PHILIPS

Automotive

Safety you can see

Catalog 2015-2016

Shaping the **future of light**

Philips Automotive is the world's leading supplier of lamps to the automotive industry and aftermarket.

Our technological innovations have been on the forefront of automotive lighting for more than 100 years and have led to the advancement and modernization of automotive lighting as we know it today.

Since 1914 our passion has been to increase safety through meaningful innovations that enhance people's lives on the move, making their drive safer and more comfortable.

We were one of the **first manufacturers** of modern electric automotive lights and our lighting innovations have been landmarks in the history of automotive lighting. In 1936 we introduced the **Duplolux Selective**, the first modern headlight featuring a far-reaching beam, ensuring greater safety at higher speeds.

Our **Duplo-D** featured a unique, asymmetrical passing beam that would not blind oncoming motorists.

In 1962 we created the **H1**, the world's first halogen headlamp. As cars became more powerful and speeds increased, our headlamps delivered greater safety through technological advancements and more powerful light.

Our revolutionary **H4** was the first two-filament halogen headlamp. In 1991 we unveiled the world's **first Xenon lighting solution** on the BMW 7-series.

In 2004 we introduced the first mercury-free HID (high-intensity discharge) headlamp! And the world's first fully-equipped **LED headlight** was fitted with powerful **Philips LEDs**!

We are committed to producing **best-in-class products** and **services** in the Original Equipment Manufacturer (OEM) market as well as in aftermarket.

Our products are manufactured from **high-quality materials** and tested to the highest specifications to maximize the **safety** and driving **comfort** of our customers.

Our products are meticulously **tested, controlled,** and **certified** to the highest SAE requirements and are DOT compliant.

Our passion is **making your drive a safer one** by offering you today, the **lights of tomorrow to go even farther**!

Safety you can **see**!

For over 100 years, we have been continuously innovating automotive lighting. With every innovation we have only one goal – **your safety**.

From the first headlamp, through to state-of-the-art **LED technology,** our goal has been to make driving as safe as it can be. The products we develop are designed to offer drivers the **maximum visibility** on the road. Lights that are as powerful and efficient as they are long-lasting.

Automotive design **innovations** continue to develop at a fast pace, with advances in engine design, fuel economy, comfort and, of course, **safety**. And as the number of cars on the road increases, so does the need to improve safety in every aspect of driving. This is where lighting plays an important role. When we increase the headlamps' **light output** and the **clarity** of the beam, not only can drivers **see better**, they are **seen better** too.

Our products are designed to **increase driver safety.** With a wide selection of products on the market, we offer every driver lighting for the road that keeps them **safer**. Because we understand that safer driving is driving that offers you a **clearer view of the road**. And when you see more, you have **more time to react** to hazards.

Safer vehicles with improved lighting really do make a difference. That's **safety you can see**.

Philips original equipment quality: our high manufacturing standards

- We are the **choice** of all major car manufacturers
- Our lighting is original equipment on **one in three cars** in the world
- Manufacturing processes that **exceed** current industry **specifications**.

Feel safe, drive safe

For over 100 years we've been **leading** the way, showing you the road and taking you home. You may not think about us, but we do little else than think about you. That's why our lighting solutions are the most **reliable** and **powerful** on the market today, far surpassing industry standards.

Light is the first and only part of the safety circle that actually helps **prevent accidents**, so **safety** begins with seeing and being seen. Our products produce powerful and precise light, combining **performance** and **reliability** to make your drive a safe one. We produce high quality, efficient lighting solutions because we know that **your life depends on it**.

Care how you drive

Our engineers have been pioneering some of the most innovative and **sustainable** lighting. Our development of LEDs means **more light** and **less energy consumption**. We produce **reliable**, **longer-lasting** products that minimize environmental impact by producing **less waste.**

We continue to lead the lighting industry in **reducing** the amount of hazardous material used.

Drive with style

Today's drivers are not only looking for more safety and reliability, they're looking for more performance and style. They want to fully customize their ride with their own unique look while staying safe. With our **CrystalVision ultra** range, you are doing just that.

With its **intense Xenon-white effect**, you obtain maximum white light that gives your vehicle the clean and powerful look you've been waiting for. Your premium driving experience has now been extended to our Xenon range with **CrystalVision ultra. Safety has never been so attractive.**

Don’t compromise on **safety**, change in **pairs**

2 new headlamps are safer than **1**

For many years drivers have seen the value of **changing in pairs.** Whether it be tires, shock absorbers, brake pads and discs, the **safety** and **financial advantages** of replacing both worn parts have become common practice. We apply the same **common sense** approach to car headlamps.

The **benefits** for drivers and the automotive aftermarket are significant. It’s simply more efficient to **change both headlamps** while your car is in for service, rather than only replace the failed one. New, modern bulbs have increased light output and increased performance, offering a safer driving experience.

Changing in pairs also avoids the frequent problem of follow-up failure when the old headlight fails after replacing a new one. Overall the benefits and advantages are numerous: less hassle, cost savings, avoiding headlight failure, a brighter and more balanced beam, but above all, **safety**.

