54/0.23	F032/700	2800	2	1.00	5600	5040	63/62	90	1.61
49248	Banded Pack	0.54/0.23	F032/XPS	3100	2	1.00	6200	5830	63/62	100	1.61
		0.49/0.21	F030/SS	2850	2	1.00	5700	5360	58	98	1.72
		0.44/0.19	F028/SS	2725	2	1.00	5450	5125	53	103	1.89
		0.41/0.18	F025/SS	2475	2	1.00	4950	4655	50/49	101	2.04
	QHE 3x32T8/UNV ISM-SC	0.76/0.40	F032/700	2800	3	0.98	8230	7410	90/89	92	1.10
49249	Banded Pack	0.76/0.40	F032/XPS	3100	3	0.98	9115	8565	90/89	102	1.10
		0.67/0.30	F030/SS	2850	3	0.98	8380	7875	83	101	1.18
		0.64/0.28	F028/SS	2725	3	0.98	8010	7530	76	105	1.29
		0.59/0.26	F025/SS	2475	3	0.98	7275	6840	70	104	1.40
	QHE 4x32T8/UNV ISM-SC	1.02/0.44	F032/700	2800	4	0.98	10,975	9880	122/120	91	0.82
49491	Banded Pack	1.02/0.44	F032/XPS	3100	4	0.98	12,150	11,425	122/120	101	0.82
		0.95/0.41	F030/SS	2850	4	0.98	11,170	10,500	114/112	100	0.88
		0.89/0.38	F028/SS	2725	4	0.98	10,680	10,040	107/105	102	0.93
		0.83/0.36	F025/SS	2475	4	0.98	9700	9120	99/98	99	1.00
				HIGH BALLAST FACTOR							
	QHE 1X32T8/UNV ISH-SC	0.32/0.14	F032/700	2800	1	1.20	3360	3025	38	88	3.16
49919	Banded Pack	0.32/0.14	F032/XP	3000	1	1.20	3600	3385	38	95	3.16
		0.30/0.13	F030/SS	2850	1	1.20	3420	3215	36	95	3.33
		0.27/0.12	F028/SS	2725	1	1.20	3270	3075	33	99	3.64
		0.26/0.12	F025/SS	2475	1	1.20	2970	2790	30	99	4.00
	QHE 2X32T8/UNV ISH-SC	0.65/0.28	F032/700	2800	2	1.20	6720	6050	74/73	91/92	1.64
49920	Banded Pack	0.65/0.28	F032/XP	3000	2	1.20	7200	6770	74/73	97/99	1.64
49873	*10-Pack*	0.59/0.25	F030/SS	2850	2	1.20	6840	6430	70/69	98/99	1.74
		0.55/0.23	F028/SS	2725	2	1.20	6540	6150	65/64	101/102	1.88
		0.50/0.22	F025/SS	2475	2	1.20	5940	5585	58/57	102/104	2.11
	QHE 3X32T8/UNV ISH-SC	0.93/0.40	F032/700	2800	3	1.18	9910	8920	111/109	89/90	1.08
49921	Banded Pack	0.93/0.40	F032/XP	3000	3	1.18	10,620	9985	111/109	96/97	1.08
49875	*10-Pack*	0.87/0.38	F030/SS	2850	3	1.18	10,090	9485	104/103	97/98	1.15
		0.82/0.35	F028/SS	2725	3	1.18	9650	9070	98/96	98/101	1.23
		0.72/0.31	F025/SS	2475	3	1.18	8760	8235	87/86	101/102	1.37
	QHE 4X32T8/UNV ISH	1.21/0.52	F032/700	2800	4	1.15	12,880	11,590	144/141	89/91	0.82
49922	Banded Pack	1.21/0.52	F032/XP	3000	4	1.15	13,800	12,970	144/141	96/98	0.82
49877	*10-Pack*	1.13/0.49	F030/SS	2850	4	1.15	13,110	12,325	135/133	97/99	0.86
		1.06/0.46	F028/SS	2725	4	1.15	12,535	11,785	127/124	99/101	0.93
		0.94/0.41	F025/SS	2475	4	1.15	11,385	10,700	112/111	102/103	1.04

QHE ISM models above also operate FB032, FB031, F025, FB024, F017, FB016, FB030/SS (30W), FB029/SS (29W)

QHE ISH models above also operate FB032, FB031, FB030/SS (30W) & FB029/SS (29W)

QHE ballasts operate additional T8 lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.

[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.

ecologic3

SYLVANIA OCTRON® ECOLOGIC3 fluorescent lamps are designed to satisfy the Federal Toxicity Characteristic Leaching Procedure (TCLP) criteria for classification as non-hazardous waste in most states.* ECOLOGIC3 represents a more comprehensive approach to sustainability encompassing high efficiency, long life and RoHS/TCLP compliance. *Regulations may vary. Check your local and state regulations.

NEMA Premium

NEMA Premium Ballast (NPB) program compliant. The NPB program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors, (BEF) established by the CEE, (Consortium for Energy Efficiency). For additional information on this program go to: www.cee1.org or www.nema.org.

QUICKTRONIC® High Efficiency T8 Instant Start Systems

NEMA Premium

32 T8 Instant Start Universal Voltage (120-277V) — **Type CC & Lamp Striation Control**

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
				LOW BALLAST FACTOR							
	QHE 1x32T8/UNV ISL-SC-1	0.21/0.093	F032/700	2800	1	0.77	2155	1940	25	86	3.08
49199	Banded Pack	0.21/0.093	F032/XP	3000	1	0.77	2310	2170	25	92	3.08
		0.20/0.087	F030/SS	2850	1	0.77	2195	2065	24	91	3.21
		0.18/0.081	F028/SS	2725	1	0.77	2100	1970	22	95	3.52
		0.16/0.073	F025/SS	2475	1	0.77	1905	1790	21	91	3.67
	QHE 2x32T8/UNV ISL-SC-1	0.40/0.18	F032/700	2800	2	0.77	4310	3880	48	90	1.60
49200	Banded Pack	0.40/0.18	F032/XP	3000	2	0.77	4620	4345	48	96	1.60
		0.38/0.17	F030/SS	2850	2	0.77	4390	4125	45	98	1.71
		0.35/0.16	F028/SS	2725	2	0.77	4195	3945	42	100	1.83
		0.31/0.14	F025/SS	2475	2	0.77	3810	3585	38	100	2.03
	QHE 3x32T8/UNV ISL-SC-1	0.60/0.26	F032/700	2800	3	0.77	6470	5820	73	89	1.05
49367	Banded Pack	0.60/0.26	F032/XP	3000	3	0.77	6930	6515	73	95	1.05
		0.56/0.24	F030/SS	2850	3	0.77	6585	6190	68	96	1.13
		0.53/0.23	F028/SS	2725	3	0.77	6295	5915	64	98	1.20
		0.47/0.20	F025/SS	2475	3	0.77	5715	5375	57	100	1.35
	QHE 4x32T8/UNV ISL-SC-1	0.81/0.35	F032/700	2800	4	0.77	8625	7760	96	90	0.80
49368	Banded Pack	0.81/0.35	F032/XP	3000	4	0.77	9240	8685	96	96	0.80
		0.76/0.33	F030/SS	2850	4	0.77	8780	8250	90	98	0.86
		0.71/0.31	F028/SS	2725	4	0.77	8395	7890	85	99	0.91
		0.63/0.27	F025/SS	2475	4	0.77	7625	7165	76	100	1.01
				NORMAL BALLAST FACTOR							
	QHE 1x32T8/UNV-ISN-SC-1	0.25/0.11	F032/700	2800	1	0.87	2435	2190	28	87	3.11
49381	Banded Pack	0.25/0.11	F032/XP	3000	1	0.87	2610	2455	28	93	3.11
		0.23/0.09	F030/SS	2850	1	0.87	2480	2330	27/26	92/95	3.35
		0.21/0.09	F028/SS	2725	1	0.87	2370	2230	25/24	95/99	3.63
		0.20/0.09	F025/SS	2475	1	0.87	2155	2025	23/22	94/98	3.95
	QHE 2x32T8/UNV-ISN-SC-1	0.47/0.20	F032/700	2800	2	0.87	4870	4385	55	89	1.58
49383	Banded Pack	0.47/0.20	F032/XP	3000	2	0.87	5220	4905	55	95	1.58
		0.44/0.19	F030/SS	2850	2	0.87	4960	4660	52	95	1.67
		0.40/0.18	F028/SS	2725	2	0.87	4740	4455	48/47	99/101	1.85
		0.37/0.16	F025/SS	2475	2	0.87	4305	4050	44/43	98/100	2.02
	QHE 3x32T8/UNV-ISN-SC-1	0.68/0.30	F032/700	2800	3	0.87	7305	6575	82/81	89/90	1.07
49385	Banded Pack	0.68/0.30	F032/XP	3000	3	0.87	7830	7360	82/81	96/97	1.07
		0.65/0.28	F030/SS	2850	3	0.87	7440	6990	77/76	97/98	1.14
		0.61/0.26	F028/SS	2725	3	0.87	7110	6685	72/71	99/100	1.23
		0.55/0.23	F025/SS	2475	3	0.87	6460	6070	65/64	99/101	1.36
	QHE 4x32T8/UNV-ISN-SC-1	0.92/0.39	F032/700	2800	4	0.87	9745	8770	109/107	89/91	0.81
49387	Banded Pack	0.92/0.39	F032/XP	3000	4	0.87	10,440	9815	109/107	96/98	0.81
		0.86/0.37	F030/SS	2850	4	0.87	9920	9325	102	97	0.85
		0.80/0.35	F028/SS	2725	4	0.87	9485	8915	95/94	100/101	0.93
		0.74/0.31	F025/SS	2475	4	0.87	8615	8095	87/86	99/100	1.01

QHE ISL, ISN, TypeCC models above also operate FB032, FB031, F025, FB024, F017, FB016, FB030/SS (30W), FB029/SS (29W)

QHE ballasts operate additional T8 lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.

[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.

All data shown is for primary lamp types only. Complete data is available in the SYLVANIA QUICKTRONIC® Electronic Ballast Technology & Specification Guide and at www.sylvania.com

QUICKTRONIC® High Efficiency T8 Instant Start Systems

NEMA Premium

32 T8 Instant Start Universal Voltage (120-277V) — **Type CC & Lamp Striation Control**

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
				HIGH BALLAST FACTOR							
	QHE 2x32T8/UNV ISH-HT-SC-1	0.63/0.28	F032/700	2800	2	1.18	6610	5945	74/73	91	1.62
49783	Banded Pack	0.63/0.28	F032/XP	3000	2	1.18	7080	6660	74/73	97	1.62
		0.59/0.25	F030/SS	2850	2	1.18	6725	6320	70/69	97	1.71
		0.55/0.23	F028/SS	2725	2	1.18	6430	6045	65/64	100	1.84
		0.50/0.22	F025/SS	2475	2	1.18	5840	5490	58/57	102	2.07
	QHE 4x32T8/UNV ISH-HT-1	1.22/0.52	F032/700	2800	4	1.15	12,880	11,590	144/141	91	0.82
49787	Banded Pack	1.22/0.52	F032/XP	3000	4	1.15	13,800	12,975	144/141	98	0.82
		1.13/0.49	F030/SS	2850	4	1.15	13,110	12,325	135/131	99	0.86
		1.06/0.46	F028/SS	2725	4	1.15	12,535	11,785	127/124	101	0.93
		0.94/0.41	F025/SS	2475	4	1.15	11,385	10,700	112/111	103	1.04

QHE ISH TypeCC models above also operate FBO32, FBO31, FO25, FBO24, FO17, FBO16, FBO30/SS (30W), FBO29/SS (29W)

QHE ballasts operate additional T8 lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.

[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.

QUICKTRONIC® Professional Series T8 Instant Start Systems

32 T8 Instant Start Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
				LOW BALLAST FACTOR							
	QTP 2x32T8/UNV ISL-SC	0.44/0.19	F032/700	2800	2	0.78	4370	3930	51	86	1.53
49834	Banded Pack	0.44/0.19	F032/XP	3000	2	0.78	4680	4400	51	92	1.53
49743	*10-Pack*	0.41/0.18	F030/SS	2850	2	0.78	4445	4180	48	93	1.63
		0.38/0.17	F028/SS	2725	2	0.78	4250	3995	45	94	1.73
		0.34/0.15	F025/SS	2475	2	0.78	3860	3630	40	97	1.95
	QTP 3x32T8/UNV ISL-SC	0.65/0.27	F032/700	2800	3	0.78	6550	5895	75	87	1.04
		0.65/0.27	F032/XP	3000	3	0.78	7020	6600	75	94	1.04
49745	10-Pack	0.60/0.26	F030/SS	2850	3	0.78	6670	6270	71	94	1.10
		0.57/0.25	F028/SS	2725	3	0.78	6380	5995	67	95	1.16
		0.50/0.21	F025/SS	2475	3	0.78	5790	5445	59	98	1.32
	QTP 4x32T8/UNV ISL-SC	0.80/0.35	F032/700	2800	4	0.78	8735	7860	98	89	0.80
		0.80/0.35	F032/XP	3000	4	0.78	9360	8800	98	96	0.80
49747	10-Pack	0.78/0.34	F030/SS	2850	4	0.78	8890	8360	92	97	0.85
		0.73/0.32	F028/SS	2725	4	0.78	8500	7990	86	99	0.91
		0.63/0.28	F025/SS	2475	4	0.78	7720	7260	77	100	1.01
				NORMAL BALLAST FACTOR							
	QTP 1x32T8/UNV ISN-SC	0.26/0.11	F032/700	2800	1	0.88	2465	2220	30	82	2.93
49905	Banded Pack	0.26/0.11	F032/XP	3000	1	0.88	2640	2480	30	88	2.93
49941	*10-Pack*	0.25/0.11	F030/SS	2850	1	0.88	2510	2360	28	90	3.14
49942	*Pallet Pack*	0.23/0.10	F028/SS	2725	1	0.88	2400	2255	26	91	3.38
		0.20/0.09	F025/SS	2475	1	0.88	2180	2050	23	95	3.83
	QTP 2x32T8/UNV ISN-SC	0.50/0.21	F032/700	2800	2	0.88	4930	4435	59	84	1.49
49906	Banded Pack	0.50/0.21	F032/XP	3000	2	0.88	5280	4965	59	89	1.49
49943	*10-Pack*	0.46/0.20	F030/SS	2850	2	0.88	5015	4715	55	91	1.60
49944	*Pallet Pack*	0.43/0.19	F028/SS	2725	2	0.88	4795	4510	52	92	1.69
		0.39/0.16	F025/SS	2475	2	0.88	4355	4095	46	95	1.91
	QTP 3x32T8/UNV ISN-SC	0.72/0.31	F032/700	2800	3	0.88	7390	6650	86	86	1.02
49907	Banded Pack	0.72/0.31	F032/XP	3000	3	0.88	7920	7445	86	92	1.02
49945	*10-Pack*	0.69/0.30	F030/SS	2850	3	0.88	7525	7075	81	93	1.09
49946	*Pallet Pack*	0.65/0.28	F028/SS	2725	3	0.88	7195	6760	76	95	1.16
		0.58/0.25	F025/SS	2475	3	0.88	6535	6140	67	98	1.31
	QTP 4x32T8/UNV ISN-SC	0.95/0.40	F032/700	2800	4	0.88	9855	8870	112	88	0.79
49908	Banded Pack	0.95/0.40	F032/XP	3000	4	0.88	10,560	9925	112	94	0.79
49947	*10-Pack*	0.91/0.39	F030/SS	2850	4	0.88	10,030	9430	105	96	0.84
49948	*Pallet Pack*	0.85/0.37	F028/SS	2725	4	0.88	9590	9015	98	98	0.90
		0.74/0.31	F025/SS	2475	4	0.88	8710	8190	88	99	1.00

Instant Start QTP ISL and ISN also operate these lamps: FB032, FB031, F025, FB024, F017, FB016, FB030/SS (30W), FB029/SS (29W)

Ballasts operate additional T8 lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.

[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each. Pallet Pack contains 840 pieces, (add "-PAL" to Description).

QUICKTRONIC® Professional Series T8 Instant Start Systems

32 T8 Instant Start Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
				HIGH BALLAST FACTOR							
	QTP 1x32T8/UNV ISH-SC	0.33/0.15	F032/700	2800	1	1.20	3360	3025	41	82	2.93
49829	Banded Pack	0.33/0.15	F032/XP	3000	1	1.20	3600	3385	41	88	2.93
		0.31/0.14	F030/SS	2850	1	1.20	3420	3250	39	89	3.07
		0.29/0.13	F028/SS	2725	1	1.20	3270	3075	36	91	3.33
		0.27/0.12	F025/SS	2475	1	1.20	2970	2790	32	93	3.75
	QTP 2x32T8/UNV ISH-SC	0.65/0.28	F032/700	2800	2	1.20	6720	6050	78	86	1.54
49830	Banded Pack	0.65/0.28	F032/XP	3000	2	1.20	7200	6770	78	92	1.54
49843	*10-Pack*	0.61/0.26	F030/SS	2850	2	1.20	6840	6430	73	93	1.64
		0.57/0.25	F028/SS	2725	2	1.20	6540	6150	69	95	1.74
		0.51/0.22	F025/SS	2475	2	1.20	5940	5585	61	97	1.97
	QTP 3x32T8/UNV ISH-SC	0.95/0.41	F032/700	2800	3	1.18	9910	8920	114/111	87/89	1.06
		0.95/0.41	F032/XP	3000	3	1.18	10,620	9985	114/111	93/96	1.06
49845	10-Pack	0.89/0.39	F030/SS	2850	3	1.18	10,090	9485	107/104	94/97	1.13
		0.84/0.36	F028/SS	2725	3	1.18	9645	9070	100/98	97/98	1.20
		0.75/0.32	F025/SS	2475	3	1.18	8760	8235	89/88	98/99	1.34

Instant Start QTP ISH also operate these lamps: FBO32, FBO31, FBO30/SS (30W) & FBO29/SS(29W)

QTP ballasts operate additional T8 lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.

[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.

QUICKTRONIC® High Efficiency T8 PROStart® Systems

NEMA Premium

32 T8 Program Rapid Start Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
				LOW BALLAST FACTOR							
	QTP 1x32T8/UNV PSX-TC	0.21/0.09	F032/700	2800	1	0.71	1990	1790	25	80	2.84
		0.21/0.09	F032/XPS	3100	1	0.71	2200	2070	25	88	2.84
51420	10-Pack	0.21/0.09	F030/SS	2850	1	0.71	2025	1900	24	84	2.96
		0.19/0.09	F028/SS	2725	1	0.71	1935	1820	22	88	3.23
		0.18/0.08	F025/SS	2475	1	0.71	1760	1650	20	88	3.55
	QTP 2x32T8/UNV PSX-TC	0.40/0.17	F032/700	2800	2	0.71	3975	3580	47/46	86	1.54
51225	Banded Pack	0.40/0.17	F032/XPS	3100	2	0.71	4400	4140	47/46	96	1.54
51425	*10-Pack*	0.37/0.16	F030/SS	2850	2	0.71	4045	3805	44/43	94	1.65
		0.35/0.15	F028/SS	2725	2	0.71	3870	3635	41/40	97	1.78
		0.32/0.14	F025/SS	2475	2	0.71	3515	3305	37/36	98	1.97
	QTP 3x32T8/UNV PSX-SC	0.59/0.25	F032/700	2800	3	0.71	5965	5370	73/71	84	1.00
51226	Banded Pack	0.59/0.25	F032/XPS	3100	3	0.71	6600	6205	73/71	93	1.00
51430	*10-Pack*	0.58/0.24	F030/SS	2850	3	0.71	6070	5705	69/67	91	1.06
		0.55/0.23	F028/SS	2725	3	0.71	5805	5455	64/62	94	1.15
		0.48/0.31	F025/SS	2475	3	0.71	5270	4955	57/56	94	1.27
	QTP 4x32T8/UNV PSX-SC	0.78/0.33	F032/700	2800	4	0.71	7950	7155	93/91	87	0.78
51227	Banded Pack	0.78/0.33	F032/XPS	3100	4	0.71	8800	8275	93/91	96	0.78
51435	*10-Pack*	0.74/0.31	F030/SS	2850	4	0.71	8095	7610	88/86	94	0.83
		0.70/0.30	F028/SS	2725	4	0.71	7740	7275	82/80	97	0.89
		0.63/0.27	F025/SS	2475	4	0.71	7030	6605	75/74	95	0.96
				NORMAL BALLAST FACTOR							
				TYPE CC, LAMP STRIATION CONTROL & PARALLEL OPERATION							
	QHE 1x32T8/UNV PSN-MC	0.26/0.11	F032/700	2800	1	0.88	2465	2220	30/29	85	3.03
51397	Banded 10-Pack	0.26/0.11	F032/XPS	3100	1	0.88	2730	2565	30/29	94	3.03
51398	*Pallet Pack*	0.24/0.10	F030/SS	2850	1	0.88	2510	2360	28/26	97	3.38
		0.22/0.10	F028/SS	2725	1	0.88	2400	2255	26/25	96	3.52
		0.20/0.09	F025/SS	2475	1	0.88	2180	2045	23	95	3.83
	QHE 2x32T8/UNV PSN-MC	0.48/0.21	F032/700	2800	2	0.88	4930	4435	57/55	90	1.60
51408	Banded 10-Pack	0.48/0.21	F032/XPS	3100	2	0.88	5455	5130	57/55	99	1.60
51409	*Pallet Pack*	0.46/0.20	F030/SS	2850	2	0.88	5015	4715	55/53	95	1.66
		0.43/0.18	F028/SS	2725	2	0.88	4795	4510	51/50	96	1.76
		0.38/0.16	F025/SS	2475	2	0.88	4355	4095	45/44	99	2.00
	QHE 3x32T8/UNV PSN-SC	0.69/0.29	F032/700	2800	3	0.88	7390	6655	83/82	90	1.07
51413	Banded 10-Pack	0.69/0.29	F032/XPS	3100	3	0.88	8185	7695	83/82	100	1.07
51414	*Pallet Pack*	0.68/0.28	F030/SS	2850	3	0.88	7525	7075	80/78	96	1.13
		0.62/0.27	F028/SS	2725	3	0.88	7195	6760	73/72	100	1.22
		0.56/0.24	F025/SS	2475	3	0.88	6535	6140	67/66	99	1.33
	QHE 4x32T8/UNV PSN-SC	0.93/0.39	F032/700	2800	4	0.88	9855	8870	111/108	91	0.81
51418	Banded 10-Pack	0.93/0.39	F032/XPS	3100	4	0.88	10,910	10,255	111/108	101	0.81
51419	*Pallet Pack*	0.89/0.38	F030/SS	2850	4	0.88	10,030	9430	105/103	97	0.85
		0.83/0.35	F028/SS	2725	4	0.88	9590	9015	98/95	101	0.93
		0.77/0.33	F025/SS	2475	4	0.88	8710	8190	91/89	98	0.99

Ballast models above also operate FB032, FB031, F025, FB024, F017, FB016, FB030/SS (30W), FB029/SS (29W)

Ballasts operate additional T8 lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.

