



A new age in outdoor city lighting

CosmoPolis™ Outdoor Lighting System

PHILIPS



CosmoWhite™ Lamp:
60W, 90W & 140W



Lamp Holder



Philips Advance CosmoWhite™
Electronic Ballast

CosmoPolis™: A compact system of a lamp, lamp holder, and ballast, specially designed for outdoor applications

The CosmoPolis™



outdoor system



Building on the foundations

The invention of the low-pressure sodium lamp and linear fluorescent lamp in the 1930s created a foundation for today's outdoor lighting. Then, in the 1960s, the light sources of choice became high pressure sodium and mercury vapor.

With CosmoPolis™, Philips presents to you another major step forward in urban outdoor lighting, developed specifically to meet the challenges you face in the 21st century. The CosmoPolis™ system simplifies outdoor lighting with the combination of a miniature lamp and an optimized electronic ballast system.

The Six Performance Features of the CosmoPolis™ System are Impressive:

1. Quality of Light
2. System Efficiency
3. Compact System
4. Optical Efficiency
5. Dependable Service
6. Sustainability

With CosmoPolis™, the benefits you experience from using Philips advanced outdoor HID lamps are more impressive than ever.

CosmoPolis™ HID Outdoor Lighting System:



Cost Savings



Reliability



Quality of Light



Ecological Care

The six features of the CosmoPolis™ Outdoor Lighting System

The outdoor lighting trends are towards:

- Energy efficiency and long, dependable service, not only to reduce your lighting cost of ownership but also to address environmental concerns.
- Improved visibility and enhanced ambience to attract people back into your city centers at night.
- Miniaturization enables unobtrusive lighting and exciting new luminaire designs.

CosmoWhite™ is the Obvious Choice

1. Quality of Light

The CosmoPolis™ lighting system meets your current outdoor lighting needs.

Each CosmoWhite™ lamp, with its warm white light, improves the appearance of buildings, parks and the people who visit them.

Improved off-axis (peripheral) visibility.

White light improves the visibility of objects and people at the sides of your vision¹. For example, to a motorist this means a better chance of spotting and reacting to potential hazards on the side of the road, footpaths, bicycle lanes, and at park entrances.

Warm white light is perceived brighter than yellow light at the same measured luminance at low lighting levels². This is due to two factors: the eye's increased sensitivity to white light at low light levels and improved color contrast from better color rendering. So simply put, you can see better.

White light is preferred at night over yellow light.

White light gives you better visibility to see objects, people, and bright, colorful surroundings clearly. It also enables better orientation and quicker identification of people and the surrounding areas.³

See page 7 for footnotes.

2. System Efficiency

CosmoPolis™ may cut the cost of your total lighting ownership in three ways: increased luminous efficacy, reduced ballast losses, and improved optical performance.

Increased luminous efficacy.

Improvements to lamp arc tube design and vapor salts have increased luminous efficacy, meaning that you can use CosmoWhite™ to replace high pressure sodium (HPS), mercury vapor (MV) or quartz metal halide (QMH) with useful energy savings and without loss of light levels.

CosmoPolis™ is not a retrofit for existing lamps, but offers you impressive benefits for new or renewed installations. Consider:

- CosmoWhite™ 60W instead of HPS 70W, MV/QMH 100W.
- CosmoWhite™ 90W instead of HPS 100W, MV/QMH 175W.
- CosmoWhite™ 140W instead of HPS 150W, MV/QMH 250W.



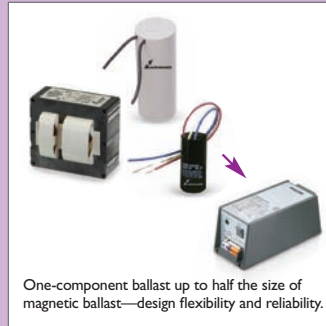
Photo by Brett Drury

Miniaturization is More than a Design Trend

Miniaturization to meet the needs of today's end-user. CosmoWhite™ lamps are 65% smaller than respective quartz metal halide, ceramic metal halide, high pressure sodium, and mercury vapor lamps. The CosmoWhite™ dedicated electronic ballast is up to half the size of quartz metal halide, ceramic metal halide, high pressure sodium and mercury vapor magnetic ballasts.

A compact lighting system allows:

- Smaller, lightweight luminaires, using light-duty poles.
- Less raw materials used to conserve resources.



3. Compact System

Like many of the latest lamps, CosmoWhite™ lamps are only designed to run on electronic ballasts, and present the following benefits:

- High system efficiency to save energy.
- Compact size and low weight provide design flexibility and easy installation.
- Only one ballast component to simplify servicing.