To help promote **changing in pairs**, we’ve made it **easier** by providing a range of twin-pack products. Make changing in pairs a **new habit**, because **two new headlamps** are **better** and **safer** than one.

Another clear example of **safety you can see**.

It’s important to change lamps in pairs.

Filament age
The filament of older headlamps will break sooner.

Light deterioration
At the end of their life, lamps project less light, thereby reducing visibility.

Maintenance efficiency
It’s faster, easier, and cheaper to change both headlamps, rather than just one.

Original quality lasts
Choosing Original equipment bulbs reduces the chance of early failure thanks to their higher quality standards.

1999 – 2015 Applications

Passenger Cars – Sport Utilities – Light Trucks
Voitures de Tourisme – Utilitaires Sport – Fourgonnettes
Pasajeros – Deportivos – Camionetas

Our **pro-active solution** against Xenon lamp **piracy**

Counterfeit Philips Xenon lamps are becoming increasingly available through online and offline distribution channels. These counterfeit lamps are **poor imitations** of **inferior quality**. Buying, selling, or being in possession of counterfeit products is illegal.

To **protect** our customers and all consumers from counterfeit Philips lighting products, we've created a **pro-active solution** using unique, **state-of-the-art** technology.

Philips **Certificate of Authenticity (COA)** is available on **every new Xenon lamp package you order**.

Using the **security code**, as well as other special security elements, professionals can verify the **authenticity** of the Philips product on a dedicated, fully secure internet platform.

Philips is committed to helping **protect** its customers from poor imitations of inferior quality that may damage a vehicle or result in personal injury.

Always ensure that you are buying **genuine Philips products**.

Safety

Xenon HID

Ideal for replacement

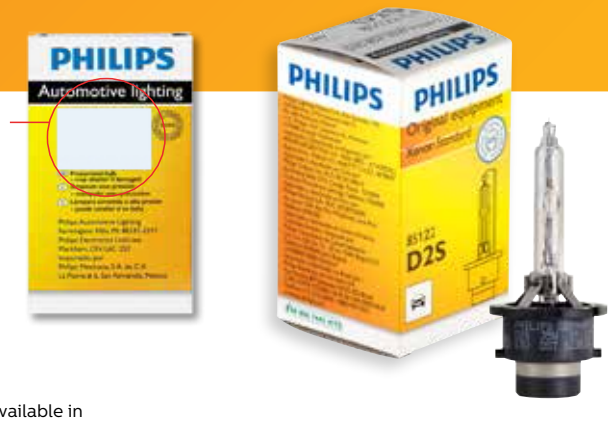
- **Philips original equipment quality Xenon technology**
- **Single-lamp replacement technology: new lamp matches color temperature of the unchanged one**
- **Economical choice**

Standard

Xenon HID

Philips Xenon HID allows you to replace a single burned-out lamp while **matching** the **color** of the unchanged one.

This innovative replacement technology is the ideal economical solution for a **single-lamp replacement**.



Available in

D1S D1R D2S D2R D3S

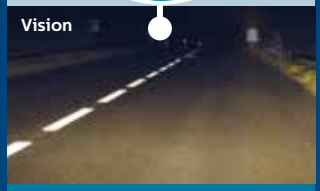
D3R D4S D4R D5S

Which **car** lamp do you **need**?

More light at night.

Vision

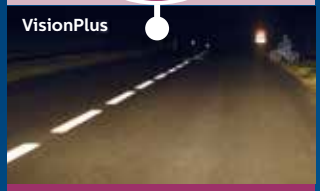
30% more light



Available in 9003, 9004, 9005, 9006, 9007, 9008/H13, H1, H3, H7, H11

VisionPlus

60% more light



Available in 9003, 9004, 9005, 9006, 9007, 9008/H13, H1, H3, H7, H11

X-tremeVision

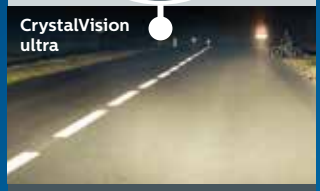
up to 100% more light

Available in 9003, 9004, 9005, 9006, 9007, 9008/H13, H1, H7, H11

Drive with style.

CrystalVision ultra

Bright white Xenon look

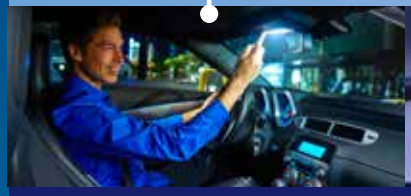


Available in 9003, 9004, 9005, 9006, 9007, 9008/H13, H1, H3, H7, H11, 9145/H10, 880, 893, H4651, H4656, H4666, H6024, H6054

Upgrade your style, **inside and out.**

Vision LED bulbs last **12 years, guaranteed.**

Interior 6000K bright white light

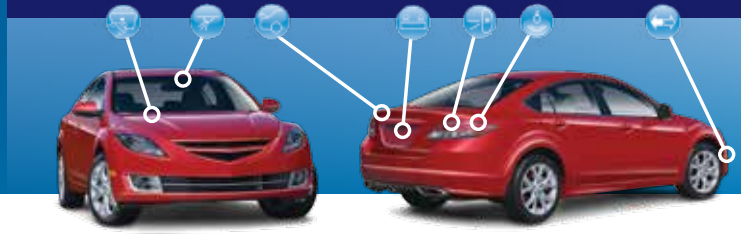


Interior applications: dome light, trunk, and glove compartment lights

Available in 194, 43MM, 38MM, 30MM

Exterior Street-legal LEDs

Exterior applications: brake and taillights, back-up lights, side-marker, and license plate lights
Available in 194, 921, 1156W, 1156R, 1157, 3157, 7440, 7443



Drive with style.