[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each. Pallet Pack contains 840 pieces, (add "-PAL" to Description).

All data shown is for primary lamp types only. Complete data is available in the SYLVANIA QUICKTRONIC® Electronic Ballast Technology & Specification Guide and at www.sylvania.com

QUICKTRONIC® High Efficiency T8 PROStart® Systems

NEMA Premium

32 T8 Program Rapid Start Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
				HIGH BALLAST FACTOR							
				TYPE CC, LAMP STRIATION CONTROL & PARALLEL OPERATION – HIGH AMBIENT TEMPERATURE (90°C Max. Case Temperature)							
	QHE 2x32T8/UNV-PSH-HT	0.60/0.27	F032/700	2800	2	1.15	6440	5795	72/70	92	1.64
49450	Banded Pack	0.60/0.27	F032/XPS	3100	2	1.15	7130	6700	72/70	102	1.64
		0.57/0.25	F030/SS	2850	2	1.15	6555	6160	69/67	98	1.72
		0.53/0.23	F028/SS	2725	2	1.15	6270	5890	63/62	101	1.85
		0.47/0.20	F025/SS	2475	2	1.15	5695	5350	56/55	104	2.09
	QHE 3x32T8/UNV-PSH-HT	0.94/0.4	F032/700	2800	3	1.15	9660	8695	110/108	89	1.06
49453	Banded Pack	0.94/0.4	F032/XPS	3100	3	1.15	10,695	10,055	110/108	99	1.06
		0.88/0.37	F030/SS	2850	3	1.15	9835	9245	104/101	97	1.14
		0.81/0.34	F028/SS	2725	3	1.15	9400	8835	95/93	101	1.24
		0.72/0.31	F025/SS	2475	3	1.15	8540	8025	85/84	102	1.37
	QHE 4x32T8/UNV-PSH-HT	1.22/0.53	F032/700	2800	4	1.15	12,880	11,590	143/141	91	0.82
49455	Banded Pack	1.22/0.53	F032/XPS	3100	4	1.15	14,260	13,405	143/141	101	0.82
		1.13/0.49	F030/SS	2850	4	1.15	13,110	12,325	99/101	101	0.88
		1.06/0.46	F028/SS	2725	4	1.15	12,535	11,785	101/102	102	0.93
		0.95/0.41	F025/SS	2475	4	1.15	11,385	10,700	102/104	104	1.05

Ballast models above also operate FB032, FB031, F025, FB024, F017, FB016, FB030/SS (30W), FB029/SS (29W)

Ballasts operate additional T8 lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.

[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.

QUICKTRONIC® High Efficiency T8HO PROStart® Systems

T8HO PROStart® Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
			NORMAL BALLAST FACTOR								
			HIGH AMBIENT TEMPERATURE (90°C Max. Case Temperature)								
	QHE 2x86T8HO/UNV-PSN-HT	1.54/0.67	F96T8HO (86W)	8200	2	0.95	15,580	14,645	182/178	86/88	0.53
50304	Banded Pack	1.13/0.50	F72T8HO (65W)	6100	2	0.96	11,710	10,540	136/133	86/88	0.72
		0.97/0.44	F60T8HO (55W)	5050	2	0.96	9695	8725	115	84	0.83
		0.72/0.34	F48T8HO (44W)	4000	2	0.96	7680	6910	86/85	89/90	1.13
		0.78/0.36	F96T8HO (86W)	8200	1	0.96	7870	7400	95	83	1.01
		0.62/0.30	F72T8HO (65W)	6100	1	0.96	5855	5270	73	80	1.32
		0.50/0.26	F60T8HO (55W)	5050	1	0.96	4850	4365	60	81	1.60
		0.43/0.24	F48T8HO (44W)	4000	1	0.96	3840	3455	51	75	1.88

Ballasts operate additional T8 lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.

[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.

QUICKTRONIC® High Efficiency 59 T8 (8-foot) Instant Start Systems

59 T8 (8-foot) Instant Start Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
				LOW BALLAST FACTOR							
	QHE 2x59T8/UNV-ISL-SC	0.80/0.34	F096T8/700 (59W)	5700	2	0.77	8780	7900	95/94	92/93	0.82
		0.80/0.34	F096T8/XP (59W)	6100	2	0.77	9395	8830	95/94	99/100	0.82
49869	10-Pack	0.73/0.31	F096T8/54W/XP/SS	5700	2	0.77	8780	8250	87/85	101/103	0.91
		0.67/0.29	F096T8/50W/XP/SS	5400	2	0.75	8100	7615	79/78	103/104	0.96
		0.62/0.27	F072T8/XP	4650	2	0.79	7345	6905	74/73	99/101	1.08
		0.42/0.19	F048T8/XP	2850	2	0.80	4560	4285	50	91	1.60
				NORMAL BALLAST FACTOR							
	QHE 2x59T8/UNV-ISN-SC	0.92/0.40	F096T8/700 (59W)	5700	2	0.88	10,030	9030	109/107	92/94	0.82
50237	Banded Pack	0.92/0.40	F096T8/XP (59W)	6100	2	0.88	10,735	10,090	109/107	98/100	0.82
49859	*10-Pack*	0.84/0.36	F096T8/54W/XP/SS	5700	2	0.88	10,030	9430	99/98	101/102	0.90
		0.76/0.32	F096T8/50W/XP/SS	5400	2	0.85	9180	8630	90/89	102/103	0.96
		0.71/0.31	F072T8/XP	4650	2	0.90	8370	7870	84/83	100/101	1.08
		0.47/0.22	F048T8/XP	2850	2	0.90	5130	4820	56	92	1.61
				HIGH BALLAST FACTOR							
	QHE 2x59T8/UNV-ISH	1.20/0.52	F096T8/700 (59W)	5700	2	1.15	13,110	11,800	144/141	91/93	0.82
		1.20/0.52	F096T8/XP (59W)	6100	2	1.15	14,030	13,190	144/141	97/100	0.82
49879	10-Pack	1.10/0.47	F096T8/54W/XP/SS	5700	2	1.14	12,995	12,215	131/130	99/100	0.88
		1.01/0.43	F096T8/50W/XP/SS	5400	2	1.10	11,880	11,165	119/118	100/101	0.93
		0.91/0.40	F072T8/XP	4650	2	1.15	10,695	10,055	108	99	1.06
		0.62/0.28	F048T8/XP	2850	2	1.18	6725	6320	74	91	1.59

Ballasts operate additional T8 lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.
F096T8/XP/SS (55W) has been re-rated to F096/54W/XP/SS.
[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value uless otherwise noted.
Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.

QUICKTRONIC® Professional Series 59 T8 (8-foot) Instant Start Systems

59 T8 (8-foot) Instant Start Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
				NORMAL BALLAST FACTOR							
	QTP 2x59T8/UNV ISN-SC	0.93/0.40	F096T8/700 (59W)	5700	2	0.88	10,030	9030	112/110	90/91	0.80
49590	Banded Pack	0.93/0.40	F096T8/XP (59W)	6100	2	0.88	10,735	10,090	112/110	96/98	0.80
49598	*10-Pack*	0.85/0.36	F096T8/54W/XP/SS	5700	2	0.88	10,030	9430	104/102	96/98	0.86
		0.70/0.31	F072T8/XP	4650	2	0.89	8275	7780	86/85	96/97	1.05
		0.47/0.21	F048T8/XP	2850	2	0.89	5075	4770	58	88	1.53
		0.56/0.25	F096T8/XP (59W)	6100	1	1.02	6220	5850	67	93	1.52
		0.51/0.22	F096T8/54W/XP/SS	5700	1	1.02	5815	5465	62	94	1.65
		0.43/0.20	F072T8/XP	4650	1	1.02	4745	4460	51	93	2.00
		0.30/0.14	F048T8/XP	2850	1	1.03	2935	2760	36	82	2.86

Ballasts operate additional T8 lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.
F096T8/XP/SS (55W) has been re-rated to F096/54W/XP/SS.
[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value unless otherwise noted.
Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.

QUICKTRONIC® 347 Volt CANADIAN Systems

QUICKTRONIC® High Efficiency 32 T8 Instant Start 347V Systems – CANADA

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
					LOW BALLAST FACTOR						
49471	QHE 1X32T8/347 ISL-SC	0.08	F032/700	2800	1	0.78	2185	1965	25	87	3.12
		0.08	F032/XP	3000	1	0.78	2340	2200	25	94	3.12
		0.07	F030/SS	2850	1	0.78	2220	2090	24	93	3.25
		0.07	F028/SS	2725	1	0.78	2125	2000	22	97	3.55
		0.06	F025/SS	2475	1	0.78	1930	1815	20	97	3.90
49473	QHE 2X32T8/347 ISL-SC	0.14	F032/700	2800	2	0.78	4370	3930	48	91	1.63
		0.14	F032/XP	3000	2	0.78	4680	4400	48	98	1.63
		0.13	F030/SS	2850	2	0.78	4445	4180	46	97	1.70
		0.12	F028/SS	2725	2	0.78	4250	3995	43	99	1.81
		0.12	F025/SS	2475	2	0.78	3860	3630	38	102	2.05
49475	QHE 3X32T8/347 ISL-SC	0.21	F032/700	2800	3	0.78	6550	5895	71	92	1.10
		0.21	F032/XP	3000	3	0.78	7020	6600	71	99	1.10
		0.20	F030/SS	2850	3	0.78	6670	6270	67	100	1.16
		0.18	F028/SS	2725	3	0.78	6380	5995	62	103	1.26
		0.17	F025/SS	2475	3	0.78	5790	5445	55	105	1.42
49477	QHE 4X32T8/347 ISL-SC	0.28	F032/700	2800	4	0.78	8735	7860	96	91	0.81
		0.28	F032/XP	3000	4	0.78	9360	8800	96	98	0.81
		0.26	F030/SS	2850	4	0.78	8890	8360	90	99	0.87
		0.25	F028/SS	2725	4	0.78	8500	7990	84	101	0.93
		0.23	F025/SS	2475	4	0.78	7720	7260	74	104	1.05
					NORMAL BALLAST FACTOR						
49461	QHE 1X32T8/347 ISN-SC	0.08	F032/700	2800	1	0.88	2465	2220	28	88	3.14
		0.08	F032/XP	3000	1	0.88	2640	2480	28	94	3.14
		0.08	F030/SS	2850	1	0.88	2510	2360	27	93	3.26
		0.07	F028/SS	2725	1	0.88	2400	2255	25	96	3.52
		0.07	F025/SS	2475	1	0.88	2175	2045	22	99	4.00
49463	QHE 2X32T8/347 ISN-SC	0.16	F032/700	2800	2	0.88	4925	4435	55	90	1.60
		0.16	F032/XP	3000	2	0.88	5280	4965	55	96	1.60
		0.15	F030/SS	2850	2	0.88	5015	4715	52	96	1.69
		0.14	F028/SS	2725	2	0.88	4800	4510	48	100	1.83
		0.13	F025/SS	2475	2	0.88	4355	4095	43	101	2.05
49465	QHE 3X32T8/347 ISN-SC	0.25	F032/700	2800	3	0.88	7390	6655	83	89	1.06
		0.25	F032/XP	3000	3	0.88	7920	7445	83	95	1.06
		0.24	F030/SS	2850	3	0.88	7525	7075	78	96	1.13
		0.22	F028/SS	2725	3	0.88	7195	6765	74	97	1.19
		0.20	F025/SS	2475	3	0.88	6530	6140	66	99	1.33
49467	QHE 4X32T8/347 ISN-SC	0.33	F032/700	2800	4	0.88	9855	8870	109	90	0.81
		0.33	F032/XP	3000	4	0.88	10,560	9925	109	97	0.81
		0.31	F030/SS	2850	4	0.88	10,030	9430	103	97	0.85
		0.29	F028/SS	2725	4	0.88	9590	9015	97	99	0.91
		0.26	F025/SS	2475	4	0.88	8710	8190	87	100	1.01

Instant Start QHE ISL and ISN models also operate FB032, FB031, F025, FB024, F017, FB016, FB030/SS (30W), FB029/SS (29W)

Ballasts operate additional lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.

[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

All data shown is for primary lamp types only. Complete data is available in the SYLVANIA QUICKTRONIC® Electronic Ballast Technology & Specification Guide and at www.sylvania.com

QUICKTRONIC® 347 Volt CANADIAN Systems

QUICKTRONIC® Professional Series 32T8 Instant Start 347V Systems – CANADA

NORMAL BALLAST FACTOR

49713	QTP 2x32T8/347 ISN-SC	0.165	FO32/XP	3000	2	0.88	5280	4965	59	89	1.49
49715 *49716*	QTP 3x32T8/347 ISN-SC *Pallet Pack*	0.25	FO32/XP	3000	3	0.88	7920	7445	86	92	1.02
49717 *49718*	QTP 4x32T8/347 ISN-SC *Pallet Pack*	0.33	FO32/XP	3000	4	0.88	10,560	9925	112	94	0.78

QTP ISN models above also operate FBO32, FBO31, FO25, FBO24, FO17, FBO16, FO30/SS (30W), FBO30/SS (30W), FBO29/SS (29W), FO28/SS (28W), FO25/SS (25W)

QUICKTRONIC® 32 T8 Instant Start 347V Systems – CANADA

HIGH BALLAST FACTOR

49927	QT 2x32T8/347 ISH-SC	0.23	FO32/XP	3000	2	1.2	7200	6770	78	92	1.54

Instant Start QT ISH model above also operates these lamps: FO30/SS, FO28/SS, FO25/SS, FBO32, FBO31, FBO30/SS & FBO29/SS
QT2x32T8/347 ISH-SC model only operates 2 lamps (no 1-lamp operation).

QUICKTRONIC® 59 T8 (8-foot) 347V Systems – CANADA

NORMAL BALLAST FACTOR

49217	QT 2x59/347 IS	0.33	FO96T8 XP(59W)	6100	2	0.88	10,735	10,090	110	98	0.8

QT IS 2x59 model above also operates the FO96/SS lamp (55W)

[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value unless otherwise noted.
Pallet Pack contains 840 pieces, (add "– PAL" to Description).

QUICKTRONIC® High Efficiency Bi-level Step Dimming PROStart® Systems

32 T8 QUICKSTEP® (Bi-Level) Dimming Systems (120-277V)

NEMA Premium

Item Number	OSRAM SYLVANIA Description		Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
					LOW BALLAST FACTOR (100% to 50%)							
	QHES 2x32T8/UNV PSL-SC	(@100%)	0.40/0.18	F032/XPS	3100	2	0.77	4775	4490	48	99	1.60
49158	Banded Pack	(@50%)	0.20/0.09	F032/XPS	3100	2	0.25	1550	1455	24	65	1.04
		(@100%)	0.39/0.17	F030/SS	2850	2	0.77	4390	4125	46	95	1.67
		(@50%)	0.20/0.09	F030/SS	2850	2	0.25	1425	1340	23	62	1.09
		(@100%)	0.36/0.16	F028/SS	2725	2	0.77	4195	3945	42	100	1.83
		(@50%)	0.19/0.09	F028/SS	2725	2	0.25	1365	1280	22	62	1.14
		(@100%)	0.32/0.14	F025/SS	2475	2	0.77	3810	3585	38	100	2.03
		(@50%)	0.18/0.08	F025/SS	2475	2	0.25	1240	1165	21	59	1.19
		(@100%)	0.21/0.10	F032/XPS	3100	1	0.78	2420	2275	25	97	3.12
		(@50%)	0.12/0.06	F032/XPS	3100	1	0.25	775	730	15	52	1.67
		(@100%)	0.20/0.09	F030/SS	2850	1	0.78	2225	2090	24	93	3.25
		(@50%)	0.12/0.06	F030/SS	2850	1	0.25	715	670	15	48	1.67
		(@100%)	0.18/0.09	F028/SS	2725	1	0.78	2125	2000	22	97	3.55
		(@50%)	0.12/0.06	F028/SS	2725	1	0.25	680	640	14	49	1.79
		(@100%	0.17/0.07	F025/SS	2475	1	0.78	1930	1815	20	97	3.90
		(@50%)	0.11/0.05	F025/SS	2475	1	0.25	620	580	13	48	1.92
					NORMAL BALLAST FACTOR (100% to 50%)							
	QHES 2x32T8/UNV PSN-SC	(@100%)	0.46/0.20	F032/XPS	3100	2	0.87	5395	5070	55/54	100	1.61
49157	Banded Pack	(@50%)	0.23/0.10	F032/XPS	3100	2	0.34	2110	1980	27	78	1.26
		(@100%)	0.44/0.19	F030/SS	2850	2	0.87	4960	4660	53/52	95	1.67
		(@50%)	0.22/0.10	F030/SS	2850	2	0.34	1940	1820	26	75	1.31
		(@100%)	0.40/0.18	F028/SS	2725	2	0.88	4795	4510	49	98	1.80
		(@50%)	0.22/0.10	F028/SS	2725	2	0.34	1855	1740	25	74	1.36
		(@100%)	0.37/0.16	F025/SS	2475	2	0.88	4355	4095	43	101	2.05
		(@50%)	0.21/0.10	F025/SS	2475	2	0.34	1685	1580	24	70	1.42
		(@100%)	0.21/0.10	F032/XPS	3100	1	0.87	2695	2535	28/29	93	3.00
		(@50%)	0.12/0.06	F032/XPS	3100	1	0.34	1055	990	16/17	62	2.00
		(@100%)	0.21/0.10	F030/SS	2850	1	0.87	2480	2330	26	95	3.35
		(@50%)	0.12/0.06	F030/SS	2850	1	0.34	970	910	16	61	2.13
		(@100%)	0.21/0.10	F028/SS	2725	1	0.88	2400	2255	25	96	3.52
		(@50%)	0.12/0.06	F028/SS	2725	1	0.34	925	870	15	62	2.27
		(@100%)	0.20/0.09	F025/SS	2475	1	0.88	2180	2045	23	95	3.83
		(@50%)	0.12/0.05	F025/SS	2475	1	0.34	840	790	14	60	2.43

QUICKTRONIC® Professional Series Bi-level Step Dimming PROStart® Systems

54 T5HO QUICKSTEP® (Bi-Level) FP54T5HO Dimming Systems (120-277V)

Item Number	OSRAM SYLVANIA Description		Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
					0.80 BALLAST FACTOR (100% to 50%)							
49419	QS 2x54T5HO/UNV PS80SC	(@100%)	0.80/0.34	FP54T5HO	5000	2	0.80	8000	7440	96/93	83/86	0.86
		(@50%)	0.44/0.19	FP54T5HO	5000	2	0.40	4000	3720	52/51	77/78	0.78

T5HO at 35°C lamp ambient temperature

Ballasts operate additional lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.

[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

All data shown is for primary lamp types only. Complete data is available in the SYLVANIA QUICKTRONIC® Electronic Ballast Technology & Specification Guide and at www.sylvania.com

QUICKTRONIC® High Efficiency Full Range Dimming PROStart® Systems

32 T8 POWERSENSE® T8 Dimming Systems (120-277V)

Full Range Dimming

Item Number	OSRAM SYLVANIA Description		Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
NORMAL BALLAST FACTOR (100% through 5%)												
50705	QTP 1x32T8/UNV DIM-TC	(@100%)	0.27/0.12	FO32/XPS	3100	1	0.88	2730	2565	30	91	2.93
		(@5%)				1	0.05	155	145	8		
50707	QTP 2x32T8/UNV DIM-TC	(@100%)	0.54/0.24	FO32/XPS	3100	2	0.88	5455	5130	59/57	92/96	1.54
		(@5%)				2	0.05	310	290	14		
50714	QTP 3x32T8/UNV DIM-TCL	(@100%)	0.73/0.30	FO32/XPS	3100	3	0.88	8185	7695	87/84	94/97	1.05
		(@5%)				3	0.05	465	435	20		
50716	QTP 4x32T8/UNV DIM-TCL	(@100%)	0.96/0.40	FO32/XPS	3100	4	0.88	10,910	10,255	114/110	96/99	0.80
		(@5%)				4	0.05	620	585	27		

T8 POWERSENSE® models above also operate FO25, FO17, FO30/SS, FO28/SS, FO25/SS, FB032, FB031, FB024, FB016. See full specifications for details and controls.