Philips Advance CosmoWhite™ ballasts were exclusively designed for perfect compatibility and reliability with CosmoWhite™ lamps.

In addition:

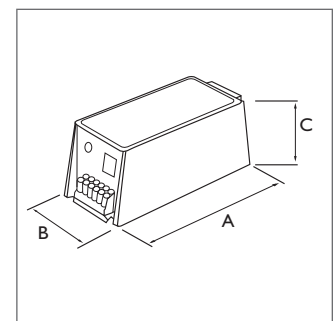
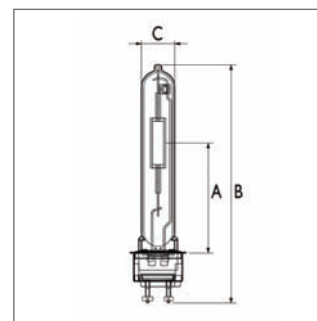
- The CosmoWhite™ ballast has long-life, heavy-duty specification in outdoor applications (60,000 hours).
- Peak voltage protection assists in safeguarding the lamp.
- Lightning/surge protection to 10kV, EMC/EMI compliance.
- Fully potted box, protecting components against dust, moisture and vibrations.

Lamp Dimensions (Inches)

	CosmoWhite™ 60W	CosmoWhite™ 90W	CosmoWhite™ 140W
A	2.32"	2.60"	2.60"
B	5.20"	5.63"	5.79"
C	0.75"	0.75"	0.75"

Ballast Dimensions (Inches)

	CosmoWhite™ 60W		CosmoWhite™ 90W & 140W	
	208–277V	120V	208–277V	120V
A	5.31"	5.91"	5.91"	6.54"
B	2.56"	2.56"	2.56"	3.94"
C	2.56"	2.56"	2.56"	2.36"





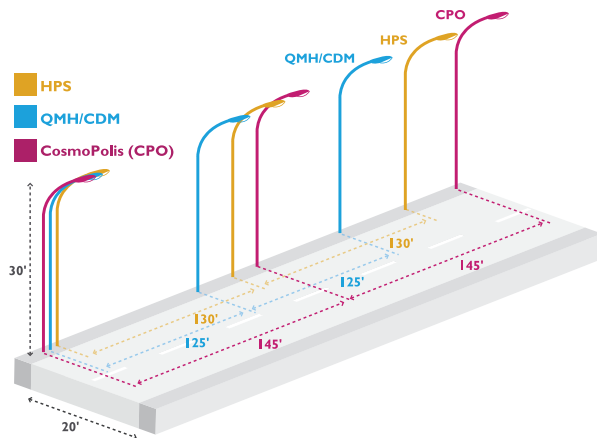
4. Optical Efficiency

Improved optical performance.

The optimized design and precise positioning of the light source via the locking lamp base enables substantially improved optical performance. This means your luminaires can be spaced some 10–15% further apart—you need fewer light points to achieve the desired lighting performance.

CosmoPolis™ on average...

16% More Spacing Between Light Poles



5. Dependable Service

Constant light output over a long period of time for more lamps. CosmoWhite™ lamps have a long rated average life⁴ of 30,000 hours (60W, 90W and 140W lamps at horizontal application). 90W and 140W are rated for 20,000 hours at vertical application, while 60W is rated for 15,000 hours at vertical application.

By comparison to the following lamps:

- At 8000 burning hours ceramic metal halide lamps have a 10% lamp failure rate with a lumen maintenance of only 80%.
- At 8000 burning hours quartz metal halide lamps have a 10% lamp failure rate with a lumen maintenance of only 60%.

Philips Advance CosmoWhite™ ballasts with Xtreme™ technology. Optimized with exclusive Xtreme™ technology, the Philips Advance eHID ballast used in the CosmoPolis™ system is ideal for outdoor use. With an expected lifetime of 60,000 hours (5% failure rate), and 10kV of built-in transient protection, this rugged ballast is far superior to other outdoor lighting systems that require power factor correction capacitors and ignitors.