X-tremeVision LED Fog

Maximum Visibility & Style

Perfect color match with Xenon and LED headlights. **Plug-and-play direct replacement** for standard halogen H8, H11, and H16 fog lamps

LED interior and exterior lighting for cars and trucks

Our **LED interior and exterior lighting** illuminates the vehicle with power and precision.

Our **new Vision LED** range delivers revolutionary lighting technology with brilliant, **6000K** light and a unique, new **high-tech style** for interior and exterior lighting applications.

Our **X-tremeVision LED** range illuminates the interior with a cool, bright, and precise light, and our **X-tremeVision LED Fog Lights** provide a totally new style and performance upgrade.

With over 100 years at the forefront of the automotive lighting industry, Philips expertise guarantees extra long lifetime and superior light performance.

Safety & Style

Vision LED

Interior and Exterior lighting

A **breakthrough innovation** for your vehicle lighting: replace your standard car lights with our robust Philips Vision LEDs that deliver dynamic lighting for your vehicle, both inside and out. And thanks to our **12+ years lifetime,** you will likely never have to replace them again.

The innovative design and unmatched performance of Philips Vision LEDs are available for brake and taillights, back-up lights, dome lights, glove compartment lights, and license plate lights. All backed by our **12-year limited warranty.**

Available for exterior in:

921 1156W 1156R 1157 3157 7440 7443 194

Available for interior in:

194 43mm 38mm 30mm

Vision LED

interior and exterior lighting interchange*

Interior applications: dome light, trunk, and glove compartment
Exterior applications: brake and taillights, back-up lights, side-marker, and license plate

Industry Number	Replaces	Description	Philips LED Part Number
194LED	158, 161, 168, 192, 193, 194, 579, 12961	Interior/Exterior LED	127996000KB2
30MM-LED	12818, DE3021, DE3022, DE3175	Interior LED	128006000KB1
38MM-LED	12844, 12854, DE3423, DE3425	Interior LED	128016000KB1
43MM-LED	211-2, 212-2, 578, 6411, 12866	Interior LED	128026000KB1
921LED	904, 906, 912, 916, 917, 920, 921, 922	Exterior LED - Back up	12841B2
1156RLED	193, 198, 199, 1073, 1141, 1156, 1159, 12498, P21W	Exterior LED - Stop/Tail	12839REDB2
1156WLED	1156	Exterior LED - Back up	12898B2
1157LED	1034, 1157, 2057, 12499, P21/5W	Exterior LED - Stop/Tail	12836REDB2
3157LED	3057, 3157, 4057, 4157	Exterior LED - Stop/Tail	12840REDB2
7440LED	7440	Exterior LED - Stop/Tail	12838REDB2
7443LED	7443	Exterior LED - Stop/Tail	12835REDB2

Note: Interchange does not cover all applications

Philips **LED CANBUS** Warning Canceller

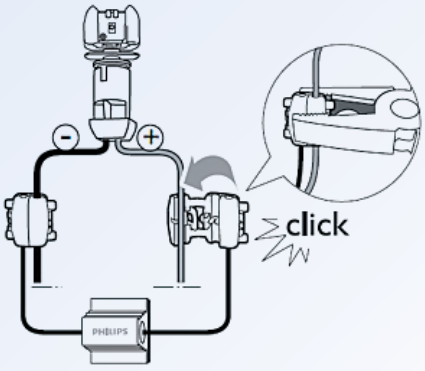
CAN-bus Enabling Adapter (CEA) is designed to prevent the warning signals from the dashboard for some 'CAN-bus system equipped' cars after replacing the original incandescent bulbs with Philips LED bulbs.

CAN-bus Adapter CEAY 18957 12V 21W

Industry Number	Philips LED Part Number
194LED	127996000KB2
30MM-LED	128006000KB1
38MM-LED	128016000KB1
43MM-LED	128026000KB1

CAN-bus Adapter CEA 12956 12V 5W

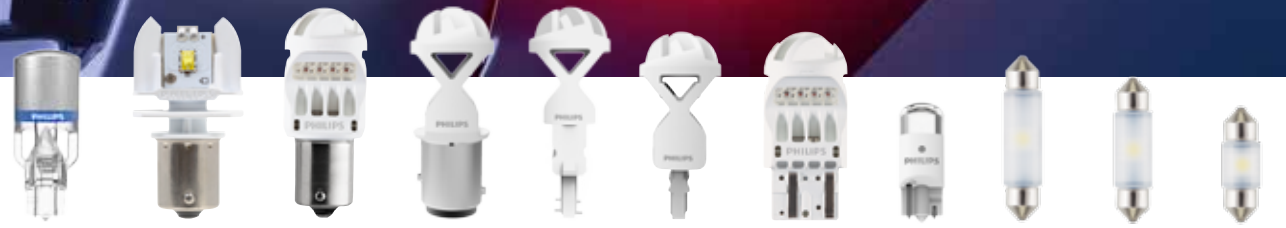
Industry Number	Philips LED Part Number
921LED	12841B2
1156RLED	12839REDB2
1156WLED	12898B2
1157LED	12836REDB2
3157LED	12840REDB2
7440LED	12838REDB2
7443LED	12835REDB2



CEA is installed in parallel with the corresponding LED bulb.