28 T5 POWERSENSE® T5 Dimming Systems (120-277V)

Full Range Dimming

Item Number	OSRAM SYLVANIA Description		Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
NORMAL BALLAST FACTOR (100% through 1%)												
50726	QTP 2x28T5/UNV DIM-TCL	(@100%)	0.53/0.23	FP28T5	2900	2	1.00	5800	5400	64/62	91/93	1.61
		(@1%)					0.01	58	55	10		
		(@100%)	0.67/0.29	FP35T5	3650	2	1.00	7300	6790	81/79	90/92	1.27
		(@1%)					0.01	73	70	10		
		(@100%)	0.40/0.18	FP21T5	2100	2	1.00	4200	3905	49	86	2.04
		(@1%)					0.01	42	40	9		
		(@100%)	0.29/0.13	FP14T5	1350	2	1.00	2700	2510	34	79	2.94
		(@1%)					0.01	27	25	8		

POWERSENSE® ballasts work with Fluorescent Power Line Dimmers and 0-10VDC controls. For a list of available controls, please refer to the ECOLOGIC® control section in this catalog or visit http://www.sylvania.com.

High Efficiency, T5HO Controllable Lighting Systems, Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp[1] Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Mean[1] Lumens	Input[1] Power (W) 120V	277V	System Efficacy[3] (lm/W)	BEF[2]
51467	QHE 2x54T5HO/UNV DIM-TCL	1.00/0.42	FP54T5HO	5000	2	1.00	10,000	9300	120	116	86	0.86
						0.01	100	95	15	15		
	10-pack	1.00/0.42	FT55DL	4800	2	1.00	9600	8930	120	116	83	0.86
						0.01	95	90	15	15		
		1.00/0.42	L58	5200	2	1.00	10,400	9670	120	116	90	0.86
						0.01	105	95	15	15		
		1.00/0.42	FPC55	4000	2	1.00	8000	7440	120	116	69	0.86
						0.01	80	75	15	15		

[1] *At 35ºC lamp ambient temperature.*
[2] *Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).*
[3] *System Efficacy calculation based on lowest input power value.*

QUICKTRONIC® Professional Series Full Range Dimming PROStart® Systems

54 T5HO HELIOS™ (0-10 VDC) T5HO Dimming Systems (120-277V)

Full Range Dimming

Item Number	OSRAM SYLVANIA Description		Input Voltage (VAC)	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
					NORMAL BALLAST FACTOR (100% through 1%)							
	QT 1x54/120PHO-DIM	(@100%)	120	0.54	FP54T5HO	5000	1	1.00	5000	62	81	1.61
49671	20-Pack	(@1%)						0.01	50	8		
	QT 1x54/277PHO-DIM	(@100%)	277	0.23	FP54T5HO	5000	1	1.00	5000	61	82	1.64
49672	20-Pack	(@1%)						0.01	50	8		
	QT 2x54/120PHO-DIM	(@100%)	120	1.07	FP54T5HO	5000	2	1.00	10,000	120	83	0.83
49673	20-Pack	(@1%)						0.01	100	18		
	QT 2x54/277PHO-DIM	(@100%)	277	0.45	FP54T5HO	5000	2	1.00	10,000	117	85	0.85
49674	20-Pack	(@1%)						0.01	100	18		

HELIOS™ ballasts work with 0-10VDC controls. For a list of available controls, please refer to the ECOLOGIC® control section in this catalog or visit http://www.sylvania.com.

T5/T5HO at 35°C lamp ambient temperature
Ballasts operate additional lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.
[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

HELIOS™ (0-10V) CF Fluorescent Dimming Systems, UNV (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[1] (lm/W)	BEF[2]
			0.80 BALLAST FACTOR (100% to 50%)								
	QTP 2x26CF/UNV DIM-DM	0.44/0.19	26W DD/E, DT/E	1800	2	1.00	3600	3095	53/53	68	1.89
51836	(20-pack)					0.03	110	95	12/12		
		0.32/0.14	18W DD/E, DT/E	1200	2	1.00	2400	2065	38/37	65	2.70
						0.03	70	60	10/10		
		0.26/0.11	13W DD/E, DT/E	900	2	1.00	1800	1550	30/30	60	3.33
						0.03	55	45	8/8		
		0.39/0.17	42W DT/E	3200	1	1.00	3200	2750	46/46	70	2.17
						0.03	95	85	7/7		
		0.29/0.13	32W DT/E	2400	1	1.00	2400	2065	34/34	71	2.94
						0.03	70	60	7/7		
		0.24/0.11	26W DD/E, DT/E	1800	1	1.00	1800	1550	29/29	62	3.45
						0.03	55	45	7/7		
		0.17/0.08	18W DD/E, DT/E	1200	1	1.00	1200	1030	21/21	57	4.76
						0.03	35	30	6/6		
		0.14/0.07	13W DD/E, DT/E	900	1	1.00	900	775	17/17	53	5.88
						0.03	25	20	5/5		

[1] System Efficacy calculation based on lowest input power value.
[2] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

All data shown is for primary lamp types only. Complete data is available in the SYLVANIA QUICKTRONIC® Electronic Ballast Technology & Specification Guide and at www.sylvania.com

QUICKTRONIC® DALI Dimming Systems

32 T8 DALI Dimming Systems (120-277V)

Full Range Dimming

Item Number	OSRAM SYLVANIA Description		Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[1] (lm/W)	BEF[1]
					DALI (100% through 1%)							
51350	QTP 1x32T8/UNV DALI	(@100%)	0.31/0.13	FO32/XP	3000	1	1.00	3000	2820	36	83	2.78
		(@1%)					0.01	30	28	6		
51352	QTP 2x32T8/UNV DALI	(@100%)	0.61/0.26	FO32/XP	3000	2	1.00	6000	5640	72/70	83/86	1.43
		(@1%)					0.01	60	56	12		

High Efficiency, DALI T8 Dimming Systems, Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	Initial System Lumens	Mean System Lumens	System Power (W) 120V	System Power (W) 277V	System Efficacy[1] (lm/W)	BEF[2]
51355	QHE 2x32T8/UNV DALI *20-pack*	0.56/0.24	FO32XP	3000	2	1.00	6000	5640	66	65	92	1.54
						0.03	180	170	13	13		
		0.53/0.23	FO30/SS	2850	2	1.00	5700	5360	63	61	93	1.64
						0.03	170	160	13	13		
		0.49/0.21	FO28/SS	2725	2	1.00	5450	5070	58	57	96	1.75
						0.03	165	150	13	13		
		0.45/0.20	FO25/SS	2475	2	1.00	4950	4605	53	52	95	1.92
						0.03	150	140	13	13		
		0.43/0.19	FO25/XP	2175	2	1.00	4350	4045	51	50	87	2.00
						0.03	130	120	12	13		
		0.31/0.14	FO17/XP	1375	2	1.00	2750	2560	37	36	76	2.78
						0.03	85	75	12	12		

[1] System Efficacy is based on the lowest System Power.
[2] (BEF) Ballast Efficiency Factor shown = (Ballast Factor x 100) divided by System Power (Note: calculation based on lowest system power).
** 51355 QHE2x32T8/UNV DALI replaces 51352 QTP2x32T8/UNV DALI. Please note new lamp wiring.*

T5 DALI Dimming Systems (120-277V)

Full Range Dimming

Item Number	OSRAM SYLVANIA Description		Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
					DALI (100% through 1%)							
51357	QTP 1x14T5/UNV DALI	(@100%)	0.15/0.07	FP14T5	1350	1	1.00	1350	1255	19	71	5.26
		(@1%)					0.01	14	13	6		
51359	QTP 2x14T5/UNV DALI	(@100%)	0.29/0.13	FP14T5	1350	2	1.00	2700	2510	35	77	2.86
		(@1%)					0.01	27	25	10		
51356☼	QTP 1x28T5/UNV DALI	(@100%)	0.27/0.11	FP28T5	2900	1	1.00	2900	2695	33	88	3.03
		(@1%)					0.01	29	27	7		
51358☼	QTP 2x28T5/UNV DALI	(@100%)	0.55/0.23	FP28T5	2900	2	1.00	5800	5395	64/62	91/94	1.61
		(@1%)					0.01	58	54	12		

T5/T5HO at 35°C lamp ambient temperature
Ballasts operate additional lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.
DALI ballasts works with DALI controls. Please contact DALI control manufacturers for additional details. Also go to www.lightingcontrolsassociation.org.
[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value unless otherwise noted.
☼ Ballasts will be replaced by QHE High Efficiency DALI models. Contact OSRAM SYLVANIA for product availability and detailed specifications.

QUICKTRONIC® DALI Dimming Systems

T5 DALI Dimming Systems (120-277V)

Full Range Dimming 

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	Initial System Lumens	Mean System Lumens	System Power (W) 120V	System Power (W) 277V	System Efficacy[1] (lm/W)	BEF[2]
51456	QHE 1x28T5/UNV DALI	0.27/0.12	FP28T5	2900	1	1.00	2900	2725	32	31	94	3.23
	20-pack					0.01	30	25	8	8		
51458	QHE 2x28T5/UNV DALI	0.52/0.22	FP28T5	2900	2	1.00	5800	5450	62	60	97	1.67
	20-pack					0.01	60	55	12	12		

[1] System Efficacy is based on the lowest System Power.
[2] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by System Power (Note: calculation based on lowest system power).

54 T5HO DALI Dimming Systems (120-277V)

Full Range Dimming 

Item Number	OSRAM SYLVANIA Description		Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
	DALI (100% through 1%)											
51366☼	QTP 2x54T5HO/UNV DALI	(@100%)	1.05/0.44	FP54T5HO	5000	2	1.00	10,000	9300	117/115	85/87	0.87
		(@1%)					0.01	100	93	22/24		

T5/T5HO at 35°C lamp ambient temperature
Ballasts operate additional lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.
DALI ballasts works with DALI controls. Please contact DALI control manufacturers for additional details. Also go to www.lightingcontrolsassociation.org.
[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value unless otherwise noted.
☼Ballasts will be replaced by QHE High Efficiency DALI models. Contact OSRAM SYLVANIA for product availability and detailed specifications.

54 T5HO DALI Dimming Systems (120-277V)

Full Range Dimming 

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	Initial System Lumens	Mean System Lumens	System Power (W) 120V	System Power (W) 277V	System Efficacy[1] (lm/W)	BEF[2]
51464	QHE 1x54T5HO/UNV DALI	0.52/0.22	FP54T5HO	5000	1	1.00	5000	4700	62	60	83	1.67
	20-pack					0.01	50	45	10	10		
51466	QHE 2x54T5HO/UNV DALI	1.0/0.42	FP54T5HO	5000	2	1.00	10,000	9400	119	116	86	0.86
	20-pack					0.01	100	95	15	15		

[1] System Efficacy is based on the lowest System Power.
[2] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by System Power (Note: calculation based on lowest system power).

QUICKTRONIC® DALI Dimming Systems

CFL (18W / 26W / 32W / 40W / 42W) DALI Dimming Systems (120-277V) Full Range Dimming

Item Number	OSRAM SYLVANIA Description		Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
					DALI (100% through 3%)							
51370	QTP 1x18CF/UNV DALI	(@100%)	0.18/0.08	18W	1200	1	1.00	1200	1030	20	60	5.00
		(@3%)		DD/E, T/E			0.03	35	30			
51372	QTP 2x18CF/UNV DALI	(@100%)	0.33/0.14	18W	1200	2	1.00	2400	2065	39/38	61/63	2.63
		(@3%)		DD/E, T/E			0.03	70	60			
51375	QTP 1x26CF/UNV DALI	(@100%)	0.24/0.10	26W	1800	1	1.00	1800	1550	28	64	3.57
		(@3%)		DD/E, T/E			0.03	55	45	8		
51377	QTP 2x26CF/UNV DALI	(@100%)	0.49/0.22	26W	1800	2	1.00	3600	3095	55/54	65/67	1.85
		(@3%)		DD/E, T/E			0.03	110	95	14		
51384	QTP 1x42CF/UNV DALI	(@100%)	0.43/0.19	42W DT/E	3200	1	1.00	3200	2750	50	64	2.00
		(@3%)					0.03	95	85	11/13		
51386	QTP 2x42CF/UNV DALI	(@100%)	0.82/0.36	42W DT/E	3200	2	1.00	6400	5505	100/98	64/65	1.10
		(@3%)					0.03	190	165	17/19		
51390	QTP 1x40TT5/UNV DALI	(@100%)	0.41/0.17	40W DL	3150	1	1.00	3150	2710	45/44	70/72	2.27
		(@3%)					0.03	95	80			
51392	QTP 2x40TT5/UNV DALI	(@100%)	0.83/0.37	40W DL	3150	2	1.00	6300	5420	97/94	65/67	1.06
		(@3%)					0.03	190	165			

T5/T5HO at 35°C lamp ambient temperature
Ballasts operate additional lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.
DALI ballasts works with DALI controls. Please contact DALI control manufacturers for additional details. Also go to www.lightingcontrolsassociation.org.
[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

DALI Controls Information
Siemens Building Technology – http://sbt.siemens.com
Cooper – http://greengate.coopercontrol.com
Crestron – www.crestron.com
Hunt Dimming – www.huntdimming.com
Leviton – www.leviton.com
Starfield Controls – www.starfieldcorp.com
Watt Stopper – www.wattstopper.com
Please contact controls manufacturer to order/specify controls. For the latest controls list go to www.sylvania.com. Also for more information, check out the LCA (Lighting Controls Association) site: www.lightingcontrolsassociation.org.

QUICKTRONIC® High Efficiency T5 & T5HO PROStart® Systems

28 T5, Type CC, Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power 120V	Input Power 277V	System Efficacy[2] (lm/W)	BEF[1]
	QHE 2x28T5/UNV PSN	0.55/0.23	FP28T5	2900	2	1.00	5800	5395	63	62	94	1.61
51473	20-pack (connectors/no leads)	0.68/0.29	FP35T5	3650	2	0.99	7225	6720	80	78	93	1.27
(51472)*	10-pack (with leads)	0.39/0.18	FP21T5	2100	2	1.01	4240	3945	47	46	92	2.20
		0.27/0.13	FP14T5	1350	2	1.03	2780	2585	32	32	87	3.22
		0.27/0.12	FP28T5	2900	1	1.00	2900	2695	33	32	91	3.13
		0.34/0.15	FP35T5	3650	1	1.02	3725	3460	41	40	93	2.55
		0.21/0.10	FP21T5	2100	1	1.04	2185	2030	25	24	91	4.33
		0.15/0.07	FP14T5	1350	1	1.03	1390	1295	17	17	82	6.06

54 T5HO, Type CC, Universal Voltage (120-277V)

	QHE 2x54T5HO/UNV PSN	1.00/0.43	FP54T5HO	5000	2	1.00	10,000	9300	119	116	86	0.86
51471	20-pack (connectors/no leads)	0.94/0.40	FP54/50W/SS	5000	2	1.02	10,200	9485	112	109	94	0.94
	QHE 2x54T5HO/UNV PSN-MCL	0.89/0.38	FP54/47W/SS	4575	2	1.02	9335	8680	105	103	91	0.99
(51470)*	10-pack (with leads)	0.88/0.37	FT55DL	4800	2	0.86	8255	7680	106	105	79	0.82
		0.90/0.42	FT50DL	4300	2	1.04	8945	8320	110	108	83	0.96
		0.92/0.39	L58	5200	2	0.85	8840	8220	111	108	82	0.79
		0.82/0.35	FPC55	4000	2	0.80	6400	5950	96	94	68	0.85
	QHE 2x39/24T5HOUNV PSN	0.53/0.23	FP54T5HO	5000	1	1.05	5250	4885	62	61	86	1.72
51479	20-pack (connectors/no leads)	0.49/0.21	FP54/50W/SS	5000	1	1.05	5250	4885	58	58	91	1.81
	QHE 2x39/24T5HOUNV PSN	0.45/0.20	FP54/47W/SS	4575	1	1.03	4710	4380	53	53	89	1.94
(51478)*	10-pack (with leads)	0.49/0.21	FT55DL	4800	1	0.92	4415	4105	56	55	80	1.67
		0.51/0.22	FT50DL	4300	1	1.09	4685	4360	57	57	82	1.91
		0.48/0.21	L58	5200	1	0.87	4525	4205	57	57	79	1.53
		0.45/0.20	FPC55	4000	1	0.81	3240	3015	49	49	66	1.65

54 T5HO, Type CC, High Ambient Temperature (HT-90ºC max case temp) Universal Voltage (120-277V)

	QHE 2x54T5HO/UNV PSN-HT	1.00/0.43	FP54T5HO	5000	2	1.00	10,000	9300	119	116	86	0.86
51476	20-pack (connectors/no leads)	0.94/0.40	FP54/50W/SS	5000	2	1.02	10,200	9485	112	109	94	0.94
	QHE 2x54T5HO/UNV PSN-HT-MCL	0.89/0.38	FP54/47W/SS	4575	2	1.02	9375	8720	105	103	91	0.99
(51475)*	10-pack (with leads)	0.88/0.37	FT55DL	4800	2	0.86	8255	7680	106	105	79	0.82
		0.99/0.42	FT50DL	4300	2	1.04	8945	8320	110	108	83	0.96
		0.92/0.39	L58	5200	2	0.85	8840	8220	111	108	82	0.79
		0.82/0.35	FPC55	4000	2	0.80	6400	5950	96	94	68	0.85
		0.53/0.23	FP54T5HO	5000	1	1.05	5250	4885	62	61	86	1.72
		0.49/0.21	FP54/50W/SS	5000	1	1.05	5250	4885	58	58	91	1.81
		0.45/0.20	FP54/47W/SS	4575	1	1.03	4690	4365	53	53	88	1.94
		0.49/0.21	FT55DL	4800	1	0.92	4415	4105	56	55	80	1.67
		0.51/0.22	FT50DL	4300	1	1.09	4685	4360	57	57	82	1.91
		0.48/0.21	L58	5200	1	0.87	4525	4205	57	57	79	1.53
		0.45/0.20	FPC55	4000	1	0.81	3240	3015	49	49	66	1.65

T5/T5HO at 35°C lamp ambient temperature
(Item Number) = Item Number/NAED in parentheses are models with leads/wires. No parenthesis = Ballasts with connectors only/no leads.*
Ballasts operate additional lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.
[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

All data shown is for primary lamp types only. Complete data is available in the SYLVANIA QUICKTRONIC® Electronic Ballast Technology & Specification Guide and at www.sylvania.com

QUICKTRONIC® High Efficiency T5 & T5HO PROStart® Systems

54 T5HO, Type CC, High Ambient Temperature (HT-90ºC max case temp) Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power 120V	Input Power 277V	System Efficacy[2] (lm/W)	BEF[1]
				QHE 4x54T5HO Switchable Model								
	QHE 4x54T5HO/UNV PSN-HT-SCL	2.00/0.90	FP54T5HO	5000	4	1.00	20,000	18,600	233	226	88	0.44
(51480)*	10-pack (with leads)	1.77/0.76	FP54/50W/SS	5000	4	1.02	20,400	18,970	213	209	98	0.49
		1.75/0.75	FP54/47W/SS	4575	4	1.02	18,665	17,360	210	204	91	0.50
		1.82/0.78	FT55DL	4800	4	0.91	17,470	16,250	218	213	82	0.43
		1.90/0.81	FT50DL	4300	4	1.02	17,545	16,315	227	222	79	0.46
		1.87/0.89	L58	5200	4	0.87	18,095	16,830	223	216	84	0.40
		1.77/0.77	FPC55	4000	4	0.88	14,080	13,095	212	210	67	0.42
		1.50/0.65	FP54T5HO	5000	3	1.03	15,450	14,370	182	179	86	0.58
		1.43/0.62	FP54/50W/SS	5000	3	1.04	15,600	14,510	171	167	93	0.62
		1.34/0.58	FP54/47W/SS	4575	3	1.04	14,275	13,275	160	156	92	0.67
		1.39/0.60	FT55DL	4800	3	0.92	13,250	12,320	166	163	81	0.56
		1.43/0.62	FT50DL	4300	3	1.03	13,285	12,355	170	167	80	0.62
		1.42/0.61	L58	5200	3	0.89	13,885	12,910	169	166	84	0.54
		1.38/0.60	FPC55	4000	3	0.92	11,040	10,265	164	162	68	0.57
		1.00/0.45	FP54T5HO	5000	2	1.02	10,200	9485	120	118	86	0.86
		0.95/0.42	FP54/50W/SS	5000	2	1.03	10,300	9580	110	107	96	0.96
		0.88/0.39	FP54/47W/SS	4575	2	1.03	9425	8765	104	102	92	1.01
		0.92/0.41	FT55DL	4800	2	0.93	8930	8305	110	107	83	0.87
		0.94/0.42	FT50DL	4300	2	1.04	8945	8320	112	109	82	0.95
		0.93/0.41	L58	5200	2	0.88	9150	8510	112	109	84	0.81
		0.91/0.41	FPC55	4000	2	0.90	7200	6695	109	106	68	0.85
		0.51/0.25	FP54T5HO	5000	1	1.05	5250	4885	60	59	89	1.78
		0.49/0.24	FP54/50W/SS	5000	1	1.06	5300	4930	57	56	95	1.89
		0.45/0.23	FP54/47W/SS	4575	1	1.06	4850	4510	54	53	92	2.00
		0.47/0.23	FT55DL	4800	1	0.90	4320	4020	56	55	79	1.64
		0.48/0.24	FT50DL	4300	1	1.04	4470	4160	57	57	78	1.82
		0.49/0.24	L58	5200	1	0.90	4680	4350	58	57	82	1.58
		0.48/0.24	FPC55	4000	1	0.95	3800	3535	57	55	69	1.73