6. Sustainability

Environmental issues have always been important, and Philips has adopted an EcoDesign approach. Because of its outstanding EcoDesign performance, CosmoPolis™ is one of Philips Green Flagship products:

- High efficacy lamp and highly efficient ballast reduce CO₂ greenhouse gas emissions.
- Long life reduces resources needed to manufacture replacement lamps and ballasts and reduces disposal costs.
- Miniaturization of lamps and ballast cuts material use both in manufacture and packaging and transport volume.
- Ballast is lead-free.
- Lamps pass the TCLP⁵. However, state and local laws may differ, check state and local laws, rules, and regulations regarding disposal.
- Low mercury content (the following are approximate readings):

60W = 1.2mg

90W = 1.8mg

140W = 2.4mg

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

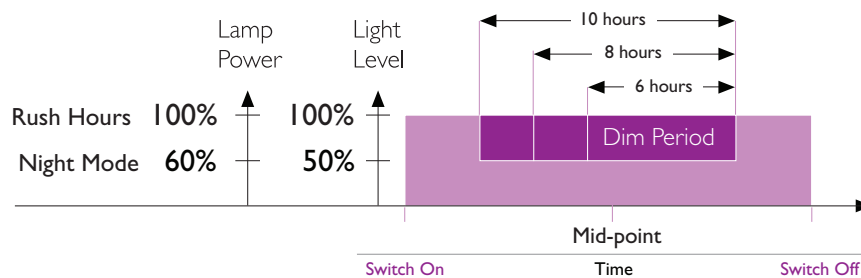


Dow Jones Sustainability Index Philips has been included in the Dow Jones Sustainability Indexes since 2000.



LumiStep™ Dimming Ballast

The CosmoPolis™ system offers a step-dimming capability with three possible dimming times of 6, 8 or 10 hours with the LumiStep™ feature. The ballast will dim the 60W lamp to 75% of lamp power and the 90W and 140W lamps to 60% lamp power. The ballast calculates the mid-point of the evening, which is the starting point for 6 hour LumiStep™ and will dim the lamp for 6 hours before returning to full light output. The 8 and 10 hour LumiStep™ models will begin their dimming at 2 and 4 hours before the mid-point, respectively.



1) Bullough JD, Rea MS. Visual performance under mesopic conditions: Consequences for roadway lighting. Transportation Research Record 2004; (1862): 89–94.
 2) Akashi Y, Morante P, Rea MS. An energy-efficient street lighting demonstration based upon the unified system of photometry. CIE Expert Symposium on Vision and Lighting in Mesopic Conditions '05, 38-43, Leon, Spain, 2005.
 3) Mulder M, Boyce PR. Spectral effects in escape route lighting. Lighting Research and Technology 2005, 37(3), 199–218.
 4) Rated average life is the life obtained, on the average, from large representative groups of lamps in laboratory tests under controlled conditions at 10 or more operating hours per start. It is based on survival of at least 50% of the lamps and allows for individual lamps or groups of lamps to vary considerably from the average.
 5) The TCLP is the US EPA's Toxicity Characteristic Leaching Procedure (TCLP) for non-hazardous waste status.

Ordering, Electrical and Technical Data (Subject to change without notice)

Product Number	Ordering Code	Lamp Base	Lamp Wattage	Color Temp.	CRI	Approx. Initial Lumens ⁶	Approx. Mean Lumens ⁷	Rated Average Life ⁸	MOL (In)	LCL (In)
CosmoPolis™										
15731-3	CPO-TW 60W/728	PGZ12	60W	2800K	70	6900	6200	30,000	5.20"	2.32"
40604-1	CPO-TW 90W/728	PGZ12	90W	2800K	70	10,450	8800	30,000	5.63"	2.60"
15732-1	CPO-TW 140W/728	PGZ12	140W	2800K	70	16,500	14,020	30,000	5.79"	2.60"

- 6) Measured at 100 hours of life in a horizontal operating position.
- 7) Approximate mean lumen output at 40% of lamp rated average life. Measured in vertical and horizontal operating positions.
- 8) Rated average life is the life obtained, on the average, from large representative groups of lamps in laboratory tests under controlled conditions at 10 or more operating hours per start. It is based on survival of at least 50% of the lamps and allows for individual lamps or groups of lamps to vary considerably from the average. 30,000 hours rated average life at horizontal application. For vertical application, rated average life for 90W and 140W is 20,000 hours, while rated average life for 60W is 15,000 hours.
- High efficacy—up to 118 lumens per watt.
- CosmoWhite™ lamps are “universal burning”, which means that they can be operated in both horizontal and vertical applications. However, the light-technical properties are slightly different in vertical burning position compared to the horizontal position. When rotating the lamp from the horizontal towards the vertical position, the color temperature, CRI, luminous efficacy and lamp lifetime drop compared to the horizontal data.
- U/V block similar to MasterColor® lamps.
- Ignition time 30 seconds, re-strike time is 15 minutes.