Troubleshooting tip: Some CAN bus systems treat low power consumption of bulbs as a sign of burned-out bulb, which causes a warnings on dashboard. Since LED bulbs consume much lower power than the original incandescent bulbs, they can trigger this warning in some vehicles. Installing the Philips CEA in the circuit eliminates this problem. Installation takes only minutes and requires only a pair of pliers.

Philips **Vision LED** Interior and Exterior lights



921 1156W 1156R 1157 3157 7440 7443 194 43mm 38mm 30mm

Street-Legal LEDs

First to market with proven street-legal exterior LEDs as a direct replacement for exterior incandescent bulb applications. They are street-legal because their groundbreaking design allows the light beam to be focused exactly where it's needed.

Fast response time

Unlike a standard incandescent bulb that actually takes time to light up, Vision LED lights illuminate instantly. That means when you brake, the vehicle behind you can react immediately. The instant-on capability of the Vision LED lights can actually reduce braking distance by up to 20 ft. at 75 mph.

Warranty Program

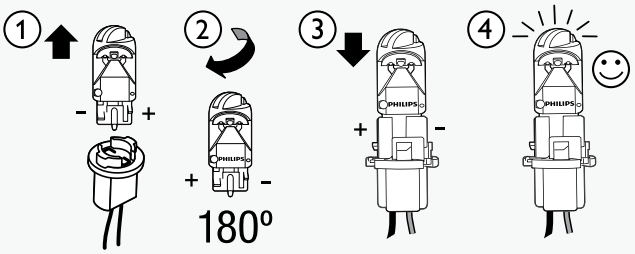
We are so confident in our Vision LED lights that we have backed them with the Philips **12-year limited warranty.**

Easy warranty registration in three steps:

1. Download our warranty registration
2. Complete the form
3. Mail or e-mail the form along with a copy of your sales receipt to Philips

Troubleshooting tip: If your Vision LED bulb doesn't light up when you first install it, take it out, rotate it 180° and reinstall it. Some Vision LEDs require a specific polarity and you may need to rotate the bulb to get the polarity correct.

1. Remove the LED from the socket
2. Flip the LED 180°
3. Insert the LED back into the socket
4. Check to ensure the LED lights up



Do not force the LED or alter the socket.
Be sure that you have the right LED for your application.

Maximum visibility

X-tremeVision LED Fog Lamps

Philips bright white 6000K **high power LED fog lamps** provide the perfect color match with Xenon and LED headlights.

Patented **Safe Beam** technology eliminates glare to other drivers.

- **6000K color temperature**
- **12-year lifetime**
- **Optimal thermal design ensures maximum cooling of LED**
- **For replacement of H8, H11, or H16 halogen fog bulbs**

Part number: 12834UNIX2

Drive with style

X-tremeVision LED Interior Lights

Standard halogen

Philips X-tremeVision LED

Philips X-tremeVision **high-power LEDs** illuminate the interior with a **cool, bright** and **precise** light while not distracting the driver.

Philips X-tremeVision LED interior lighting is perfect for drivers who want to take their interiors to the next level.

- **6000K color temperature**
- **High-performance LED**
- **Perfect geometrical fit**
- **Heat and vibration resistant**

X-tremeVision LED interior lighting interchange*

Industry Description	Replaces	Philips LED Part Number – 6000K
30mm LED, Festoon, 12V	12818, DE3021, DE3022, DE3175	129416000KX1
38mm LED, Festoon, 12V	12844, 12854, DE3423, DE3425	128596000KX1
43mm LED, Festoon, 12V	211-2, 212-2, 578, 6411, 12866	129466000KX1

**Note: Interchange does not cover all applications*

More light

Vision

- **Competitive price**
- **Longer light-beam projection**
- **Philips original equipment quality**
- **DOT compliant**

Producing **30% more light** compared to a standard halogen headlight, Vision ensures excellent light-beam performance at a very **competitive price** with **original equipment quality**.

Our Vision upgrade headlight bulbs produce a longer light-beam projection for **greater safety** and **comfort**.

+30%

more light on the road*

*Compared to a standard halogen headlight

Available in:

- H1
- H3
- H7
- H11
- 9003
- 9005
- 9006
- 9007
- 9008/H13

More light

VisionPlus

- **Superior quality with enhanced visibility**
- **Up to 80 ft. longer beam***
- **Greater driving comfort and safety**
- **DOT compliant**

A faster reaction time can save lives. Philips VisionPlus upgrade headlight bulbs produce **60% more light**, which allows drivers to see farther for greater **safety** and **comfort**.