T5/T5HO at 35°C lamp ambient temperature
(Item Number) = Item Number/NAED in parentheses are models with leads/wires. No parenthesis = Ballasts with connectors only/no leads.*
Ballasts operate additional lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.
[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

QUICKTRONIC® T5HO 347-480V Systems

QUICKTRONIC® High Efficiency T5HO PROStart® 347-480V Systems

54 T5HO, Type CC, High Ambient Temperature (HT-90ºC max case temp) 347-480V

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W) 347V	Input Power (W) 480V	System Efficacy[2] (lm/W)	BEF[1]
				QHE 2x54T5HO Fixed Output								
	QHE 2x54T5HO/347-480 PSN-HT	0.35/0.25	FP54T5HO	5000	2	1.00	10,000	9300	118	117	85	0.85
51486	20-pack (Connectors/no leads)	0.30/0.23	FP54/50W/SS	5000	2	1.00	10,000	9300	109	108	93	0.93
	QHE 2x54T5HO/347-480 PSN-HT-MCL	0.30/0.22	FP54/47W/SS	4575	2	1.02	9335	8680	104	102	92	1.00
51485	10-pack (with leads)	0.32/0.23	FT55DL	4800	2	0.86	8255	7680	104	103	80	0.83
		0.33/0.24	FT50DL	4300	2	1.00	8600	8000	109	108	80	0.93
		0.31/0.22	L58	5200	2	1.00	10,400	9670	108	107	97	0.93
		0.26/0.22	FPC55	4000	2	0.75	6000	5580	91	90	67	0.83
		0.18/0.14	FP54T5HO	5000	1	1.00	5000	4650	60	59	85	1.69
		0.16/0.11	FP54/50W/SS	5000	1	1.01	5050	4695	56	55	92	1.84
		0.15/0.11	FP54/47W/SS	4575	1	0.98	4484	4170	52	51	88	1.92
		0.17/0.13	FT55DL	4800	1	0.87	4175	3885	55	54	77	1.61
		0.18/0.14	FT50DL	4300	1	1.02	4385	4080	57	56	78	1.82
		0.17/0.12	L58	5200	1	0.87	4525	4205	56	55	82	1.58
		0.14/0.11	FPC55	4000	1	0.77	3080	2864	48	47	66	1.64
				QHE 4x54T5HO Switchable								
	QHE 4x54T5HO/347-480 PSN-HT-SCL	0.67/0.48	FP54T5HO	5000	4	1.00	20,000	18,600	232	228	88	0.44
51481	10-pack (with leads)	0.63/0.45	FP54/50W/SS	5000	4	1.02	20,400	18,970	212	207	99	0.49
		0.59/0.43	FP54/47W/SS	4575	4	1.02	18,665	17,360	205	203	92	0.50
		0.63/0.46	FT55DL	4800	4	0.91	17,470	16,250	217	215	81	0.42
		0.66/0.48	FT50DL	4300	4	1.02	17,545	16,315	225	222	79	0.46
		0.62/0.45	L58	5200	4	0.97	20,175	18,765	214	213	95	0.46
		0.51/0.37	FPC55	4000	4	0.88	14,080	13,095	181	175	80	0.50
		0.51/0.37	FP54T5HO	5000	3	1.03	15,450	14,370	178	177	87	0.58
		0.48/0.35	FP54/50W/SS	5000	3	1.02	15,300	14,230	165	164	93	0.62
		0.45/0.33	FP54/47W/SS	4575	3	1.04	14,275	13,275	156	155	92	0.67
		0.48/0.35	FT55DL	4800	3	0.92	13,250	12,320	165	163	81	0.56
		0.49/0.36	FT50DL	4300	3	1.03	13,285	12,355	170	167	80	0.62
		0.47/0.34	L58	5200	3	0.97	15,130	14,075	162	162	93	0.60
		0.41/0.30	FPC55	4000	3	0.92	11,040	10,265	144	141	78	0.65
		0.33/0.24	FP54T5HO	5000	2	1.03	10,300	9580	118	116	89	0.89
		0.32/0.24	FP54/50W/SS	5000	2	1.02	10,200	9485	108	106	96	0.96
		0.30/0.23	FP54/47W/SS	4575	2	1.03	9425	8765	103	101	93	1.02
		0.31/0.24	FT55DL	4800	2	0.93	8930	8305	107	106	84	0.88
		0.33/0.24	FT50DL	4300	2	1.04	8945	8320	112	109	82	0.95
		0.31/0.23	L58	5200	2	0.97	10,090	9385	106	106	95	0.92
		0.27/0.20	FPC55	4000	2	0.90	7200	6695	91	89	81	1.01
		0.17/0.13	FP54T5HO	5000	1	1.05	5250	4885	59	58	91	1.81
		0.17/0.13	FP54/50W/SS	5000	1	1.03	5150	4790	56	55	94	1.87
		0.16/0.13	FP54/47W/SS	4575	1	1.04	4760	4425	53	53	90	1.96
		0.17/0.13	FT55DL	4800	1	0.90	4320	4020	56	55	79	1.64
		0.17/0.14	FT50DL	4300	1	1.04	4470	4160	57	57	78	1.82
		0.17/0.13	L58	5200	1	0.98	5095	4740	58	57	89	1.72
		0.14/0.12	FPC55	4000	1	0.95	3800	3535	55	53	72	1.79

T5/T5HO at 35°C lamp ambient temperature
(Item Number) = Item Number/NAED in parentheses are models with leads/wires. No parenthesis = Ballasts with connectors only/no leads.*
Ballasts operate additional lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.
[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

All data shown is for primary lamp types only. Complete data is available in the SYLVANIA QUICKTRONIC® Electronic Ballast Technology & Specification Guide and at www.sylvania.com

QUICKTRONIC® T5 347V Systems – CANADA

QUICKTRONIC® Professional Series T5 PROStart® 347V Systems – CANADA

28 T5, 347V

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
QTP 2x54T5HO Fixed Output											
49185	QTP 2x28T5/347 PS-SC (10 pack with leads)	0.18	FP28T5	2900	2	0.95	5510	5125	60	92	1.58
		0.14	FP21T5	2100	2	0.98	4115	3830	46	89	2.13
		0.10	FP14T5	1350	2	1.00	2700	2510	32	84	3.13

T5/T5HO at 35°C lamp ambient temperature
(Item Number) = Item Number/NAED in parentheses are models with leads/wires. No parenthesis = Ballasts with connectors only/no leads.*
Ballasts operate additional lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.
[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

QUICKTRONIC® Professional Series T5 & T5HO PROStart® Systems

28 T5, Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
49181	QTP 2x28T5/UNV PSN	0.55/0.23	FP28T5	2900	2	1.00	5800	5395	65/63	89/92	1.59
(49180)*			FP28T5	2900	1	1.00	2900	2695	32	90	3.13
49171	QTP 1x28T5/UNV PSN	0.28/0.12	FP28T5	2900	1	1.00	2900	2695	32	90	3.13
(49170)*											

PROStart® QTP 28WT5 PSN models above also operate these lamps: FP14T5, FP21T5 & FP35T5

54 T5HO, Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
49121	QTP 1x54T5HO/UNV PSN	0.51/0.21	FP54T5HO	5000	1	1.00	5000	4650	62/60	81/83	1.67
(49120)*											
49131	QTP 2x54T5HO/UNV PSN	1.00/0.43	FP54T5HO	5000	2	1.00	10,000	9300	121/118	83/85	0.85
(49130)*			FP54T5HO	5000	1	1.00	5000	4650	61	82	1.64
49142	QTP 2x54T5HO/UNV PSN 0.87"		FP54T5HO	5000	1	1.00	5000	4650	61	82	1.64
(49150)*	QTP 1x80T5HO/UNV PSN	0.74/0.32	FP80T5HO	7000	1	1.00	7000	6510	90	78	1.11
			FT80T5DL	6000	1	1.00	6000	5580	90	67	1.11

54 T5HO, High Ambient Temperature (HT-90ºC max case temp) Universal Voltage (120-277V)

			QTP 2x54 T5HO Fixed Output								
49136	QTP 2x54T5HO/UNV PSN-HT	1.00/0.43	FP54T5HO	5000	2	1.00	10,000	9300	121/118	85	0.85
(49135)*		0.96/0.41	FP54/50W/SS	5000	2	1.02	10,200	9485	115/112	91	0.91
		0.89/0.38	FP54/47W/SS	4575	2	1.02	9335	8680	106/103	91	0.99
		0.53/0.24	FP54T5HO	5000	1	1.05	5250	4885	62/61	86	1.72
		0.50/0.21	FP54/50W/SS	5000	1	1.05	5250	4885	59/58	91	1.81
		0.45/0.21	FP54/47W/SS	4575	1	1.03	4710	4380	54/53	89	1.94
			QTP 4x54 T5HO Switchable Model								
49161	QTP 4x54T5HO/UNV PSN-HTW	2.05/0.90	FP54T5HO	5000	4	1.00	20,000	18,600	241/236	85	0.42
	(49160 discontinued)	1.85/0.80	FP54/50W/SS	5000	4	1.02	20,400	18,970	221/215	95	0.47
		1.72/0.75	FP54/47W/SS	4575	4	1.02	18,665	17,360	205/200	93	0.51
		1.51/0.65	FP54T5HO	5000	3	1.00	15,000	13,950	183/181	83	0.55
		1.46/0.62	FP54/50W/SS	5000	3	1.04	15,600	14,510	175/170	92	0.61
		1.34/0.58	FP54/47W/SS	4575	3	1.04	14,275	13,275	161/158	90	0.66
		1.00/0.45	FP54T5HO	5000	2	1.00	10,000	9300	121/118	85	0.85
		0.95/0.42	FP54/50W/SS	5000	2	1.03	10,300	9580	114/111	93	0.93
		0.88/0.39	FP54/47W/SS	4575	2	1.03	9425	8765	105/104	91	0.99
		0.51/0.25	FP54T5HO	5000	1	1.00	5000	4650	61/61	82	1.64
		0.50/0.25	FP54/50W/SS	5000	1	1.06	5300	4930	60/58	91	1.83
		0.47/0.25	FP54/47W/SS	4575	1	1.06	4850	4510	55/54	90	1.96

PROStart® QTP 54 T5HO PSN models above also operate these lamps: FT55DL, FPC55, L58

T5/T5HO at 35°C lamp ambient temperature
(Item Number) = Item Number/NAED in parentheses are models with leads/wires. No parenthesis = Ballasts with connectors only/no leads.*
Ballasts operate additional lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.
[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

All data shown is for primary lamp types only. Complete data is available in the SYLVANIA QUICKTRONIC® Electronic Ballast Technology & Specification Guide and at www.sylvania.com

QUICKTRONIC® Professional Series T5 & T5HO PROStart® Specialty Systems

28 T5, Extra Low Ballast Factor (~0.50 BF) Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
(49187)*	QTP 2x21T5/UNV PS51-SC	0.31	FP28T5	2900	2	0.49	2840	2645	36	79	1.36
		0.24	FP21T5	2100	2	0.51	2140	1990	29	74	1.76
		0.18	FP14T5	1350	2	0.57	1535	1430	21	73	2.71

54 T5HO Low Ballast Factor (0.80) and QUICKSTEP® (Bi-Level) T5HO Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description		Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
	QTP Fixed Output BF 0.80											
(49418)*	QTP 2x54T5HO/UNV PS80SC		0.80/0.34	FP54T5HO	5000	2	0.80	8000	7440	96/93	83/86	0.86
	QUICKSTEP Bi-Level Model (100 to 50%)											
(49419)*	QS 2x54T5HO/UNV PS80SC	(@100%)	0.80/0.34	FP54T5HO	5000	2	0.80	8000	7440	96/93	83/86	0.86
		(@50%)	0.44/0.19	FP54T5HO	5000	2	0.40	4000	3720	52/51	77/78	0.78

T5/T5HO at 35°C lamp ambient temperature
(Item Number) = Item Number/NAED in parentheses are models with leads/wires. No parenthesis = Ballasts with connectors only/no leads.*
Ballasts operate additional lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.
[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

NOTES:

QUICKTRONIC® High Efficiency DL40 & SUPERSAVER® DULUX® Instant Start Systems

FT40DL (TT5) and FT40DL/SS Instant Start Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power 120V	Input Power 277V	System Efficacy[2] (lm/W)	BEF[1]
49428	QHE 1x40DL/UNV ISN-SC	0.30/0.13	FT40T5	3150	1	0.90	2835	2440	35	35	81	2.57
		0.27/0.12	**FT40DL/28W/SS**	**2800**	**1**	**1.07**	**2995**	**2695**	**32**	**32**	**94**	**3.34**
		0.22/0.10	FT40DL/25W/SS	2500	1	0.96	2400	2160	27	26	92	3.69
49429	QHE 2x40DL/UNV ISN-SC	0.56/0.26	FT40T5	3150	2	0.90	5670	4875	68	67	85	1.34
		0.54/0.24	**FT40DL/28W/SS**	**2800**	**2**	**1.07**	**5990**	**5395**	**64**	**63**	**95**	**1.70**
		0.43/0.19	FT40DL/25W/SS	2500	2	0.95	4750	4275	51	51	93	1.86
49430	QHE 3x40DL/UNV ISN-SC	0.84/0.36	FT40T5	3150	3	0.90	8505	7315	100	99	86	0.91
		0.79/0.35	**FT40DL/28W/SS**	**2800**	**3**	**1.07**	**8990**	**8090**	**95**	**94**	**96**	**1.14**
		0.62/0.27	FT40DL/25W/SS	2500	3	0.95	7125	6415	74	73	98	1.30

Ballast factor based upon 225mA nominal lamp current for FT40DL and FT40DL/25W/SS and 190mA nominal lamp current for FT40DL/28W/SS (i.e. BF higher).

QUICKTRONIC® Professional Series DULUX® DL40 PROStart® Systems

FT40DL (TT5) and FT40DL/SS PROStart® Dedicated Voltage

Item Number	OSRAM SYLVANIA Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumen	Mean Lumen	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
50330	QTP 1x40TT5/277 PSN-F	277	0.13	FT40T5	3150	1	0.88	2770	2385	37	75	2.70
50340	QTP 2x40TT5/120 PSN-F	120	0.63	FT40T5	3150	2	0.88	5545	4770	76	73	2.63
50350	QTP 2x40TT5/277 PSN-F	277	0.27	FT40T5	3150	2	0.88	5545	4770	73	76	2.74
50360	QTP 3x40TT5/120 PSN-B	120	0.92	FT40T5	3150	3	0.88	8315	7150	110	76	2.73
50370	QTP 3x40TT5/277 PSN-B	277	0.39	FT40T5	3150	3	0.88	8315	7150	108	77	2.78

QUICKTRONIC® Professional Series DULUX® CF DE/TE Compact Fluorescent PROStart® Systems

Compact Fluorescent Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
51818	QTP 1/2x13CF/UNV DM		13W DD/E,T/E	900	1	1.00	900	775	16	56	6.25
		0.25/0.11	13W DD/E,T/E	900	2	1.00	1800	1550	29	62	3.45
51823	QTP 1/2x18CF/UNV DM		18W DD/E,T/E	1200	1	1.00	1200	1030	20	60	5.00
		0.32/0.14	18W DD/E,T/E	1200	2	1.00	2400	2065	38	63	2.63
51833	QTP 2x26CF/UNV DM		26W DD/E,T/E	1800	1	1.00	1800	1550	28	64	3.57
51898	QTP 2x26CF/UNV DM PEM	0.50/0.22	26W DD/E,T/E	1800	2	1.00	3600	3095	54	67	1.85
			32W DT/E	2400	1	0.98	2350	2025	35	67	2.80
			42W DT/E	3200	1	0.96	3070	2640	45	68	2.13
51843	QTP 2x26/32/42CF/UNV DM		26W DT/E	1800	2	1.02	3670	3155	54	68	1.89
51863	QTP 2x26/32/42CF/UNV DM PEM		32W DT/E	2400	2	0.96	4610	3965	69	67	1.39
		0.90/0.40	42W DT/E	3200	2	0.95	6080	5230	94	65	1.01
		0.53/0.23	57W DT/E	4300	1	1.00	4300	3700	62	69	1.61
		0.57/0.25	70W DT/E	5200	1	0.92	4780	4115	71	67	1.30

Also compatible with other manufacturers' equivalent 4 pin lamp types that meet ANSI specifications. Rated lamp lumens and performance data based on DULUX T/E series 4 pin lamps.

T5/T5HO at 35°C lamp ambient temperature

Ballasts operate additional lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.

[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

Residential Series (Residential Use Only), Fluorescent Electronic CFL (T4) Systems 120V

Item Number	OSRAM SYLVANIA Description	Input Current (A)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
51874	QTR 1x13T4/120V	0.19	13W DD/E T/E	900	1	0.95	855	735	12	71	7.92
51875	QTR 1x18T4/120V	0.25	18W DD/E T/E	1200	1	0.98	1175	1010	17	69	5.76
51876	QTR 1x26T4/120V	0.37	26W DD/E T/E	1800	1	0.99	1780	1535	26	68	3.81

[1] Ballast Efficiency Factor (BEF) = (Ballast Factor x 100) divided by Input Power.

QUICKTRONIC® METAL HALIDE and High Pressure Sodium Electronic Systems

QUICKTRONIC® MH *SUPER MINI* SYSTEMS

Electronic Metal Halide Systems, Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type[1]	Rated Lumens (lm)	No. of Lamps	Internal IDTP[2]	Ballast Factor (BF)	System Lumens	Input Power (W) 120V	Input Power (W) 277V	System Efficacy (lm/W)	Lamp ANSI Code
51991	QTP 1x15MH SM UNV J	120-277	0.15/0.07	15W T4	1200	1	Yes	1.00	1200	17.5	17.5	69	M186, C186
51986	QTP 1x15MH SM UNV F												
51988	QTP 1x20MH SM UNV F	120-277	0.19/0.09	20W T4	1700	1	Yes	1.00	1700	23	23	74	M156, C156
51990	QTP 1x39MH SM UNV F	120-277	0.38/0.17	39W T4.5	3400	1	Yes	1.00	3400	44	44	77	M130, C130

QUICKTRONIC® MH *PROFESSIONAL* SYSTEMS

Electronic Metal Halide Systems, Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type[1]	Rated Lumens (lm)	No. of Lamps	Internal IDTP[2]	Ballast Factor (BF)	System Lumens	Input Power (W) 120V	Input Power (W) 277V	System Efficacy (lm/W)	Lamp ANSI Code
51969	QTP 2X20MH UNV J[3]	120-277	0.38/0.16	20W T4.5	1700	2	Yes	1.00	3400	46	46	74	M156, C156
51910	QTP 1x39MH/UNV-F	120-277	0.39/0.17	39W T6	3400	1	Yes	1.00	3400	44	44	77	M130, C130
51911	QTP 1x39MH/UNV-J												
51970	QTP 2X39MH UNV F[3]	120-277	0.75/0.33	39W T6	3400	2	Yes	1.00	6800	89	89	76	M130, C130
51971	QTP 2X39MH UNV J[3]												
51912	QTP 1x70MH/UNV-F	120-277	0.67/0.29	70W T6	7000	1	Yes	1.00	7000	79	79	89	M98, M139, M143,
51913	QTP 1x70MH/UNV-J												C98, C139, C143
51914	QTP 1x100MH/UNV-F	120-277	0.96/0.41	100W E17	9700	1	Yes	1.00	9700	110	110	88	M90, M140,
51915	QTP 1x100MH/UNV-J												C90, C191

QUICKTRONIC® MH *PROFESSIONAL (SLIM & SQUARE)* SYSTEMS

Electronic Metal Halide Systems, Mini Sized

Item Number	OSRAM SYLVANIA Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type[1]	Rated Lumens (lm)	No. of Lamps	Internal IDTP[2]	Ballast Factor (BF)	System Lumens	Input Power (W) 120V	Input Power (W) 277V	System Efficacy (lm/W)	Lamp ANSI Code
51959	QTP 1x20MH UNV SQ F *Formerly: QT1x20MH UNV SQ*	120-277	0.19/0.09	20W T4.5	1700	1	Yes	1.00	1700	23	23	74	M156, C156
51956	QTP 1x20MH UNV SQ J												
51961	QTP 1x39MH UNV SQ F *Formerly: QT1x39MH UNV SQ*	120-277	0.38/0.17	39W T6	3400	1	Yes	1.00	3400	44	44	77	M130, C130
51957	QTP 1x39MH UNV SQ J												
51963	QTP 1x70MH UNV SQ F *Formerly: QT1x70MH 120V SQ*	120-277	0.66/0.29	70W T6	7000	1	Yes	1.00	7000	79	79	89	M98, M139, M143, C98, C139, C143
51946☼	QTP 1X70MH UNV SLIM F	120-277	0.64/0.27	70W T6	7000	1	Yes	1.00	7000	76	75	92/93	M98, M139, M143,
51947☼	QTP 1X70MH UNV SLIM J												C98, C139, C143
51948☼	QTP 1X100MH UNV SLIM F	120-277	0.92/0.39	100W E17	10,000	1	Yes	1.00	10,000	109	107	92/93	M90, M140, C90,
51949☼	QTP 1X100MH UNV SLIM J												C191

☼*New Product. Contact OSRAM SYLVANIA for product availability.*

[1] *For other compatible lamp types/systems info please refer to the Product information Bulletins and/or Ballast Tech. Applications & Specification Guide and www.sylvania.com.*

[2] *Internal IDTP – Insulation Detection Thermal Protector.*

[3] *Ballast can operate 1 or 2 lamps, cap off unused leads individually for 1 lamp operation.*