Product Number	Nominal System Power (Wattage)	Nominal Lamp Power (Wattage)	Expected Lifetime Max. 5% Failure Rate	Ambient Range Celsius	Rated Mains	Mains Freq. (Hz)	Power Factor (Nom)	Dimensions (L x W x H) (In)
NEW! Philips Advance LumiStep™ Dimming Ballasts								
ILCW60NLS -6, -8, -10	67.3	60W	60,000 hours	-20°C/+50°C	208–277V	50/60	0.95	5.31" x 2.56" x 2.56"
ILCW90MLS -6, -8, -10	99.0	90W	60,000 hours	-20°C/+50°C	208–277V	50/60	0.95	5.91" x 2.56" x 2.56"
ILCW140MLS -6, -8, -10	153.5	140W	60,000 hours	-20°C/+50°C	208–277V	50/60	0.95	5.91" x 2.56" x 2.56"
RLCW60MLS -6, -8, -10	68.0	60W	60,000 hours	-30°C/+50°C	120V	50/60	0.95	5.91" x 2.56" x 2.56"
RLCW90TLS -6, -8, -10	99.0	90W	60,000 hours	-30°C/+50°C	120V	50/60	0.95	6.54" x 3.94" x 2.36"
RLCW140TLS -6, -8, -10	154.0	140W	60,000 hours	-30°C/+50°C	120V	50/60	0.95	6.54" x 3.94" x 2.36"
Philips Advance CosmoWhite™ Ballasts								
ICW60NLS	67.3	60W	60,000 hours	-20°C/+50°C	208–277V	50/60	0.95	5.31" x 2.56" x 2.56"
ICW90MLS	99.0	90W	60,000 hours	-20°C/+50°C	208–277V	50/60	0.95	5.91" x 2.56" x 2.56"
ICW140MLS	153.5	140W	60,000 hours	-20°C/+50°C	208–277V	50/60	0.95	5.91" x 2.56" x 2.56"
RCW60MLS	68.0	60W	60,000 hours	-30°C/+50°C	120V	50/60	0.95	5.91" x 2.56" x 2.56"
RCW90TLS	99.0	90W	60,000 hours	-30°C/+50°C	120V	50/60	0.95	6.54" x 3.94" x 2.36"
RCW140TLS	154.0	140W	60,000 hours	-30°C/+50°C	120V	50/60	0.95	6.54" x 3.94" x 2.36"

CosmoWhite™ Lamp (For Enclosed Fixtures Only)
WARNINGS, CAUTIONS AND OPERATING INSTRUCTIONS

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

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

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

This lamp contains an arc tube with a filling gas containing less than 6.6 nCi of Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North America Corporation, Somerset, New Jersey, 08875

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE.

Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

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

LAMP OPERATING INSTRUCTIONS:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
3. Use only in an enclosed fixture capable of withstanding particles of glass having temperatures up to 1000°C.
4. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
 - A. Operate lamp only within specified limits of operation.
 - B. For total supply load refer to ballast manufacturer’s electrical data.

C. All CosmoWhite lamps require a PGZ12 socket rated to withstand a 5000 Volt pulse.

5. Periodically inspect the outer envelope. Replace any broken lamps and lamps that show scratches, cracks or damage immediately.
6. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
7. Protect lamp, lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
8. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock, and color appearance may vary between individual lamps.
9. Lamps may require 10 to 15 minutes to re-light if there is a power interruption.
10. Take care in handling and disposing of lamps. Don't break the outer bulb of an end of life lamp. If an arc tube is broken, avoid skin contact with any of the contents or fragments. Check with federal, state, and local regulations regarding disposal.
11. Use this lamp only in a fixture that contains an Philips Advance CosmoWhite electronic low frequency square wave ballast.
12. When inserting a new lamp, hold it by the quartz bulb, not by the metal lamp base; twist the lamp 45° clockwise in the lamp holder to ensure proper electrical and mechanical connection.
13. Store the lamps in cool and dry conditions to prevent the oxidation of the exterior metal parts.
14. Consult your Philips Lighting or Advance representative if you have any questions.



© 2010 Philips Lighting Company.
All rights reserved.
Printed in USA 4/10
P-5832-D
www.philips.com

Philips Lighting Company
200 Franklin Square Drive
Somerset, NJ 08873
1-800-555-0050
A Division of Philips Electronics
North America Corporation

Philips Lighting
281 Hillmount Road
Markham, Ontario
Canada L6C 2S3
1-800-555-0050
A Division of Philips Electronics Ltd.

Philips Lighting Electronics N.A.
10275 West Higgins Road
Rosemont, IL 60018
1-800-322-2086
A Division of Philips Electronics
North America Corporation
www.philips.com/advance