Philips VisionPlus is the performance choice for **safety-conscious drivers**.

Offering **high performance** and **excellent value**, VisionPlus is the **right choice** for today's demanding drivers.

+60%

more light on the road*

*Compared to a standard halogen headlight

Available in:

- H1
- H7
- H11
- 9003
- 9006
- 9007
- 9008/H13

More light

X-tremeVision

- **Maximum comfort and safety**
- **Up to 115 foot longer beam***
- **Unique filament design**
- **Optimized high-precision geometry**
- **DOT compliant**

Boost your vision with X-tremeVision! Philips X-tremeVision upgrade headlight bulbs offer up to **100% more light** and a beam that's up to **115 feet longer** than a standard halogen headlight, for drivers who want to see farther. Based on a unique filament design and optimized geometry, X-tremeVision is engineered with state of-the-art technology for ultimate performance and more light where it matters the most.

Up to

+100%

more light on the road*

*Compared to a standard halogen headlight

Available in:

- H1
- H7
- H11
- 9003
- 9004
- 9005
- 9006
- 9007
- 9008/H13

Style

CrystalVision ultra

Bright white Xenon look

- **4000K bright white light on the road**
- **Blue-capped bulb creates reflection in the headlamp's reflector**
- **DOT compliant**

Philips CrystalVision ultra is for drivers seeking to personalize their vehicles. With CrystalVision ultra upgrade headlight bulbs, drivers enjoy a look that is unmatched in a **DOT compliant**, street-legal bulb.

CrystalVision ultra provides a bright white **4000K light** on the road at night. The perfect choice for those who want to drive with style, without compromising on safety.

Available in:

• H1	• 9003	• 9007	• H4651
• H3	• 9004	• 9008/H13	• H4656
• H7	• 9005	• 9145/H10	• H4666
• H11	• 9006	• 880	• H6024
		• 893	• H6054

Ride with care

MotoVision

See and be seen

- **Distinctive orange effect**
- **Maximum safety**
- **40% more bright light***

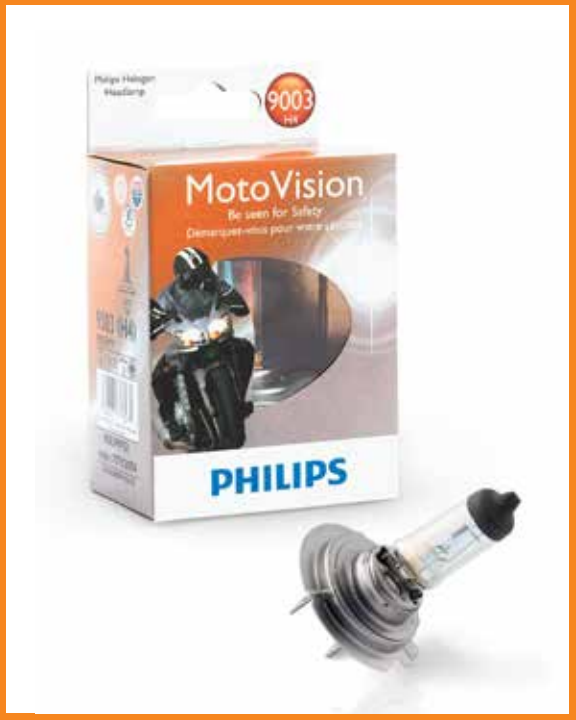
up to 15G Vibration resistant

For maximum safety and visibility, Philips offers the MotoVision lighting solution with a distinctive, **attention-grabbing orange effect** in the headlight. Motorcycle riders everywhere are looking for more safety, especially riders in heavy city traffic. Philips has specifically engineered the MotoVision for **maximum visibility** as well as **maximum safety**. Producing an orange effect that's quickly seen by other drivers, the MotoVision also produces **40% more bright white light*** so that riders can see farther for maximum safety.

*Compared to a standard halogen headlight

Available in: 9003/H4 and H7

Part numbers: 9003MVS1 and 1972MVS1



Upgrades for **every bulb in your car.**

Vision
30% more light

VisionPlus
60% more light

X-tremeVision
Up to **100% more light**

CrystalVision ultra
Xenon look

Low beam – High Beam – Dual beam

12258	9003	12972	9004	9006	9005	9007	12362	9008
H1	HB2	H7	HB1	HB4	HB3	HB5	H11	H13

Dome lights

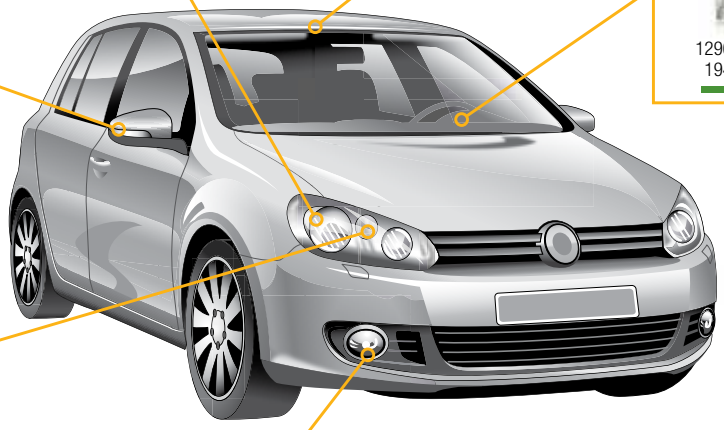
921LL	12961LL 906LL 912LL	12844LL C5W	194 LED	921 LED	Festoon 30mm LED	Festoon 38mm LED	Festoon 43mm LED