QUICKTRONIC® METAL HALIDE Electronic Systems

QUICKTRONIC® *High Efficiency* Metal Halide Systems

High Efficiency Electronic Metal Halide Systems (208-277V)

Item Number	OSRAM SYLVANIA Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type[1]	Rated Lumens (lm)	No. of Lamps	Internal IDTP[2]	Ballast Factor (BF)	System Lumens	Input Power (W) 208V	Input Power (W) 277V	System Efficacy (lm/W)	Lamp ANSI Code
51982	QHE 1x320MH 208-277V	208-277	1.71/1.29	320W EX39	37,500	1	Yes	1.00	37,500	343	341	109/110	M132, M154, C154
51983	QHE 1x350MH 208-277V	208-277	1.87/1.40	350W EX39	33,000	1	Yes	1.00	33,000	374	372	88/89	M131
51984☼	QHE 1x400MH 208-277V	208-277	2.12/1.58	400W E39	42,000	1	Yes	1.00	42,000	428	426	98/99	M135, M155

☼*New Product/Preliminary Data. Contact OSRAM SYLVANIA for product availability and detailed specifications.*

[1] *For other compatible lamp types/systems info please refer to the Product Information Bulletins and/or Ballast Tech. Applications & Specification Guide and www.sylvania.com.*

[2] *Internal IDTP – Insulation Detection Thermal Protector.*

QUICKTRONIC® METAL HALIDE Dimming Electronic Systems

QUICKTRONIC® *High Efficiency* Metal Halide *Dimming* Systems

High Efficiency Electronic Metal Halide Systems (208-277V)

Item Number	OSRAM SYLVANIA Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type[1]	Rated Lumens (lm)	No. of Lamps	Internal IDTP[2]	Ballast Factor (BF)	System Lumens	Input Power (W) 208V	Input Power (W) 277V	System Efficacy (lm/W)	Lamp ANSI Code
51992☼	QHE 1x200MH 208-277V DIM	208-277	1.06/0.79	200W E39	21,000	1	Yes	1.00	21,000	215	214	98	M136, C190
51993☼	QHE 1x250MH 208-277V DIM	208-277	1.32/0.99	250W EX39	24,000	1	Yes	1.00	24,000	267	266	90	M138, M153, C153
51994☼	QHE 1x320MH 208-277V DIM	208-277	1.71/1.29	320W EX39	37,500	1	Yes	1.00	37,500	343	341	109/110	M132, M154, C154
51995☼	QHE 1x350MH 208-277V DIM	208-277	1.87/1.40	350W EX39	33,000	1	Yes	1.00	33,000	374	372	88/89	M131
51996☼	QHE 1x400MH 208-277V DIM	208-277	2.12/1.58	400W E39	42,000	1	Yes	1.00	42,000	428	426	98/99	M135, M155

☼*New Product/Preliminary Data. Contact OSRAM SYLVANIA for product availability and detailed specifications.*

[1] *For other compatible lamp types/systems info please refer to the Product information Bulletins and/or Ballast Tech. Applications & Specification Guide and www.sylvania.com.*

[2] *Internal IDTP – Insulation Detection Thermal Protector.*

All data shown is for primary lamp types only. Complete data is available in the SYLVANIA QUICKTRONIC® Electronic Ballast Technology & Specification Guide and at www.sylvania.com

QUICKTRONIC® ICETRON® Inductively Coupled Electrodeless UNIVERSAL VOLTAGE SYSTEMS

ICETRON Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
49758	QT 1x40ICE/UNV-T	120-277	0.36/0.16	ICE40	2800	1	1.00	2800	44	64	2.29
49753	QT 1x100 ICE/UNV-T	120-277	0.88/0.37	ICE100	8000	1	1.00	8000	106/103	75/77	0.97
49756	QT 1x100 ICE/UNV-W		0.66/0.29	ICE70	6200	1	1.05	6500	79/77	82/84	1.36
49772	QT 1x150 ICE/UNV-T	120-277	1.34/0.58	ICE150	12,000	1	1.00	12,000	161/156	74/76	0.64
49773	QT 1x150 ICE/UNV-W		1.28/0.54	ICE100	8000	1	1.38	11,000	154/149	71/73	0.93

Rated lamp lumens and performance data based on SYLVANIA ICETRON® lamps.
Use only with SYLVANIA ICETRON lamps (for additional lamp types contact OSRAM SYLVANIA).
[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

Item Number	Lamp Description	Item Number	Lamp Description	Item Number	Lamp Description	Item Number	Lamp Description
26310	ICE 40/835/RCT/2P	26087	ICE 70/835/2P	26102	ICE 100/835/2P	26152	ICE 150/835/2P
26311	ICE 40/835/CIR/2P	26088	ICE 70/841/2P	26103	ICE 100/841/2P	26153	ICE 150/841/2P
26312	ICE 40/841/RCT/2P	26089	ICE 70/850/2P	26105	ICE 100/850/2P	26155	ICE 150/850/2P
26313	ICE 40/841/CIR/2P						
26314	ICE 40/850/RCT/2P						
26315	ICE 40/850/CIR/2P						

QUICKTRONIC® FM "Fluorescent Miniature" T2 Dedicated Voltage Programmed Start Systems

T2 Subminiature Dedicated Voltage (120V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy[2] (lm/W)	BEF[1]
49735	QT 1x6-8FM/120	0.14	FM8	540	1	1.00	540	485	10	54	10.00
49736	QT 1x11-13FM/120	0.18	FM11	750	1	1.00	750	675	13	58	7.69
		0.22	FM13	930	1	1.00	930	835	16	58	6.25

Ballasts operate additional lamp types. Complete performance data is in the Ballast Technology Applications & Specification Guide and at www.sylvania.com.
[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value unless otherwise noted.

QUICKTRONIC® Professional Series T12 Universal Voltage (120-277V)

40T12 Rapid Start Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (W) 120V	Input Power (W) 277V	System Efficacy[2] (lm/W)	BEF[1]
50314☼	QTP 2x40T12/UNV/RS/SC	0.62/0.27	F40T12/D30/ECO	3200	2	0.88	5630	74	74	76	1.19

96T12 Instant Start Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (W) 120V	Input Power (W) 277V	System Efficacy[2] (lm/W)	BEF[1]
50308☼	QTP 2X96T12/UNV IS	1.12/0.50	F96T12/D41/ECO	6420	2	0.86	11,040	134	130	82/85	0.66
		0.91/0.40	F96T12/CW/SS	5300	2	0.87	9220	108	106	85/87	0.82
		0.88/0.40	F72T12/CW	4500	2	0.92	8280	105	103	79/80	0.89
		0.62/0.28	F48T12/CW	2820	2	0.92	5190	73	71	71/73	1.30
		0.52/0.24	F48T12/CW/SS	2450	2	0.92	4510	62	61	73/74	1.51
		0.69/0.31	F96T12/D41/ECO	6420	1	1.01	6485	82	81	79/80	1.25
		0.56/0.27	F96T12/CW/SS	5300	1	1.10	5830	67	66	87/88	1.67
		0.55/0.26	F72T12/CW	4500	1	1.07	4815	65	64	74/75	1.67

New 50308 QTP2x96T12/UNV/IS model replaces 50318 that is discontinued

T12HO Rapid Start Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (W) 120V	Input Power (W) 277V	System Efficacy[2] (lm/W)	BEF[1]
50319	QTP 2x96T12HO/UNV	1.65/0.71	F96T12HO	9050	2	0.85	15385	196	196	78	0.43
		1.38/0.60	F96T12HO/SS	8000	2	0.90	14400	164	164	88	0.55
		1.30/0.56	F72T12HO	6250	2	0.90	11250	154	154	73	0.58
		1.10/0.47	F60T12HO	5200	2	0.90	9360	132	132	71	0.68
		0.88/0.38	F48T12HO	4050	2	0.90	7290	104	104	70	0.87
		0.88/0.38	F96T12HO	9050	1	0.92	8325	104	104	80	0.88

96T12HO rated lamp lumens and performance data based on F96T12CW/HO/SS and F96T12/D41/HO series lamps.
New 50319 QTP2x96T12HO/UNV model replaces 49883 QT2x96/120HO and 49984 QT2x96/277 HO that are discontinued.

Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.
[1] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
[2] System Efficacy calculation based on lowest input power value unless otherwise noted.
☼*New Product/Preliminary Data. Contact OSRAM SYLVANIA for product availability and detailed specifications.*

Magnetic Discontinued Products		Nearest Electronic Ballast Replacement	
48011	MB1x40/120RS-SRNK	T8 Upsell – 49905 ballast & lamp 21763	QTP1x32T8/UNV ISN-SC & FO32/835/XP/ECO
48120	MB1x40/277RS-SRNK	T8 Upsell – 49905 ballast & lamp 21763	QTP1x32T8/UNV ISN-SC & FO32/835/XP/ECO
48001	MB2x40/120RS-SRNK	50314	QTP2x40T12/UNV RS 4 Pack
48121	MB2x40/277RS-SRNK	50314	QTP2x40T12/UNV RS 4 Pack
48018	MB2x96/120IS-SRNK	50308	QTP2x96T12/UNV IS 3 Pack
48124	MB1x96/120IS-SRNK	50308	QTP2x96T12/UNV IS 3 Pack
48125	MB1x96/277IS-SRNK	50308	QTP2x96T12/UNV IS 3 Pack
48126	MB2x96/277IS-SRNK	50308	QTP2x96T12/UNV IS 3 Pack
48025	MB2x96/HO/120RS-SRNK	50319	QTP2x96T12HO/UNV RS 6 Pack
48027	MB2x96/HO/277RS-SRNK	50319	QTP2x96T12HO/UNV RS 6 Pack
48127	MB1x96/HO/120RS-SRNK	50319	QTP2x96T12HO/UNV RS 6 Pack
48128	MB1x96/HO/277RS-SRNK	50319	QTP2x96T12HO/UNV RS 6 Pack

All data shown is for primary lamp types only. Complete data is available in the SYLVANIA QUICKTRONIC® Electronic Ballast Technology & Specification Guide and at www.sylvania.com

NOTES:

QUICKCROSS

Cross Reference Guide

The smart electronics in SYLVANIA QUICKTRONIC® ballasts allow them to outperform the competition.

Item Number	OSRAM SYLVANIA	Advance	U.L.T. Universal Lighting Technologies (formerly Magnetek)	GE	Howard
QUICKTRONIC® PROFESSIONAL 32 T8 INSTANT START UNIVERSAL VOLTAGE SYSTEMS					
Low Ballast Factor*					
49832	QTP 1x32T8/UNV ISL-SC	ICN-1P32-LW-SC	N/A	N/A	N/A
49834	QTP 2x32T8/UNV ISL-SC	ICN-2P32-LW-SC	N/A	GE-232-MV-L	EPL2/32IS/MV/MC
Normal Ballast Factor*					
49905	QTP 1x32T8/UNV ISN-SC	ICN-1P32-N ICN-132-MC	B132IUNVHP-B	GE-132-MV-N	N/A
49906	QTP 2x32T8/UNV ISN-SC	ICN-2P32-N ICN-2M32-MC	B232IUNVHP-B	GE-232-MV-N	EP2/32IS/MV/MC
49907	QTP 3x32T8/UNV ISN-SC	ICN-3P32-SC	B332IUNVHP-A	GE-332-MV-N	N/A
49908	QTP 4x32T8/UNV ISN-SC	ICN-4P32-SC	B432IUNVHP-A	GE-432-MV-N	N/A
High Ballast Factor*					
49829	QTP 1x32T8/UNV ISH-SC	N/A	N/A	N/A	N/A
49830	QTP 2x32T8/UNV ISH-SC	N/A	N/A	GE-232-MV-H	N/A
QUICKTRONIC® 59 T8 & 8-FOOT INSTANT START UNIVERSAL VOLTAGE SYSTEMS					
High Efficiency, Low Ballast Factor*					
50239	QHE 2x59T8/UNV-ISL-SC	N/A	N/A	GE259MAX-L/ULTRA	N/A
High Efficiency, Normal Ballast Factor*					
50237	QHE 2x59T8/UNV-ISN-SC	IOP-2P59-SC	N/A	GE-259-MAX-N/ULTRA	N/A
Professional Series, Normal Ballast Factor*					
49590	QTP 2X59T8/UNV ISN-SC	N/A	B259IUNVHP-A	GE-259-MV-N	EP2/59IS/MV/MC

**DISCLAIMER: This cross reference guide is intended as an aid for identifying comparable products as a convenience to the user. OSRAM SYLVANIA does not warrant or guarantee the accuracy or correctness of the content. Case sizes,wiring diagrams and performance specifications may vary, please refer to manufacturers specifications. Please refer to the OSRAM SYLVANIA catalog for verification of product specifications appropriate for the application. Information in this cross reference is subject to change at any time without prior notice. Please contact 1-800-LIGHTBULB or www.sylvania.com for additional information.*

All data shown is for primary lamp types only. Complete data is available in the SYLVANIA QUICKTRONIC® Electronic Ballast Technology & Specification Guide and at www.sylvania.com

QUICKCROSS

Cross Reference Guide

The smart electronics in SYLVANIA QUICKTRONIC® ballasts allow them to outperform the competition.

Item Number	OSRAM SYLVANIA	Advance	U.L.T. Universal Lighting Technologies (formerly Magnetek)	GE	Howard
QUICKTRONIC® HIGH EFFICIENCY 32 T8 INSTANT START UNIVERSAL VOLTAGE SYSTEMS				**LAMP STRIATION CONTROL**	
Low Ballast Factor*					
49837	QHE 1X32T8/UNV ISL-SC	IOPA-1P32-LW-SC	B132IUNVEL-A	GE-132-MAX-L/ULTRA	N/A
49838	QHE2X32T8/UNV ISL-SC	IOPA-2P32-LW-N IOPA-2P32-LW-SC	B232IUNVEL-A	GE-232-MAX-L/ULTRA	EPL2/32IS/MV/SC/HE EPL2/32IS/MV/MC/HE
49839	QHE 3X32T8/UNV ISL-SC	IOPA-3P32-LW-SC	B332IUNVEL-A	GE-332-MAX-L/ULTRA	EPL3/32IS/MV/SC/HE
49840	QHE 4X32T8/UNV ISL-SC	IOPA-4P32-LW-SC	B432IUNVEL-A	GE-432-MAX-L/ULTRA	EPL4/32IS/MV/SC/HE EPL4/32IS/MV/MC/HE
Normal Ballast Factor*					
49968	QHE 1X32T8/UNV ISN-SC	IOPA-1P32-SC	B132IUNVHE-A	GE-132-MAX-N/ULTRA	N/A
49969	QHE 2X32T8/UNV ISN-SC	IOPA-2P32-SC	B232IUNVHE-A	GE-232-MAX-N/ULTRA	EP2/32IS/MV/MC/HE
49970	QHE 3X32T8/UNV ISN-SC	IOPA-3P32-SC	B332IUNVHE-A	GE-332-MAX-N/ULTRA	EP3/32IS/MV/MC/HE
49971	QHE 4X32T8/UNV ISN-SC	IOPA-4P32-SC	B432IUNVHE-A	GE-432-MAX-N/ULTRA	EP4/32IS/MV/MC/HE
Medium Ballast Factor*					
49248	QHE 2x32T8/UNV ISM-SC	N/A	N/A	GE232MAX-N+	N/A
49249	QHE 3x32T8/UNV ISM-SC	N/A	N/A	GE332MAX-N+	N/A
49491	QHE 4x32T8/UNV ISM-SC	N/A	N/A	GE432MAX-N+	N/A
High Ballast Factor*					
49919	QHE 1X32T8/UNV ISH-SC	IOPA-1P32-HL-SC	N/A	N/A	N/A
49920	QHE 2X32T8/UNV ISH-SC	IOPA-2P32-HL-SC	B232IUNVHEH-A	GE-232-MAX-H/ULTRA	EPH2/32IS/MV/MC/HE
49921	QHE 3X32T8/UNV ISH-SC	IOPA-3P32-HL-SC	B332IUNVHEH-A	GE-332-MAX-H/ULTRA	EPH3/32IS/MV/MC/HE
49922	QHE 4X32T8/UNV ISH	IOPA-4P32-HL	N/A	GE-432-MAX-H/ULTRA	N/A
QUICKTRONIC® HIGH EFFICIENCY 32 T8 INSTANT START UNIVERSAL VOLTAGE SYSTEMS - TYPE CC & LAMP STRIATION CONTROL					
Low Ballast Factor*					
49199	QHE 1X32T8/UNV ISL-SC-1	IOP-1P32-LW-SC	N/A	GE-132-MAX-L/ULTRA	N/A
49200	QHE 2X32T8/UNV ISL-SC-1	IOP-2P32-LW-SC	N/A	GE-232-MAX-L/ULTRA	N/A
49367	QHE 3X32T8/UNV ISL-SC-1	IOP-3P32-LW-SC	N/A	GE-332-MAX-L/ULTRA	N/A
49368	QHE 4X32T8/UNV ISL-SC-1	IOP-4P32-LW-SC	N/A	GE-432-MAX-L/ULTRA	N/A
Normal Ballast Factor*					
49381	QHE 1X32T8/UNV ISN-SC-1	IOP-1P32-SC	N/A	GE-132-MAX-N/ULTRA	N/A
49383	QHE 2X32T8/UNV ISN-SC-1	IOP-2P32-SC	N/A	GE-232-MAX-N/ULTRA	N/A
49385	QHE 3X32T8/UNV ISN-SC-1	IOP-3P32-SC	N/A	GE-332-MAX-N/ULTRA	N/A
49387	QHE 4X32T8/UNV ISN-SC-1	IOP-4P32-SC	N/A	GE-432-MAX-N/ULTRA	N/A
High Ballast Factor, (90°C Case Temperature)*					
49783	QHE 2x32T8/UNV ISH-HT-SC-1	IOP-2P32-HL-SC	N/A	GE-232-MAX-H/Ultra	N/A
49787	QHE 4x32T8/UNV ISH-HT-1	IOP-4P32-HL-90C-G	N/A	GE-432-MAX-H/Ultra	N/A

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Item Number	OSRAM SYLVANIA Description	Advance	U.L.T. Universal Lighting Technologies (formerly Magnetek)	GE	Howard
QUICKTRONIC® 32 T8 INSTANT START 347 VOLT SYSTEMS – CANADA					
High Efficiency, Low Ballast Factor*					
49471	QHE 1x32T8/347 ISL-SC	GOPA-1P32-LW-SC	N/A	N/A	N/A
49473	QHE 2x32T8/347 ISL-SC	GOPA-2P32-LW-SC	N/A	GE232MAX347-L	N/A
49475	QHE 3x32T8/347 ISL-SC	GOPA-3P32-LW-SC	N/A	GE332MAX347-L	N/A
49477	QHE 4x32T8/347 ISL-SC	GOPA-4P32-LW-SC	N/A	GE432MAX347-L	N/A
High Efficiency, Normal Ballast Factor*					
49461	QHE 1x32T8/347 ISN-SC	GOPA-1P32-SC	N/A	N/A	N/A
49463	QHE 2x32T8/347 ISN-SC	GOPA-2P32-SC	N/A	GE232MAX347-N	N/A
49465	QHE 3x32T8/347 ISN-SC	GOPA-3P32-SC	N/A	GE332MAX347-N	N/A
49467	QHE 4x32T8/347 ISN-SC	GOPA-4P32-SC	N/A	GE432MAX347-N	N/A
Professional Series, Normal Ballast Factor*					
49713	QTP 2x32T8/347 ISN-SC	N/A	B232I347HP	GE232-N-347	N/A
49715	QTP 3x32T8/347 ISN-SC	N/A	B332I347HP	GE332-N-347	N/A
49717	QTP 4x32T8/347 ISN-SC	N/A	B432I347HP	GE432-N-347	N/A
QUICKTRONIC® 32 T8 INSTANT START 347 VOLT SYSTEMS – CANADA					
Standard Series, High Ballast Factor, <20% THD*					
49927	QT 2x32T8/347 ISH-SC	N/A	N/A	N/A	N/A
QUICKTRONIC® 59 T8 (8-foot) 347 VOLT SYSTEMS – CANADA					
Standard Series, Normal Ballast Factor, <20% THD*					
49217	QT 2x59/347IS	N/A	N/A	GE259-N-347	N/A
QUICKTRONIC® RESIDENTIAL 32 T8 INSTANT START 120 VOLT SYSTEMS (For Residential Use Only)					
Residential Series, Normal Ballast Factor*					
49313	QTR 2x32T8/120 ISN-SC	N/A	B232I120RES-A B232I120RES-G	GE232-120-RES	N/A
49317	QTR 4x32T8/120 ISN-SC	N/A	B432I120RES-A	GE432-120-RES	N/A

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Item Number	OSRAM SYLVANIA	Advance	U.L.T. Universal Lighting Technologies (formerly Magnetek)	GE	Howard
QUICKTRONIC® 32 T8 PROStart® (Programmed Rapid Start) UNIVERSAL VOLTAGE SYSTEMS					
Low Ballast Factor*					
51225	QTP 2x32T8/UNV PSX-TC	IOP-2S32-LW-SC	N/A	GE232-MVPS-L	N/A
51226	QTP 3x32T8/UNV PSX-SC	IOP-3S32-LW-SC	N/A	GE332-MVPS-L	N/A
51227	QTP 4x32T8/UNV PSX-SC	IOP-4S32-LW-SC	N/A	GE432-MVPS-L	N/A
High Efficiency, Normal Ballast Factor, Type CC, Lamp Striation Control, Parallel Operation*					
51397	QHE 1x32T8/UNV PSN-MC	N/A	N/A	GE132-MVPS-N	N/A
51408	QHE 2x32T8/UNV PSN-MC	IOP-2PSP32-SC	B232PUNVHE-A	GE-232-MVPS-N	EP2/32PRS/MV/MC/HE
51413	QHE 3x32T8/UNV PSN-SC	IOP-3PSP32-SC IOP-3PSP-SC	N/A	GE-332-MVPS-N	N/A
51418	QHE 4x32T8/UNV PSN-SC	IOP-4PSP32-SC	N/A	GE-432-MVPS-N	N/A
High Efficiency, High Ballast Factor, Type CC, Lamps Striation Control, 90°C Case Temperature – Parallel Operation*					
49450	QHE 2x32T8/UNV-PSH-HT	N/A	N/A	GE-232-MV-PS-H	N/A
49453	QHE 3x32T8/UNV-PSH-HT	N/A	N/A	GE-332-MV-PS-H	N/A
49455	QHE 4x32T8/UNV-PSH-HT	N/A	N/A	GE-432-MV-PS-H	N/A
QUICKTRONIC® 86 T8HO PROStart® (Programmed Rapid Start) UNIVERSAL VOLTAGE SYSTEMS					
High Efficiency, Normal Ballast Factor, (90°C Case Temperature)*					
50304	QHE 2x86T8HO/UNV-PSN-HT-SCL	ICN-2S86	N/A	N/A	N/A

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Item Number	OSRAM SYLVANIA Description	Advance	U.L.T. Universal Lighting Technologies (formerly Magnetek)	GE	Howard
QUICKTRONIC® T5 PROStart® (Programmed Rapid Start) UNIVERSAL VOLTAGE SYSTEMS					
High Efficiency, Normal Ballast Factor*					
51473	QHE 2X28T5/UNV PSN-NL	IOP-2S28-95-SC	N/A	GE228MVPS-A	N/A
Professional Series, Normal Ballast Factor*					
49171	QTP 1x28T5/UNV PSN	N/A	N/A	N/A	N/A
49181	QTP 2x28T5/UNV PSN	ICN-2S28	B228PUNV-C	B228PUNV-C0G1C	N/A
Professional Series, Extra-Low Ballast Factor*					
49187	QTP 2X21T5/UNV PS51-SC	N/A	N/A	N/A	N/A
QUICKTRONIC® T5HO PROStart® (Programmed Rapid Start) UNIVERSAL VOLTAGE SYSTEMS					
High Efficiency, Normal Ballast Factor*					
51471	QHE 2x54T5HO-UNV PSN	ICN-2S54 (Non-high-efficiency)	B254PUNV-D (Non-high-efficiency)	GE254MVPS-D	N/A
High Efficiency, Normal Ballast Factor, High Temperature*					
51476	QHE 2X54T5HO/UNV PSN-HT	ICN-2S54-90C (Non-high-efficiency)	B254PUNVHB-D (Non-high-efficiency)	GE254MVPS90-F	N/A
51480	QHE 4X54T5/HO UNV PSN-HT-SCL	ICN-4S54-90C-2LS (Non-high-efficiency)	B454PUNVHB-E B454PUNV-E (Non-high-efficiency)	GE454MVPS90-G GE454MVPS90-E	N/A
High Efficiency, Normal Ballast Factor, High Temperature, 347-480V*					
51486	QHE 2x54T5HO/347-480 PSN-HT	N/A	N/A	N/A	N/A
51481	QHE 4X54T5HO/347-480 PSN-HT-SCL	N/A	N/A	N/A	N/A
Professional Series, Normal Ballast Factor*					
49111	QTP 2x39-24T5HO/UNVPSN (FP39T5HO)	ICN-2S39	B239PUNV-D	B239PUNV-D0G1C	N/A
49111	QTP 2x39-24T5HO/UNVPSN (FP24T5HO)	ICN-2S24	B224PUNV-C	N/A	N/A
49131	QTP 2x54T5HO/UNVPSN	ICN-2S54	B254PUNV-D	N/A	N/A
49150	QTP 1x80T5HO/UNVPSN	ICN-1S80	ES4515K	N/A	N/A
Professional Series, Normal Ballast Factor, High Temperature*					
49136	QTP 2x54T5HO/UNV PSN HT	ICN-2S54-90C	B254PUNVHB-D	N/A	EP2/54HO/PRS/MV/90CW
49161	QTP 4x54T5HO/UNV PSN HTW	ICN-4S54-90C-2LS	B454PUNVHB-E B454PUNV-E	N/A	N/A

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Item Number	OSRAM SYLVANIA	Advance	U.L.T. Universal Lighting Technologies (formerly Magnetek)	GE	Howard
QUICKTRONIC® PROFESSIONAL RAPID START 40T12 SYSTEMS					
Professional Series, Normal Ballast Factor*					
50314	QTP 2x40T12/UNV/RS/SC	ICN-2S40-N	B240R120HP B240R277HP	GE240RS-MV-N	N/A
QUICKTRONIC® PROFESSIONAL INSTANT START (8-foot) T12 UNIVERSAL VOLTAGE SYSTEMS					
Professional Series, Normal Ballast Factor, <20% THD*					
50308	QTP 2x96/T12/UNV/IS	ICN-2P60-SC	B260IUNVHP	GE-260IS-MV-N	N/A
QUICKTRONIC® RAPID START (8-foot) T12HO SYSTEMS					
Professional Series, Normal Ballast Factor, <20% THD*					
50319	QTP 2x96T12HO/UNV	ICN-2S110-SC	B295SRUNVHP	GE296HO-MV-N	EP2/110RS-MV

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Item Number	OSRAM SYLVANIA	Advance	U.L.T. Universal Lighting Technologies (formerly Magnetek)	GE	Howard
QUICKTRONIC® HIGH EFFICIENCY INSTANT START DL40 (40W TT5) UNIVERSAL VOLTAGE SYSTEMS					
High Efficiency, Normal Ballast Factor*					
49428	QHE 1x40DL/UNV ISN-SC	ICN-1TTP40-SC (Non-high-efficiency)	N/A	GEC140MAX-A	N/A
49429	QHE 2x40DL/UNV ISN-SC	ICN-2TTP40-SC (Non-high-efficiency)	N/A	GEC240MAX-A	EP2/40IS-TT/MV/SC
49430	QHE 3x40DL/UNV ISN-SC	ICN-3TTP40-SC (Non-high-efficiency)	N/A	GEC340MAX-A	EP3/40IS-TT/MV/SC
QUICKTRONIC® PROFESSIONAL PROStart® (Programmed Rapid Start) DL40 (40W TT5) SYSTEMS					
Professional Series, Normal Ballast Factor*					
50330	QTP 1x40TT5/277PSN-F	VEL-1TTS40	N/A	N/A	N/A
50340	QTP 2x40TT5/120PSN-F	REL-2TTS40	N/A	GEC240MVPS-A	N/A
50350	QTP 2x40TT5/277PSN-F	VEL-2TTS40	N/A	GEC240MVPS-A	N/A
50360	QTP 3x40TT5/120PSN-B	N/A	N/A	N/A	N/A
50370	QTP 3x40TT5/277PSN-B	N/A	N/A	N/A	N/A

Item Number	OSRAM SYLVANIA	Advance	U.L.T.	GE	Robertson
QUICKTRONIC® PROFESSIONAL PROStart® (Programmed Rapid Start) CFL T4 UNIVERSAL VOLTAGE DUAL ENTRY SYSTEMS					
Professional Series, Normal Ballast Factor* CFL products run multiple lamp combinations and have various mounting/case styles – please refer to actual product specifications					
51818	QTP 1/2x13CF/UNV DM	ICF-2S13-H1-LD	C213UNV-BE C213UNV-SE	GEC213-MVPS-SE	PSM213CQMVDW
51823	QTP 1/2x18CF/UNV DM	ICF-2S18-H1-LD	C218UNV-BE C218UNV-SE	GEC218-MVPS-SE	PSM218CQMVDW
51833	QTP 2x26CF/UNV DM	ICF-2S26-H1-LD	C2642UNV-BE C2642UNV-SE	GEC226-MVPS-SE	PSM226CQMVDW
51898	QTP 2x26CF/UNV DM PEM	ICF-2S26-M1-BS ICF-2S26-M1-BS-QS	C2642UNV-BES	GEC226-MVPS-3W	PSM226CQMVDSW
51843	QTP 2x26/32/42CF/UNV DM	ICF- 2S42-M2-LD	C242UNV-BE C242UNV-SE	GEC242-MVPS-SE	PSP242TRMVDW
51863	QTP 2x26/32/42CF/UNV DM PEM	ICF-2S42-M2-BS	C242UNV-BES	GEC242-MVPS-3W	PSP242TRMVDSW

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Item Number	OSRAM SYLVANIA	Advance	U.L.T. Universal Lighting Technologies (formerly Magnetek)	Lutron
QUICKTRONIC® HELIOS™ (0-10V)				
Professional Series, 54 T5/HO Dimming Systems (0-10Vdc control) – 100-1% Dimming Range – <10% THD at full output, <20% THD at full dim*				
49671	QT 1x54/120PHO-DIM	RZT-154	N/A	N/A
49672	QT 1x54/277PHO-DIM	VZT-154	N/A	N/A
49673	QT 2x54/120PHO-DIM	RZT-2S54	N/A	N/A
49674	QT 2x54/277PHO-DIM	VZT-2S54	N/A	N/A

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Item Number	OSRAM SYLVANIA	Advance	U.L.T. Universal Lighting Technologies (formerly Magnetek)	Lutron	GE (Dedicated Voltage)
QUICKTRONIC® QUICKSTEP® (Bi-Level), UNIVERSAL VOLTAGE SYSTEMS					
High Efficiency, 32W T8*					
49157	QHE S2X32T8/UNV PSN-SC	N/A	B232PUS50-A	N/A	N/A
49158	QHE S2x32T8/UNV PSL-SC	N/A	N/A	N/A	N/A
High Efficiency, 54W T5/HO*					
49419	QS 2X54T5HOUNVPS80SC	N/A	N/A	N/A	N/A

Item Number	OSRAM SYLVANIA POWERSENSE™ (2 wire Powerline & 0-10V) (120-277V)	Advance Mark 10 (2 wire) Powerline (Dedicated Voltage)	Advance Mark 7 (0-10V) (120-277V)	U.L.T. (formerly Magnetek) Universal Lighting Technologies BALLASTAR (0-10V) (Dedicated Voltage)	U.L.T. (formerly Magnetek) Universal Lighting Technologies SuperDim (0-10V) (120-277V)	Lutron Tu-wire (Powerline) Dedicated Voltage Models Only	Lutron Eco-10 TVE Dedicated Voltage Models Only	GE UltraStart (0-10V)
QUICKTRONIC® POWERSENSE *(Full Range Dimming)* UNIVERSAL VOLTAGE SYSTEMS								
High Efficiency, 32W T8 (POWERSENSE® is Dual Control, competitors are 0-10VDC or Fluorescent Phase Cut)*								
50705	QTP 1x32T8/UNV DIM-TC	REZ-132-SC (120V) VEZ-132-SC (277V)	IZT- 132-SC	B132R120V5 B132R277V5	B132PUNVSV3-A ES5821B ES5835K ES5833B ES5818K	2W-T832-120-1	TVE-T832-120-1 TVE-T825-120-1 TVE-T817-120-1	GE132MVPS-N-V03
50707	QTP 2x32T8/UNV DIM-TC	REZ-2S32-SC (120V) VEZ-2S32-SC (277V)	IZT-2S32-SC	B232SR120V5 B232SR277V5	B232PUNVSV3-A ES5822B ES5836K ES5834B ES5817K	2W-T832-120-2	TVE-T832-120-2 TVE-T832-277-2	GE232MVPS-N-V03
50714	QTP 3x32T8/UNV DIM-TCL	REZ-3S32-SC (120V) VEZ-3S32-SC (277V)	IZT-3S32-SC	B332SR120V5 B332SR277V5	N/A	N/A	TVE-T832-120-3 TVE-T832-277-3	GE332MVPS-N-V03
50716	QTP 4x32T8/UNV DIM-TCL	N/A	IZT-4S32	B432P277V5H-E B432P277V5-E	N/A	N/A	N/A	GE432-MVPS-N-V03
High Efficiency, 28W T5 (POWERSENSE is Dual Control, competitors are 0-10VDC or Fluorescent Phase Cut)*								
50726	QTP 2x28T5/UNV DIM-TCL	N/A	N/A	N/A	ES5851K ES5861K ES5847K	N/A	N/A	N/A

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Item Number	OSRAM SYLVANIA	Mount	Advance	Metrolight	Aromat/ULT/VS	Hatch
QUICKTRONIC® SUPER MINI MH						
METALARC® Metal Halide Universal Voltage – Operates Ceramic and Most Quartz MH Lamp*						
51986	QTP 1X15MH SM *4.0 x 1.3 x 1.18*	F	N/A	N/A	N/A	N/A
51988	QTP 1X20MH SM *4.0 x 1.3 x 1.18*	F	RMH-G20-K-LF *4.74 x 1.1 x 1.2*	N/A	M2012CK-7EUN-F *4.12 x 1.32 x 1.22*	MC20-1-F-120X *4.36 x 1.71 x 1.12*
51990	QTP 1X39MH SM *4.0 x 1.3 x 1.18*	F	RMH-39-K-LF *4.4 x 1.1 x 1.2*	N/A	M3912CK-7EUN-F *4.12 x 1.32 x 1.22*	MC39-1-F-120X *4.36 x 1.71 x 1.12*
51991	QTP 1X39MH SM *3.5 x 1.3 x 1.18*	J	RMH-39-K-BLS *4.1 x 1.1 x 1.2*	N/A	M3912CK-7EUN-J *3.81 x 1.32 x 1.5*	MC39-1-J-120X *3.79 x 1.71 x 1.12*
QUICKTRONIC® PROFESSIONAL MH						
METALARC® Metal Halide Universal Voltage – Operates Ceramic and Most Quartz MH Lamp*						
51969	QTP 2X20MH/UNV *4.6 x 3.4 x 1.4*	J	N/A	N/A	N/A	MC20-2-J-UNNU *4.8 x 3.62 x 1.61*
51910	QTP 1X39MH/UNV *5.0 x 3.4 x 1.4*	F	IMH-50-A-LF *5.5 x 3.6 x 1.5*	N/A	M3912-27CK-5EUF *5.51 x 3.62 x 1.57*	N/A
51911	QTP 1X39MH/UNV *4.6 x 3.4 x 1.4*	J	IMH-50-A-BLS *5.5 x 3.6 x 1.5*	N/A	M3912-27CK-5EUJ *4.81 x 3.62 x 1.57*	N/A
51970	QTP 2X39MH/UNV *5.0 x 3.4 x 1.4*	F	IMH-239-A-LF *5.5 x 3.6 x 1.5*	N/A	N/A	MC39-2-F-UNNU *5.52 x 3.62 x 1.35*
51971	QTP 2X39MH/UNV *4.6 x 3.4 x 1.4*	J	IMH-239-A-BLS *4.7 x 3.6 x 1.5*	N/A	N/A	MC39-2-J-UNNU *4.8 x 3.62 x 1.61*
51912	QTP 1X70MH/UNV *5.0 x 3.4 x 1.4*	F	IMH-70-D-LF *5.0 x 3.0 x 1.5*	N/A	M7012-27CK-5EUF *5.51 x 3.62 x 1.57*	N/A
51913	QTP 1X70MH/UNV *4.6 x 3.4 x 1.4*	J	IMH-70-D-BLS *4.6 x 3.0 x 1.5*	N/A	M7012-27CK-5EUJ *4.81 x 3.62 x 1.57*	N/A
51914	QTP 1X100MH/UNV *5.0 x 3.4 x 1.4*	F	IMH-100-D-LF *5.0 x 3.0 x 1.5*	N/A	M10012-27CK-5EUF *5.51 x 3.62 x 1.57*	MC100-1-F-UNIU *5.52 x 3.62 x 1.35*
51915	QTP 1X100MH/UNV *4.6 x 3.4 x 1.4*	J	IMH-100-D-BLS *4.6 x 3.0 x 1.5*	N/A	M10012-27CK-5EUJ *4.81 x 3.62 x 1.57*	MC100-1-J-UNIU *4.8 x 3.62 x 1.61*
For use with external IDTP						
51911	QTP 1X39MH/UNV *4.6 x 3.4 x 1.4*	J	MH-39-A-BLS-ID *4.72 x 3.62 x 1.50*	N/A	M3912-27CK-5EUJT2 *5.02 x 3.62 x 1.57*	N/A
51913	QTP 1X70MH/UNV *4.6 x 3.4 x 1.4*	J	IMH-70-A-BLS-ID *4.72 x 3.62 x 1.50*	N/A	M7012-27CK-5EUJT2 *5.02 x 3.62 x 1.57*	N/A
51915	QTP 1X100MH/UNV *4.6 x 3.4 x 1.4*	J	IMH-100-A-BLS-ID *4.72 x 3.62 x 1.50*	N/A	M10012-27CK-5EUJT2 *5.02 x 3.62 x 1.57*	N/A

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All data shown is for primary lamp types only. Complete data is available in the SYLVANIA QUICKTRONIC® Electronic Ballast Technology & Specification Guide and at www.sylvania.com

QUICKCROSS

Cross Reference Guide

The smart electronics in SYLVANIA QUICKTRONIC® ballasts allow them to outperform the competition.

Item Number	OSRAM SYLVANIA	Mount	Advance	Metrolight	Aromat/ULT/VS	Hatch
QUICKTRONIC® SQUARE and SLIM MH						
METALARC® Metal Halide – Operates Ceramic and Most Quartz MH Lamps*						
51959	QT 1x20MH SQ *3.5 x 3.0 x 1.2*	F	IMH-G20-G-LF *3.8 x 3.0 x 1.2*	N/A	M2012CK-6EU-F *3.75 x 3.0 x 1.2*	MC20-1-F-UNNU *4.04 x 3.0 x 1.21*
51956	QT 1x20MH SQ *3.5 x 3.0 x 1.54*	J	IMH-G20-G-BLS *3.5 x 3.0 x 1.2*	N/A	M2012CK-6EU-J *3.3 x 3.0 x 1.56*	MC20-1-J-UNNU *3.45 x 3.13 x 1.27*
51961	QT 1x39MH SQ *3.5 x 3.0 x 1.2*	F	IMH-39-G-LF *3.8 x 3.0 x 1.2*	N/A	M3912CK-6EU-F *3.75 x 3.0 x 1.2*	MC39-1-F-UNNU *4.04 x 3.0 x 1.21*
51957	QT 1x39MH SQ *3.5 x 3.0 x 1.54*	J	IMH-39-G-BLS *3.5 x 3.0 x 1.2*	N/A	M3912CK-6EU-J *3.3 x 3.0 x 1.56*	MC39-1-J-UNNU *3.45 x 3.13 x 1.27*
51963	QT 1x70MH SQ *3.5 x 3.0 x 1.2*	F	IMH-70-G-LF *3.8 x 3.0 x 1.2*	N/A	M7012CK-6EU-F *3.75 x 3.1 x 1.3*	MC70-1-F-UNNU *4.04 x 3.0 x 1.21*
51946	QTP 1X70MH UNV SLIM F *5.0 x 1.8 x 1.3*	F	N/A	N/A	N/A	MC70-1F-UNNS-HB *7.74 x 1.74 x 1.47*
51947	QTP 1X70MH UNV SLIM J *5.0 x 1.8 x 1.3*	J	N/A	N/A	N/A	MC70-1J-UNNS-HB *7.74 x 1.74 x 1.47*
51948	QTP 1X100MH UNV SLIM F *5.0 x 1.8 x 1.3*	F	N/A	N/A	N/A	MC100-1F-UNNS-HB *7.74 x 1.74 x 1.47*
51949	QTP 1X100MH UNV SLIM J *5.0 x 1.8 x 1.3*	J	N/A	N/A	N/A	MC100-1J-UNNS-HB *7.74 x 1.74 x 1.47*

Item Number	OSRAM SYLVANIA	Mount	Advance	Metrolight	Universal Lighting Technologies	GE
QUICKTRONIC® HIGH EFFICIENCY MH						
Electronic Metal Halide – 208-277V						
51982	QHE 1X320MH 208-277V *8.03 x 5.9 x 1.95*	F	N/A	N/A	N/A	N/A
51983	QHE 1X350MH 208-277V *8.03 x 5.9 x 1.95*	F	N/A	N/A	N/A	N/A
51984	QHE 1X400MH 208-277V *8.03 x 5.9 x 1.95*	F	N/A	N/A	N/A	N/A
QUICKTRONIC® HIGH EFFICIENCY Dimming MH						
Electronic Metal Halide – 208-277V						
51992	QHE 1x200MH 208-277 DIM *8.03 x 5.9 x 1.95*	F	N/A	SmartHID™ 200W *8.46 x 3.43 x 2.16*	N/A	N/A
51993	QHE 1x250MH 208-277 DIM *8.03 x 5.9 x 1.95*	F	N/A	SmartHID™ 250W *8.46 x 3.43 x 2.16*	N/A	GEMH250-400M-V50 *14.91 x 14.91 x 13.35*
51994	QHE 1x320MH 208-277 DIM *8.03 x 5.9 x 1.95*	F	IZTEMH4003PS-F *11.7 x 5.0 x 2.6*	SmartHID™ 320W *8.46 x 3.43 x 2.16*	N/A	GEMH250-400M-V50 *14.91 x 14.91 x 13.35*
51995	QHE 1x350MH 208-277 DIM *8.03 x 5.9 x 1.95*	F	IZTEMH4003PS-F *11.7 x 5.0 x 2.6*	SmartHID™ 350W *8.46 x 3.43 x 2.16*	N/A	GEMH250-400M-V50 *14.91 x 14.91 x 13.35*
51996	QHE 1x400MH 208-277 DIM *8.03 x 5.9 x 1.95*	F	IZTEMH4003PS-F *11.7 x 5.0 x 2.6*	SmartHID™ 400W *8.46 x 3.43 x 2.16*	N/A	GEMH250-400M-V50 *14.91 x 14.91 x 13.35*

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Magnetic Ballast

Simplified Solutions

OSRAM SYLVANIA is focused on helping our customers understand our products, and to simplifying their use and applications. SYLVANIA magnetic fluorescent product labels include an industry first cross-reference guide to help identify the proper ballast for replacing existing installed products. The line voltage is also clearly identified to ensure proper application, and our shipping carton labels are also color coded to indicate the voltage to help avoid misapplication even before the ballasts are out of the box.