Side marker

12961LL 161LL 194LL	3157LL 3057LL	194 LED

Dashboard lights

12961LL 194LL	194 LED



Front indicators

12498LL 2057LL	12946NALL 1157NALL 2057NALL	3057LL 3157LL

Front fog/driving

12258	12336	12972	12362	9003	9006	12086	12276	12834 LED
H1	H3	H7	H11	HB2	HB4	PS24W	PSX24W	H8, H11, H16

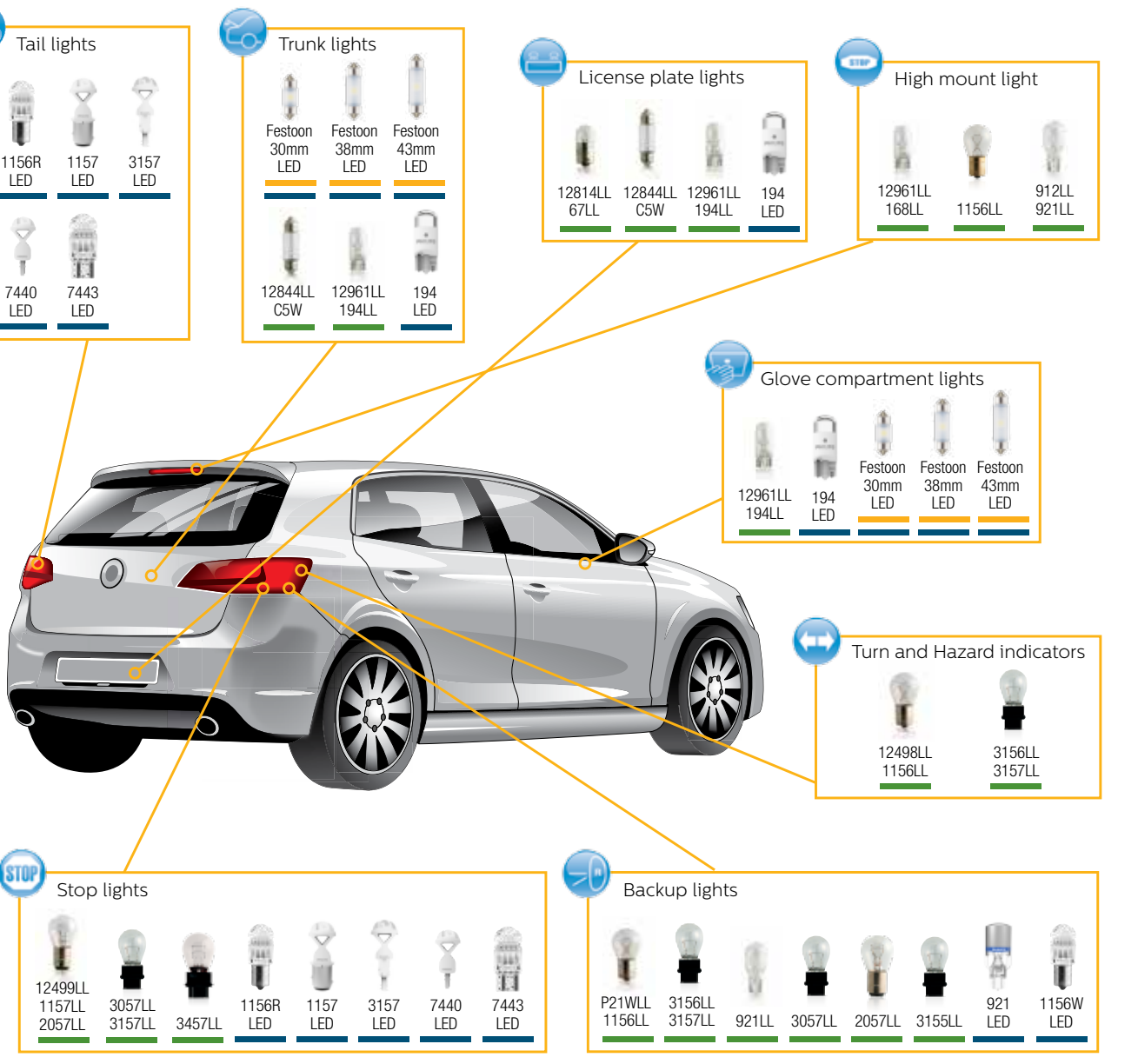
In the chart below, the small color bars below each bulb indicate which ranges that bulb is available in.
The color of each small bar corresponds to the color of the text box for the product range in which that bulb is available.