SYLVANIA magnetic HID ballast descriptions are based on the corresponding lamp description to make lamp/ballast matching and identification easier.

All fluorescent and HID carton labels also identify the corresponding lamp/ballast matching to make proper product selection as clear and as simple as possible.

Magnetic Ballasts

OSRAM SYLVANIA offers a wide range of magnetic ballast products to support our customers with SYLVANIA brand lighting products. This array of products will allow our customers a broad selection of magnetic ballasts to choose from to operate their SYLVANIA brand lamps.

- HID Magnetic SUPER 5 Kits
- Magnetic Fluorescent Sign Ballasts
- Pulse Start HID Ballasts
- F-Can HID Ballasts
- Indoor Enclosed HID Ballasts

Magnetic Fluorescent Ballasts

High quality products for most general applications – i.e. T12, T9, T8, and T5 lamps.

Magnetic Fluorescent Sign Ballasts

T12 high output magnetic ballasts for sign applications are designed to meet or exceed industry standards and requirements for the sign business.

HID Magnetic Ballast Kits

Easy to use replacement kits for the range of metal halide, pulse start metal halide, high pressure sodium and mercury lamps. Kits include core and coil, capacitors and ignitors (where required), brackets and mounting hardware.

Our SUPER 5 HID Kits have 120, 208, 240, 277 and 480V input voltage taps to reduce the number of models in inventory.

F-Can HID Ballasts

F-Can ballasts for indoor applications operate a range of metal halide, pulse start metal halide and high pressure sodium lamps with minimal noise.

METALARC® Indoor Enclosed HID Ballasts

Indoor enclosed ballasts for indoor applications where remote mounting is required.

Energy Legislation Update

Distributor / Replacement Market

2000 Federal Ballast Efficacy Regulations

Ballast manufacturers cannot manufacture fluorescent ballasts for Full-Wattage F40T12, F40T12/U, F96T12 and F96T12HO that do not meet the minimum Ballast Efficacy Factor (BEF) after July 1, 2010.

EPAct 2005 Magnetic Fluorescent Ballasts

Ballast manufacturers cannot manufacture fluorescent ballasts for Energy-Saving F40T12, F40T12/U, F96T12 and F96T12HO that do not meet the minimum Ballast Efficacy Factor (BEF) after July 1, 2010.

Discontinued List

Discontinued Products		Nearest Electronic Replacement	
T12 and T12HO Fluorescent Ballasts			
48011	MB1x40/120RS-SRNK	T8 Upsell – 49905 ballast & lamp 21763	QTP 1x32T8/UNV ISN-SC & FO32/835/XP/ECO
48120	MB1x40/277RS-SRNK	T8 Upsell – 49905 ballast & lamp 21763	QTP 1x32T8/UNV ISN-SC & FO32/835/XP/ECO
48001	MB2x40/120RS-SRNK	50314	QTP2x40T12/UNV RS 4 Pack
48121	MB2x40/277RS-SRNK	50314	QTP2x40T12/UNV RS 4 Pack
48018	MB2x96/120IS-SRNK	50308	QTP2x96T12/UNV IS 3 Pack
48124	MB1x96/120IS-SRNK	50308	QTP2x96T12/UNV IS 3 Pack*
48125	MB1x96/277IS-SRNK	50308	QTP2x96T12/UNV IS 3 Pack*
48126	MB2x96/277IS-SRNK	50308	QTP2x96T12/UNV IS 3 Pack
48025	MB2x96/HO/120RS-SRNK	50319	QTP2x96T12HO/UNV RS 6 Pack
48027	MB2x96/HO/277RS-SRNK	50319	QTP2x96T12HO/UNV RS 6 Pack
48127	MB1x96/HO/120RS-SRNK	50319	QTP2x96T12HO/UNV RS 6 Pack*
48128	MB1x96/HO/277RS-SRNK	50319	QTP2x96T12HO/UNV RS 6 Pack*

*Also operates one lamp.

Energy Legislation Update

Fixture Market (OEM)

On April 1, 2005, the 2000 Federal Ballast Efficacy Regulations to raise the minimum Ballast Efficacy Factor (BEF) for T12 fluorescent ballasts was implemented. The ruling affects only high power factor fluorescent ballasts for:

- One or two F40T12 and F40T12/U lamps operated on a 120 or 277V ballast
- Two F96T12 lamps operated on a 120 or 277V ballast
- Two F96T12HO lamps operated on a 120 or 277V ballast

On August 8, 2005, the Energy Policy Act of 2005 (EPAct 2005) was signed. EPAct 2005 addresses ballasts for reduced wattage T12 lamps not originally covered in the original 2000 Federal Ballast Efficacy Regulations. Minimum ballast efficacy standards for ballasts capable of operating full and reduced wattageF40T12, F40T12/U, F96T12 and F96T12HO lamps have been set in EPAct 2005. The levels set deadlines for the cessation of production of inefficient ballasts and the gradual phase out of replacement units. Listed below is the essential timetable for the 2000 Federal Ballast Efficacy Regulations and EPAct 2005 for Fixture Manufacturers, Residential Markets and Distributors (Replacement Market).

- On January 1, 2008, the Energy Policy Act of 2005 (EPAct 2005) mandated that mercury vapor ballasts designed for general illumination applications may not be manufactured or imported.
- On December 19, 2007, Energy Independence and Security Act of 2007 (EISA 2007) established new metal halide ballasts efficiency standards and labeling rules for metal halide lamp fixtures.
  - Efficiency rules: Starting January 1, 2009, lighting fixtures manufactured for the operation of metal halide lamps ≥150W but ≤500W **must** contain:

    Minimum ballast efficiency
    - Pulse-start metal halide ballast 88%
    - Magnetic probe-start ballast 94%
    - Electronic ballast (not pulse-start) 90% if ≤250W, 92% if >250W

  - The Department of Energy (DOE) is currently conducting a rule making on Metal Halide ballast efficiency for new fixtures. A final rule is expected mid-year 2012 to be effective in 2015.

Residential Market

T12 magnetic fluorescent normal power factor ballasts designed for residential applications were not affected by either ruling. However, ballasts sold must be marked “For Residential Use Only”.

Fixture Market (OEM)

	2000 Federal Ballast Efficacy Regulation	EPAct 2005		EPAct 2007
Action	2005 BEF Standards for Full-wattage T12 Lamps (F40T12, F40T12/U, F96T12 and F96T12HO)	2009 BEF Standards for Energy-Saving T12 Lamps (F40T12, F40T12/U, F96T12 and F96T12HO)	Standard for Mercury Vapor HID ballasts	Standard for Metal Halide HID ballasts
Ballast manufacturers can no longer make ballasts that do not pass the new requirements for use in new fixtures.	April 1, 2005	July 1, 2009	January 1, 2008	N/A
Ballast manufacturers cannot sell ballasts that do not pass the new requirements to US fixture manufacturers.	July 1, 2005	October 1, 2009	N/A	N/A
Fixture manufacturers cannot sell fixtures that include ballasts that do not pass the new requirements.	April 1, 2006	July 1, 2010	N/A	January 1, 2009

MAGNETIC PRODUCT LINE

Item Number	OSRAM SYLVANIA Description	Input Voltage (VAC)	No. of Lamps	Lamp Types	Input Power (Watts)[1]	ADVANCE Catalog #[2]	Universal Lighting Technologies* Catalog #[2]	Valmont Catalog #[2]
T12 RAPID START								
F40T12 Rapid Start – Normal Power Factor – For Residential Use Only								
48210	MB1x40/120RES-SRNK	120	1	**F40T12,** F30T12, FC12T9, FC16T9	31	RL140TP	413CTCP	8G1075
T12/HO RAPID START								
T12/HO Sign Ballasts								
48204	MSB-12-0412-TP	120	1-2	Any T12/HO, (800mA) lamp within quantity of lamp and lamp length requirements.[3]	185	ASB-0412-12-BL-TP	USB-0412-12	6G3901WF
48205	MSB-24-0620-TP	120	2-4	Any T12/HO, (800mA) lamp within quantity of lamp and lamp length requirements.[3]	300	ASB-0620-24-BL-TP	USB-0816-14	6G3814WF
48206	MSB-24-1224-TP	120	2-4	Any T12/HO, (800mA) lamp within quantity of lamp and lamp length requirements.[3]	375	ASB-1224-24-BL-TP	USB-1024-14	6G3959WF
48207	MSB-24-2040-TP	120	2-4	Any T12/HO, (800mA) lamp within quantity of lamp and lamp length requirements. See wiring diagram for further wiring instructions.[3]	470	ASB-2040-24-BL-TP	USB-1632-24	6G3782WF
48208	MSB-46-1240-TP	120	4-6	Any T12/HO, (800mA) lamp within quantity of lamp and lamp length requirements. See wiring diagram for further wiring instructions.[3]	415	ASB-1240-46-BL-TP	USB-2036-46	6G3787AWF
48209	MSB-46-2448-TP	120	4-6	Any T12/HO, (800mA) lamp within quantity of lamp and lamp length requirements. See wiring diagram for further wiring instructions.[3]	540	ASB-2448-46-BL-TP	USB-2048-46	6G3942AW
T5, T8 and T12 PREHEAT START								
F8T5 Preheat Start – Normal Power Factor								
48475	MB1x8/120PH/TP/S-SRNK	120	1	**F8T5,** F4T5, F6T5	10	LSX113TP4		89G489

* Formerly MagneTek Lighting

[1] Input Power (Watts) for primary lamp type and SUPERSAVER® equivalent, (where applicable). Primary lamp type and SUPERSAVER® equivalent in bold print.

[2] This product line guide is intended as an aid for identifying comparable products for the lamp types listed as a convenience to the user. OSRAM SYLVANIA does not warrant or guarantee the accuracy or correctness of the content. Case sizes, wiring diagrams and performance specifications may vary, please refer to manufacturers specifications. Please refer to the OSRAM SYLVANIA catalog for verification of product specifications appropriate for the application.

[3] Refer to SYLVANIA Sign Ballast Specification Sheet for detailed lamp configuration. Maximum Input Power (Watts) are listed.

[4] Nearest Equivalent – Performance specifications may vary, please refer to manufacturer's specifications.

[5] Due to EPAct 2005, MB1/2x48/96/HO/120RS-SRNK/IN ballast can operate only 1-lamp F96T12/HO.

More complete product information is available in the SYLVANIA Magnetic Ballast Catalog or at www.sylvania.com.

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MAGNETIC HID

Item Number	OSRAM SYLVANIA Description	Input Voltage (VAC)	Circuit Type	Input Power (Watts)	ADVANCE Catalog #[8]	Universal Lighting Technologies* Catalog #[8]	Venture Lighting Catalog #[8]	Howard Industries Catalog #[8,9]
METALARC® METAL HALIDE CORE & COIL BALLAST KITS								
175W Metal Halide Lamp – ANSI Code M57								
47243	M175/SUPER5-KIT	120/208/240/277/480	CWA	210	–	M175ML5AC3M & M175ML5AC3M-500K	–	M017581C212
47735	M175/MULTI-KIT	120/208/240/277	CWA	210	71A5590 & 71A5570-001D	M175MLTAC3M & M175MLTAC3M-500K	V90D6111K	M017571C211
250W Metal Halide Lamp – ANSI Code M58								
47265	M250/SUPER5-KIT	120/208/240/277/480	CWA	290	71A5750 & 71A5750-001D	M250ML5AC4M & M250ML5AC4M-500K	–	M025081C211
47737	M250/MULTI-KIT	120/208/240/277	CWA	290	71A5790 & 71A5770-001D	M250MLTAC4M & M250MLTAC4M-500K	V90D6212K	M025071C211
47049	M250/MULTI 3X4-KIT	120/208/240/277	CWA	294	71A5791 & 71A5771-001D	M250MLTAC3M & M250MLTAC3M-500K	V90D6211K	M025071C212
400W Metal Halide Lamp – ANSI Code M59								
47338	M400/SUPER5-KIT	120/208/240/277/480	CWA	458	71A6051 & 71A6051-001D	M400ML5AC4M & M400ML5AC4M-500K	–	M040081C211
47739	M400/MULTI-KIT	120/208/240/277	CWA	458	71A6091 & 71A6071-001D	M400MLTAC4M & M400MLTAC4M-500K	V90D6413K	M040071C211
47065	M400/480-KIT	480	CWA	458	71A6041 & 71A6041-001D	M400480AC4M	–	M040011C211
1000W Metal Halide Lamp – ANSI Code M47								
47427	M1000/SUPER5-KIT	120/208/240/277/480	CWA	1080	71A6552[6] & 71A6552-001[6]	M1000ML5AC5M & M1000ML5AC5M-500K	V90AM6514K	–
47744	M1000/MULTI-KIT	120/208/240/277	CWA	1080	71A6592[6] & 71A6572-001[6]	M1000MLTAC5M & M1000MLTAC5M-500K	V90D6514K	M0100071C212
47655	M1000/480-KIT	480	CWA	1080	71A6542[6] & 71A6542-001[6]	M1000480AC5M & M1000480AC5M-500K	–	M0100011C212
1500W Metal Halide Lamp – ANSI Code M48								
46808	M1500/MULTI-KIT	120/208/240/277	CWA	1605	71A6792[6] & 71A6772-001[6]	M1500MLTAC5M & M1500MLTAC5M-500K	V90D6612K	M0150071C212
47095	M1500/480-KIT	480	CWA	1605	71A6742[6] & 71A6742-001[6]	M1500480AC5M & M1500480AC5M-500K	–	M0150011C212
METALARC® METAL HALIDE PULSE START CORE & COIL BALLAST KITS								
50W Metal Halide Pulse Start Lamp – ANSI Code M110								
47007	M50/MULTI-KIT	120/208/240/277	HX-HPF	67	–	M50MLTLC3M & M50MLTLC3M-500K	V90D5731K	–
70W Metal Halide Pulse Start Lamp – ANSI Code M98								
47013	M70/MULTI-KIT	120/208/240/277	HX-HPF	95	71A5292 & 71A5292-001D	M70MLTLC3M & M70MLTLC3M-500K	V90D5832K	–
100W Metal Halide Pulse Start Lamp – ANSI Code M90								
47019	M100/MULTI-KIT	120/208/240/277	HX-HPF	130	71A5390 & 71A5390-001D	M100MLTLC3M & M100MLTLC3M-500K	V90D5932K	M010071C511
150W Metal Halide Pulse Start Lamp – ANSI Code M102								
47682	M150/MULTI-PS-KIT	120/208/240/277	HX-HPF	185	71A5492 & 71A5492-001D	M150MLTLC3M & M150MLTLC3M-500K	V90D7130K	–

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MAGNETIC HID

Item Number	OSRAM SYLVANIA Description	Input Voltage (VAC)	Circuit Type	Input Power (Watts)	ADVANCE Catalog #[8]	Universal Lighting Technologies* Catalog #[8]	Venture Lighting Catalog #[8]	Howard Industries Catalog #[8,9]
METALARC® METAL HALIDE PULSE START CORE & COIL BALLAST KITS								
150W Metal Halide Pulse Start Lamp – ANSI Code M81								
47229	M150/MULTI-KIT	120/208/240/277	HX-HPF	185	71A5490	M150MLTLC3D & M150MLTLC3D-500K	–	–
175W Metal Halide Pulse Start Lamp – ANSI Code M137 or M152								
47686	M175/MULTI-PS-KIT	120/208/240/277	CWA	208	71A5593 & 71A5593-001D	P175MLTAC3M & P175MLTAC3M-500K	V90D7210K	–
200W Metal Halide Pulse Start Lamp – ANSI Code M136								
47690	M200/MULTI-PS-KIT	120/208/240/277	CWA	232	71A5692 & 71A5692-001D	P200MLTAC3M & P200MLTAC3M-500K	V90D7310K	M020071C611
250W Metal Halide Pulse Start Lamp – ANSI Code M138 or M153								
47282	M250/SUPER5-PS-KIT	120/208/240/277/480	CWA	288	–	P250ML5AC4M	–	–
47112	M250/MULTI-PS-KIT	120/208/240/277	CWA	288	71A5792 & 71A5792-001D	P250MLTAC4M & P250MLTAC4M-500K	V90D8410K	M025071C611
320W Metal Halide Pulse Start Lamp – ANSI Code M132 or M154								
47676	M320/MULTI-PS-KIT	120/208/240/277	CWA	368	71A5892 & 71A5892-001D	P320MLTAC4M & P320MLTAC4M-500K	V90D7411K	M032071C611
350W Metal Halide Pulse Start Lamp – ANSI Code M131								
47695	M350/MULTI-PS-KIT	120/208/240/277	CWA	400	71A5993 & 71A5993-001D	P350MLTAC4M & P350MLTAC4M-500K	V90D7512K	M035071C611
400W Metal Halide Pulse Start Lamp – ANSI Code M155 or M135								
47400	M400/SUPER5-PS-KIT	120/208/240/277/480	CWA	452	–	P400ML5AC4M	–	–
47132	M400/MULTI-PS-KIT	120/208/240/277	CWA	452	71A6092 & 71A6092-001D	P400MLTAC4M & P400MLTAC4M-500K	V90D7612K	M040071C611
750W Metal Halide Pulse Start Lamp – ANSI Code M149								
47717	M750/MULTI-PS-KIT	120/208/240/277	CWA	818	71A64E2[6,7]	P750MLTAC5M & P750MLTAC5M-500K	V90D7910K	–
47409	M750/120/277/347/480-PS-KIT	120/277/347/480	CWA	818	71A64F2T[6,7]	–	V90J7910K[7]	–
1000W Metal Halide Pulse Start Lamp – ANSI Code M141								
47417	M1000/120/277/347/480-PS-KIT	120/277/347/480	CWA	1080	71A65F3T[6,7]	–	V90J7810K[7]	–
LUMALUX® HIGH PRESSURE SODIUM CORE & COIL REACTOR BALLASTS								
50W High Pressure Sodium Lamp – ANSI Code S68								
47274	LU50/120R	120	R-NPF	60	71A7807	1233-35U	–	–

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MAGNETIC HID

Item Number	OSRAM SYLVANIA Description	Input Voltage (VAC)	Circuit Type	Input Power (Watts)	ADVANCE Catalog #[8]	Universal Lighting Technologies* Catalog #[8]	Venture Lighting Catalog #[8]	Howard Industries Catalog #[8,9]
LUMALUX® HIGH PRESSURE SODIUM CORE & COIL BALLAST KITS								
50W High Pressure Sodium Lamp – ANSI Code S68								
47549	LU50/120/277-KIT	120/277	HX-HPF	66	71A7801 & 71A7801-001D	–	V90H1132K	S005023C511
70W High Pressure Sodium Lamp – ANSI Code S62								
47301	LU70/MULTI-KIT	120/208/ 240/277	HX-HPF	91	71A7991 & 71A7971-001D	S70MLTLC3M & S70MLTLC3M-500K	V90D1233K	S007071C511
100W High Pressure Sodium Lamp – ANSI Code S54								
47316	LU100/MULTI-KIT	120/208/ 240/277	HX-HPF	128	71A8091 & 71A8071-001D	S100MLTLC3M & S100MLTLC3M-500K	V90D1333K	S010071C511
150W High Pressure Sodium Lamp – ANSI Code S55								
47335	LU150/MULTI-KIT	120/208/ 240/277	HX-HPF	188	71A8192 & 71A8172-001D	S150MLTLC3M & S150MLTLC3M-500K	V90D1435K	S015071C511
LUMALUX® HIGH PRESSURE SODIUM CORE & COIL REACTOR BALLASTS								
200W High Pressure Sodium Lamp – ANSI Code S66								
47628	LU200/MULTI-KIT	120/208/ 240/277	CWA	230	71A8990 & 71A8970-001D	S200MLTAC4M & S200MLTAC4M-500K	V90D1610K	–
250W High Pressure Sodium Lamp – ANSI Code S50								
47634	LU250/SUPER5-KIT	120/208/ 240/277/480	CWA	295	71A8251 & 71A8251-001D	S250ML5AC4M & S250ML5AC4M-500K	–	S025081C211
400W High Pressure Sodium Lamp – ANSI Code S51								
47647	LU400/SUPER5-KIT	120/208/ 240/277/480	CWA	464	71A8453 & 71A8453-001D	S400ML5AC4M & S400ML5AC4M-500K	–	–
47364	LU400/MULTI-KIT	120/208/ 240/277	CWA	464	71A8493 & 71A8473-001D	S400MLTAC4M & S400MLTAC4M-500K	V90D1911K & V90D1912K	S040071C211
1000W High Pressure Sodium Lamp – ANSI Code S52								
47659	LU1000/SUPER5-KIT	120/208/ 240/277/480	CWA	1100	71A8753[6] & 71A8753-001[6]	S1000ML5AC5M & S1000ML5AC5M-500K	–	–
47389	LU1000/MULTI-KIT	120/208/ 240/277	CWA	1100	71A8793[6] & 71A8773-001[6]	S1000MLTAC5M & S1000MLTAC5M-500K	V90D2311K	S100071C211
47391	LU1000/480-KIT	480	CWA	1100	71A8743[6] & 71A8743-001[6]	–	–	S100011C211
METALARC® METAL HALIDE PULSE START F-CAN HID BALLASTS								
100W Metal Halide Pulse Start Lamp – ANSI Code M90								
47734	M100/120/277/F-CAN	120/277	HX-HPF	125	72C5381-NP & 72C5381-NP-001	11210-239C-TC	–	–
150W Metal Halide Pulse Start Lamp – ANSI Code M102 or M142								
47738	M150-PS/120/277/F-CAN	120/277	CWA	185	–	–	–	–
250W Metal Halide Pulse Start Lamp – ANSI Code M138 or M153								
47749	M250-PS/120/277/F-CAN	120/277	CWA	295	72C5783-NP & 72C5783-NP-001	–	–	–