LongerLife

Vision LED Interior and Exterior Lighting

X-tremeVision LED Interior Lighting

X-tremeVision LED Fog Lamps



Less replacement

LongerLife Miniatures

Longest lasting miniature bulbs

- **Twice the life of standard bulbs***
- **Best value**
- **LongerLife bulbs are for drivers who want the best value for their money.**

*Compared to a standard incandescent

Style

CrystalVision ultra Miniatures

Bright white light

- **The bright white look for turn signals, side markers, and tail lights**

CrystalVision ultra miniature bulbs deliver a **bright white light** that makes your vehicle stand out. These miniature bulbs are ideal for adding style to your vehicle.

Value

Commercial Portfolio

Original Equipment quality

- **A full range of headlight bulbs, miniatures, and sealed beams**
- **Name-brand recognition in commercial packaging**

Our Philips Commercial Portfolio offers an exceptional lighting program for your commercial customers, giving you the power of Philips name-brand recognition and an overall value that's hard to match. The program features a complete line of Philips standard OE replacement lighting that delivers the **same OE quality and performance** as Philips provides to automakers around the world.

Safety

Headlight restoration kit

Restores headlight lenses to like-new condition!

- **Less glare and up to 100% brighter lens**
- **Provides safer night-time driving**
- **Removes haze and yellowing from harmful UV-rays and dirt**
- **Professional results without power tools in 30 minutes**
- **High quality and economical**
- **2-year UV protection - guaranteed**

Before

After

The Philips Headlight restoration kit removes the fading and yellowing of headlight lenses and restores them to their original state of **transparency** for greater safety. Headlight lenses fade and oxidize from constant exposure to the elements and become scratched due to impacts. The **protective UV coating** applied at the factory deteriorates causing the lenses to yellow, which can result in a **40% loss of nighttime light**.

The **Headlight restoration kit** contains all you need to restore two headlight lenses of any vehicle for your customers' **safety** and **satisfaction**.

Sales and marketing **tools**

We've created useful **tools** to satisfy your customers' needs and expectations and to help you market and sell Philips Automotive products. As always, we strive to **educate** the consumer with coherent and **consistent in-store** information.

Countertop Display

for Halogen upgrade headlights

More light, more safety, more style.
Our countertop display helps to drive sales of your Philips Halogen upgrade headlights.

Each corrugated countertop display comes with 4 interchangeable headers:

- VisionPlus
- X-tremeVision
- CrystalVision ultra
- Generic for mix and match

Order Countertop Display: **56347C1**

The display is NOT pre-packed; products are NOT included

Bulb Cabinets

Boost service profits with **extra lighting sales**

Keep the right mix of popular bulbs on hand, to avoid delays and take advantage of profitable service opportunities. Both cabinets feature a rugged powder coated finish and easy wall mounting.

Premium Cabinet

25" x 4" x 23"
Lockable swing out, two-door cabinet

Order Premium Cabinet: **PHLPC2**

Commercial Cabinet

19" x 4" x 26"
Tip-out type cabinet

Order Commercial Cabinet: **PHLCC1**

Vision LED Display

for Interior and Exterior LED bulbs

FREE with your order of Philips Vision LEDs

Easy-to-assemble, corrugated display features a **push-button 'Try Me' bulb fixture** which allows your customer to experience first-hand the dynamic output of a Philips Vision LED bulb.

Each display stands 50.5" tall x 14" wide x 4.5" deep and comes with twenty 4-inch plastic display hooks which can comfortably display up to eighty Vision LED blister bulb packs.

Also included is a 50-sheet, tear-off registration form pad which allows your customer to easily register any Vision LED purchase for the Philips **12-Year Limited Warranty.**

The display is NOT pre-packed; products are NOT included

Lighting technology explained

Asymmetrical beam pattern
An offset beam pattern for low beam applications. Provides a longer beam in the lane of travel rather than in the opposite lane, which avoids blinding drivers in oncoming traffic.

Ballast
The electronic driver that controls a Xenon HID bulb.

Base
Bottom part of the bulb which ensures a proper mechanical and electrical connection with the lamp unit of the car. Its precision is important for a correct beam pattern.

Board voltage
Electrical voltage in the board net of the vehicle. In cars, the operational voltage at the bulb connector typically varies between 13 and 14 volts (V). The official test voltage for halogen headlight bulbs is 13.2 V according to ECE R37. For trucks with a 24 V board net the test voltage is 28 V. The board voltage has a significant impact on filament bulb lifetime. In general, a 5% voltage increase reduces the lifetime by 50%.

Burner
Burner is the glass part of a halogen or Xenon HID bulb in which the light emission is generated. It consists of hard or quartz glass and contains the filament and the two electrodes.

Candela (cd)
Unit of luminous intensity that measures the amount of luminous power emitted by a light source in a particular direction.

Color temperature
Thermal measure for light color. Derived from the color emitted by a "black body" which is heated up to a certain temperature (see also Kelvin).

Cut-off zone
The line between the bright and dark zones of low beam light. Above the cut-off zone, the amount of light is limited in order to avoid blinding oncoming traffic.