**DISCLAIMER: This cross reference guide is intended as an aid for identifying comparable products as a convenience to the user. OSRAM SYLVANIA does not warrant or guarantee the accuracy or correctness of the content. Case sizes,wiring diagrams and performance specifications may vary, please refer to manufacturers specifications. Please refer to the OSRAM SYLVANIA catalog for verification of product specifications appropriate for the application. Information in this cross reference is subject to change at any time without prior notice. Please contact 1-800-LIGHTBULB or www.sylvania.com for additional information.*

Footnotes on page 163

MAGNETIC HID

Item Number	OSRAM SYLVANIA Description	Input Voltage (VAC)	Circuit Type	Input Power (Watts)	ADVANCE Catalog #[8]	Universal Lighting Technologies* Catalog #[8]	Venture Lighting Catalog #[8]	Howard Industries Catalog #[8,9]
METALARC® METAL HALIDE PULSE START F-CAN HID BALLASTS								
320W Metal Halide Pulse Start Lamp – ANSI Code M132 or M154								
47753	M320-PS/120/277/F-CAN	120/277	CWA	375	72C5882-NP & 72C5882-NP-001	P320277AFXM	–	–
METALARC® METAL HALIDE LAMP & BALLAST KITS								
Lamp & Ballast Kits include SYLVANIA METALARC® Metal Halide lamp								
64781	M400/U LAMP/SUPER5 BALLAST KIT	120/208/240/277/480	CWA			458		M59/S
LUMALUX® HIGH PRESSURE SODIUM LAMP & BALLAST KITS								
Lamp & Ballast Kits include SYLVANIA LUMALUX® High Pressure Sodium lamp								
67623	LU400/ECO LAMP/SUPER5 BALLAST KIT	120/208/240/277/480	CWA			464		S51

REPLACEMENT IGNITORS FOR SYLVANIA HID BALLASTS[11]:				
48153	Ignitor/MH/PS/35-150 SD	formerly	47996	Ignitor/MH/PS/50-150
48154	Ignitor/MH/PS/175-400 SD	formerly	47997	Ignitor/MH/PS/175-450
48155	Ignitor/MH/PS/750 SD	formerly	47998	Ignitor/MH/PS/750
47843	Ignitor/HPS/50-150			
47844	Ignitor/HPS/200-400			
REPLACEMENT CAPACITORS FOR SYLVANIA HID BALLASTS:				
47987	CAP10MFD400VAC	formerly	47952	CAP 10Mfd 400VAC
47895	CAP15MFD400VAC	formerly	47954	CAP 15Mfd 400VAC
47982	CAP24MFD480VAC	formerly	47912	CAP 24Mfd 480VAC
47988	CAP26MFD540VAC	formerly	47920	CAP 26Mfd 525VAC
47989	CAP33MFD250VAC			
47986	CAP55MFD240VAC	formerly	47942	CAP 55Mfd 300VAC

FOOTNOTES

* Formerly MagneTek Lighting

[4] NEAREST EQUIVALENT – Performance specifications may vary, please refer to manufacturers specifications.

[5] R-INT = Reactor with Integral Ignitor.

[6] OSRAM SYLVANIA'S HID Ballast is UL Class H Rated and can be used with the corresponding UL Rated fixtures only. The ADVANCE Ballast listed is Dual Rated UL Class H and N.

[7] Ballast Voltage may vary. Always check for required lamp and voltage.

[8] This product line guide is intended as an aid for identifying comparable products for the lamp types, ANSI Codes and Voltage listed as a convenience to the user. OSRAM SYLVANIA does not warrant or guarantee the accuracy or correctness of the content. Case sizes, wiring diagrams and performance specifications may vary, please refer to manufacturers specifications. Please refer to the OSRAM SYLVANIA catalog for verification of product specifications appropriate for the application.

[9] Replacement Kit is indicated by a K at the end of the catalog number.

[10] A 360W Metal Halide lamp ANSI Code M59 operated on this ballast will result in approximately a 10% reduction in Input Power (Watts).

[11] Only use with the corresponding SYLVANIA HID Ballasts. Please refer to OSRAM SYLVANIA catalog for verification of product specifications appropriate for the application.

HID Core & Coil Ballast Kits include ignitor where applicable, capacitor where applicable, mounting bracket, hardware and installation instructions.

More complete product information is available in the SYLVANIA Magnetic Ballast Catalog or at www.sylvania.com.

**DISCLAIMER: This cross reference guide is intended as an aid for identifying comparable products as a convenience to the user. OSRAM SYLVANIA does not warrant or guarantee the accuracy or correctness of the content. Case sizes,wiring diagrams and performance specifications may vary, please refer to manufacturers specifications. Please refer to the OSRAM SYLVANIA catalog for verification of product specifications appropriate for the application. Information in this cross reference is subject to change at any time without prior notice. Please contact 1-800-LIGHTBULB or www.sylvania.com for additional information.*

NOTES:

Lighting Controls

Photosensor and Control
for Daylight Harvesting (0-10V)

Lighting controls and systems include products that help to control energy use, set scenes and create ambiance. Our product line also includes controls that are compatible with LED systems. OSRAM SYLVANIA also offers a demand response system that provides up to 33% in energy savings.

QUICKTRONIC®
PowerSHED™ Relay

ELOGIC™ Lighting Controls
(Slide Dimmer)

ENCELIUM™ Energy Management System

Color coding system:

High Efficiency

Controls

ELOGIC™ Lighting Control: Photosensor and Control for Daylight Harvesting								0-10V Control
Item Number	OSRAM SYLVANIA Description	Type	Ballast Control Method	Output Voltage (VDC)	Max. Input Current (mA)	Lamp Type	Mounting	Color
45030	ELSC-DLH-TVLAMP/BUS	Photosensor & Control for Daylight Harvesting	Analog	0-10V	6	T8 or T5 or T5HO	Lamp Clip	White

0-10V controls are compatible with QUICKTRONIC® HELIOS™ and POWERSENSE® ballast families.

ELOGIC™ Lighting Controls: Slide Dimmer Family							
Item Number	OSRAM SYLVANIA Description	Dimmer Type	Input Voltage	Rating	Color-Change Kit Included	Neutral Required	Front Face
45167	ELMC-SL3W-TVWBX/UNV	0-10V	120V/277V	1200VA/1500VA	Yes	No	White
45165	ELMC-SL3WHP-FLPCWBX/120	Fluorescent	120V	1000VA	Yes	No	White
45166	ELMC-SL3WHP-FLPCWBX/277	Fluorescent	277V	1200VA	Yes	No	White
45163	ELMC-SL3WSP-FLPCWBX/120	Fluorescent	120V	600VA	Yes	No	White
45164	ELMC-SL3WSP-FLPCWBX/277	Fluorescent	277V	600VA	Yes	No	White
45168	ELMC-SL3W-ELVWBX/120	Electronic Low Voltage	120V	400VA	Yes	Yes	White
45171	ELMC-SL3WLED-PCWBX120	LED/CFL/Incandescent	120V	600VA	Yes	No	White

ENCELIUM Energy Management System				
Software				
Literature Number	Item Number	Ordering Abbreviation	Product	Description
LMS064	45280	EN-SW-P3D	Polaris 3D™	ENCELIUM – Software – Polaris 3D
LMS006R1	45281	EN-SW-AERM	Advanced Energy Reporting Module	ENCELIUM – Software – Advanced Energy Reporting Module for Polaris 3 – Version V01
Wall Stations				
LMS056	45255	EN-WS-SC3D-GB2-WT	Three-Scene Dimming Controller	ENCELIUM – Wall Station – three "scene control" buttons with master dim for GreenBus II, White (with locator light)
LMS056	45256	EN-WS-ZC3-GB2-WT	Three Zone Controller	ENCELIUM – Wall Station – three "zone control" buttons for GreenBus II, White (with locator light)
LMS058	45252 45253	EN-WS-R-GB2-GY EN-WS-R-GB2-WT	Rocker Switch	ENCELIUM – Wall Station – Rocker Switch for GreenBus II, (Mycon) White (with locator light)
LMS060	45250 45287	EN-WS-INDPB-GB2 EN-WS-INDPB-GB2-DR	Industrial Push Button	ENCELIUM – Wall Station – Industrial Push Button for GreenBus II, Brushed Stainless Steel (with locator light)
LMS063	45251 45288	EN-WS-KEYSW-GB2 EN-WS- KEYSW-GB2-DR	Key Switch	ENCELIUM – Wall Station – Key Switch for GreenBus II, Brushed Stainless Steel (with locator light)
Hardware				
LMS048	45275	EN-PTC-0.5FT-GB2	GreenBus II™ Network	GreenBus II – Pre-terminated Cable
	45276	EN-PTC-01 FT-GB2		
	45257	EN-PTC-05FT-GB2		
	45258	EN-PTC-10FT-GB2		
	45259	EN-PTC-15FT-GB2		
	45260	EN-PTC-20FT-GB2		
	45261	EN-PTC-25FT-GB2		
	45262	EN-PTC-50FT-GB2		
	45263	EN-BC-1000FT-GB2		
LMS049	45244 45245	EN-LCM-1R10V-GB2-BK EN-LCM-1R10V-GB2-BK-DR	Luminaire Control Module	ENCELIUM – Luminaire Control Module – One relay with 10V Dimming, Black for GreenBus II (supporting a 120-347V circuit – Dry environments)
LMS050	45246 45247	EN-SIM-AI/SPS-GB2-BK EN-SIM-AI/SPS-GB2-BK-DR	Sensor Interface Module	ENCELIUM – Sensor Interface Module – Analog Input and Sensor Power Supply for GreenBus II, use for Light Sensor or Occupancy Sensor, Black
LMS051	45248 45249	EN-ACM-1R10VS-GB2-BK EN-ACM-1R10VS-GB2-BK-DR	Accessory Control Module	ENCELIUM – Accessory Control Module – one relay with 10V Sourcing Output for GreenBus II, Black (supporting a 120-347V circuit – Dry environments)
LMS053	45243	EN-ECU-8PORT-GB2	Energy Control Unit	ENCELIUM – Energy Control Unit – 8 Ports – GreenBus II (120V)
LMS054	45274	EN-SSU-1U	System Support Unit	ENCELIUM – System Support Unit – 1U Size (Windows), includes SSU Agents
LMS066	45273	EN-DB-1L-GB2	DALI Bridge	ENCELIUM – DALI Lighting Controller – GreenBus II to one DALI "Loop" – (Powered by 24V)

Controls

High Efficiency PowerSHED™ Load Shed (100% to ~67% Power) Universal Voltage (120-277VAC) T8 Instant Start Electronic Ballasts

Item Number	OSRAM SYLVANIA Description	Lamp Type	No. of Lamps	Mode	Input Current (AMPS)	Ballast Factor (BF)	Initial System Lumens	Mean System Lumens	Input Power (W)	System Efficacy[1] (lm/W)	BEF[2]	System Power Saved in Load Shed (W)
50695	QHELS 2x32T8/UNV ISN-SC	F032/700	2	Normal Load Shed	0.47/0.20	0.88 0.57	4930 3190	4435 2875	56/55 38/38	88	1.60	 18/17
		F032/800/XP	2	Normal Load Shed	0.47/0.20	0.88 0.57	5280 3420	5015 3250	56/55 38/38	94	1.60	 18/17
		F030/800/XP/SS	2	Normal Load Shed	0.44/0.19	0.86 0.57	4900 3250	4660 3090	53/53 36/36	92	1.66	 17/17
		F028/800/XP/SS	2	Normal Load Shed	0.40/0.18	0.87 0.58	4740 3160	4505 3005	48/48 33/33	99	1.79	 15/15
		F025/835/XP (3')	2	Normal Load Shed	0.38/0.17	0.91 0.58	3960 2525	3760 2395	43/43 29/30	92	2.09	 14/13
		F017/835/XP (2')	2	Normal Load Shed	0.27/0.12	0.91 0.58	2505 1595	2375 1515	31/30 21/22	81	2.95	 10/8
50696	QHELS 3x32T8/UNV ISN-SC	F032/700	3	Normal Load Shed	0.69/0.30	0.88 0.53	7390 4450	6650 4005	83/82 56	89/90	1.07	 27/26
		F032/800/XP	3	Normal Load Shed	0.69/0.30	0.88 0.53	7920 4770	7445 4480	83/82 56	95/97	1.07	 27/26
		F030/800/XP/SS	3	Normal Load Shed	0.66/0.28	0.88 0.53	7525 4530	7075 4260	78/77 53	96/98	1.14	 25/24
		F028/800/XP/SS	3	Normal Load Shed	0.61/0.26	0.88 0.53	7195 4335	6760 4070	73/72 49/50	100	1.22	 24/22
		F025/800/XP (3')	3	Normal Load Shed	0.53/0.23	0.88 0.54	5740 3525	5400 3310	63/62 42/43	91/93	1.42	 21/19
		F017/800/XP (2')	3	Normal Load Shed	0.38/0.17	0.88 0.55	3630 2270	3410 2130	45 31/32	81	1.96	 14/13

The PowerSHED™ ballast reacts to the PowerSHED signal (refer to injector and coupler information) sent over the AC supply from the lighting panel and immediately sheds up to 33% of its load. Actual power and BF varies depending on lamp type. Refer to respective columns.

[1] System Efficacy based on lowest Input Power.

[2] Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note calculation based on lowest power value).

QUICKTRONIC® PowerSHED™ Relay

Item Number	OSRAM SYLVANIA Description	Control Type	Maximum Load (AMPS)	Line Voltage (VAC)	Mounting
45007	QPSC FORMC 1R5A FIXT UNV	Relay	5	120-277	In Fixture

QUICKTRONIC® PowerSHED™ Command Injector

Item Number	OSRAM SYLVANIA Description		Dimensions	Line Voltage (VAC)	Mounting
50699	QPSC CI MR/UNV		6.6"L x 3.5"W x 12.6"H	120-277	Mounting Holes

QUICKTRONIC® PowerSHED™ Command Couplers

Item Number	OSRAM SYLVANIA Description	Size	Ring Dimensions	Harness Length	Mounting
45005	QPSC CC ID26	Standard	2.6"ID x 4.2"OD x 1.0"W	36"	Clamp Included with Coupler
45006	QPSC CC ID41	Large	4.1"ID x 5.5"OD x 1.3"W	36"	Clamp Included with Coupler

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A Lighting Industry Leader

With over 14,000 employees, OSRAM SYLVANIA is one of the leading lighting systems companies in North America. We are the North American business unit of OSRAM GmbH, one of the world's largest lighting manufacturers. OSRAM SYLVANIA is a member of the SIEMENS worldwide family of companies, which employs over 440,000 people in over 190 countries.

Meeting Customer Expectations

OSRAM SYLVANIA makes ongoing investments in new and aggressive business practices. With the Total Cycle Time program, we have turned time into a strategic business ally. Our SAP program unites the entire organization with a sophisticated information system that helps serve our customers faster and more efficiently. Our ISO 9000, ISO 14001 and QS 9000 certifications show our achievements in delivering the highest quality lighting products.

Lighting the World

OSRAM SYLVANIA, together with OSRAM GmbH, is the largest supplier of electronic lighting systems in the world. As leaders in fluorescent, halogen and metal halide technologies, the companies hold numerous international lighting patents and have an extensive engineering and manufacturing network. OSRAM GmbH and OSRAM SYLVANIA literally bring light to the world.

Lamp Disposal Labeling

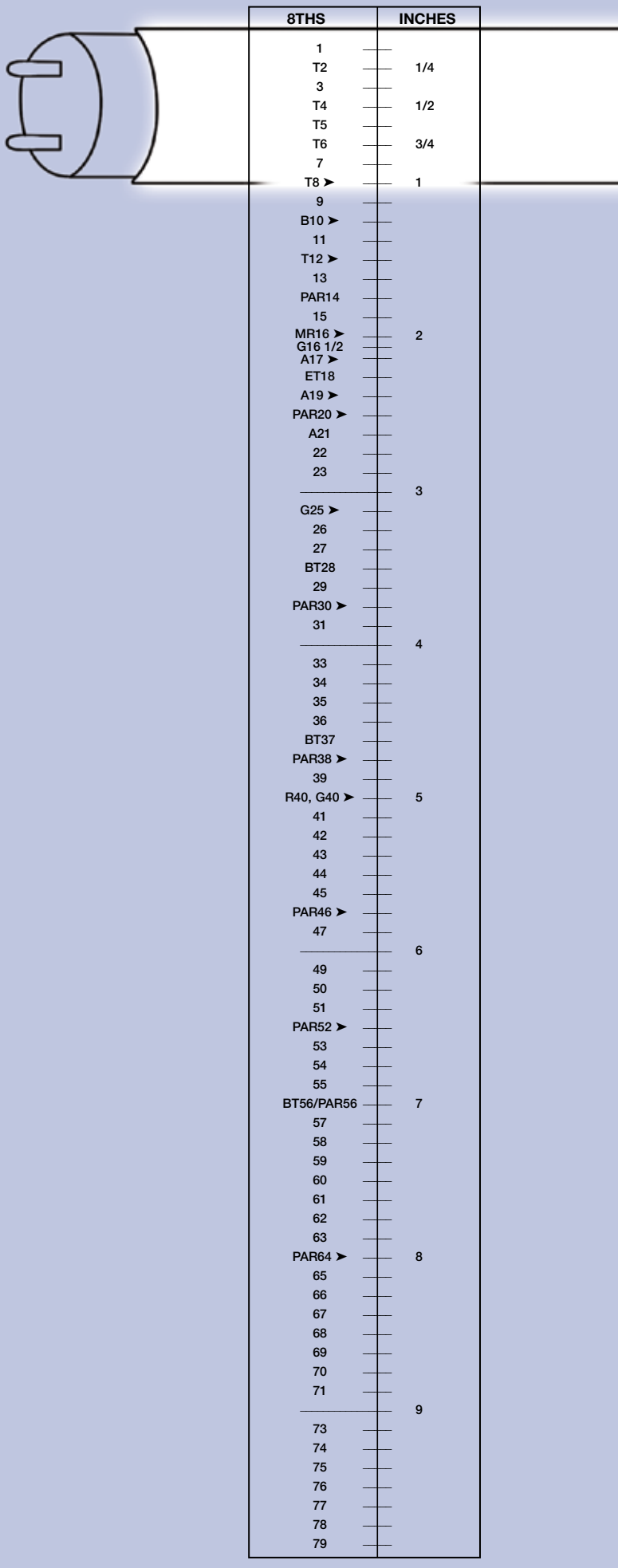
OSRAM SYLVANIA has incorporated the symbol "Hg" into the lamp etch, except for products where size or thermal constraints prevent etching in this manner. This action is part of the National Electrical Manufacturers Association (NEMA) lamp labeling initiative, the purpose of which is to guide users of lighting products – via internet or telephone – to appropriate contacts regarding disposal of spent mercury-containing lamps (fluorescent, compact fluorescent, and most HID).

Disposal labels appear on the inner-most packages of mercury-containing lamps, the outer cartons or both. For Display/Optic and some other specialized lamp types, labeling is included in the stuffer. This labeling format complies with the requirements of existing states' legislation and has been designed to be universally applicable to all US States.

Hg LAMP CONTAINS MERCURY

Manage in Accordance with Disposal Laws

See: www.lamprecycle.org or 1-866-666-6850



United States
OSRAM SYLVANIA
100 Endicott Street
Danvers, MA 01923
1-800-LIGHTBULB

Trade
Phone: 800-255-5042
Fax: 800-255-5043

National Accounts
Phone: 800-562-4671
Fax: 800-562-4674

OEM/Special Markets
Phone: 800-762-7191
Fax: 800-762-7192

Retail
Phone: 800-842-7010
Fax: 800-842-7011

SYLVANIA Lighting Services
Phone: 800-323-0572
Fax: 800-537-0784

Display/Optic
Phone: 888-677-2627
Fax: 855-543-1043

www.sylvania.com

Canada
OSRAM SYLVANIA LTD.
2001 Drew Road
Mississauga, ON L5S 1S4
1-800-LIGHTBULB

Trade
Phone: 800-263-2852
Fax: 800-667-6772

OEM/Special Markets/Display/Optic
Phone: 800-265-2852
Fax: 800-667-6772

Retail
Phone: 800-720-2852
Fax: 800-667-6772

SYLVANIA Lighting Services
Phone: 800-663-4268
Fax: 866-239-1278

Mexico
OSRAM MEXICO
Tultitlan/Edo de Mexico
Phone: 011-52-55-58-99-18-500

ENCELIUM Technologies
United States
Phone: 201-928-2400
Fax: 201-928-4028

Canada
Phone: 905-731-7678
Fax: 905-731-1401