D(...)
Nomenclature for Xenon HID bulbs where **D** stands for "discharge." Available technical types: **D1S, D1R, D2S, D2R, D3S, D3R, D4S, D4R,** and **D5S**.
D1 and **D2** First bulbs introduced in 1991
D3 and **D4** Mercury-free bulbs that replace D1 and D2
For D1 and D3, the electronic high-voltage starter is already integrated in the bulb base. The **S** type is used with projector (lens) systems. Version **R** is used in open reflectors and features an additional coating on the outer tube (pinstripe) which blocks out some areas to avoid glare. The **D5S** is a 25-watt bulb with integrated starter and integrated ballast.

Discharge bulb
The correct, technical term of the so-called Xenon bulb is **high-intensity discharge** bulb. The light is emitted by an electric arc which is produced between two electrodes.
See also HID and Xenon light.

DOT
The United States Department of Transportation which overseas federal highway, air, railroad, maritime and other transportation administration functions. It fulfills a role similar to the Economic Commission for Europe (ECE).

DRL
Daytime Running Lights.

ECE
Economic Commission for Europe. One of five regional commissions of the United Nations (UN) based in Geneva that contributes to enhancing the effectiveness of the UN through the regional implementation of outcomes of global UN Conferences and Summits. The ECE is responsible for harmonizing technical specifications for vehicles whose regulations are also mandatory in many countries outside Europe.

ECE R
This stands for the ECE Regulation.
Examples for vehicle lighting:
R37 Filament lamps
R99 Gas-discharge light sources
R48 Installation of lighting and light-signaling devices

Electric arc
The connecting luminous discharge between the two electrodes of a Xenon HID bulb. This is similar in principle to a bolt of lightning. The electric arc is created by the high-voltage starter and stabilized and controlled by the ballast.

Electrodes
Electrical conductors which are positioned opposite each other in the vessel of a Xenon gas-discharge bulb. The electric arc that emits light is produced between the electrodes.

E-mark
The ECE mark of approval. The digit following the "E" indicates in which country the approval has been granted. For example: E1 indicates Germany and E2 indicates France. An approval granted by one ECE member is valid for all member states and is typically adopted by national regulations. Single minor deviations are possible.

Festoon
A tube-shaped bulb with contacts at each end such as 12844, which is commonly used for interior and license plate lighting.

Filament
A coiled tungsten wire that emits light.

H(...)
Nomenclature for halogen bulbs. H = halogen.
The bulbs are numbered consecutively.
The most common types are:
H1 First halogen bulb (single filament).
9003/H4 Double filament for both low beam and high beam application in one headlamp unit.
H7 Most common halogen bulb in Europe for low beam, high beam, and fog lighting.

Halogen
A gas that is used to create the halogen cycle process in a light bulb. During operation, tungsten molecules evaporate from the tungsten wire. In the cycle process, they combine with the halogen molecules and fall back to the wire. This extends the lifetime of a bulb and allows operation at a higher intensity. Halogen bulbs contain a high-pressure halogen filling. Non-halogen incandescent bulbs often use a vacuum.

HB(...)
ECE name of original North American bulb types which were approved for use in Europe as well. For example: HB3 refers to 9005 and HB4 refers to 9006.

Hg
Symbol for mercury (Latin: hydrargyrum). Xenon bulb types D1 and D2 still contain approximately one third of the amount of mercury as a normal domestic energy-saving bulb. D3, D4 und D5 are completely mercury-free.

HID
High Intensity Discharge. Correct technical name for a so-called Xenon bulb.
See also gas-discharge bulb, Xenon light, Xenon system.

High-voltage starter
Creates high voltage pulses of approximately 20.000 volts to ignite the electric arc in a Xenon HID bulb.

HiPerVision
Very compact signaling-bulb range with high-precision filaments and a long lifetime. For use in signaling lights, fog lamps, rear and daytime running lights.

Illuminance (lux)
Contrary to luminous flux (lumen), which is a measure of the total amount of light emitted by a light source, illuminance describes the amount of luminous flux per unit area, such as on the road. This is measured with a lux meter.

Kelvin (K)
A unit of measure of temperature based upon an absolute scale whereby zero (minus 273° C) represents the point where all thermal motion ceases. In lighting, however, this is a measure of color temperature. The higher the color temperature, the whiter and cooler the light appears.

LED
Light Emitting Diode.

Lifetime
Statistical data that indicate the failure rate of a percentage of bulbs operated at a specific voltage over a certain period of time. Common lifetime data indication:
B3 Time when statistically 3% of the test samples have failed
TC Time when 63% of the test samples have failed.

Luminance
The intensity of light emitted from a surface per unit area in a given direction from, for example, the filament or the electric arc of a Xenon HID bulb. An important indicator of the amount of light a headlamp unit provides on the road. The unit is candela/m^2 (cd/m^2).

Lumen (lm)
Unit of luminous flux.

Luminous flux (lumen)
The total amount of light that is emitted by a light source in all directions.

Lux (lx)
Unit of illuminance. 1 Lux = 1 lm/m^2.
See also Illuminance.

Lux meter
Illuminance measuring device.

Pb
Symbol for lead (Latin: plumbum).
All Philips automotive bulbs are **lead-free**.

Quartz glass
Temperature and pressure resistant glass for halogen and Xenon HID bulbs. The glass also has a special coating to block out harmful ultraviolet (UV) light.

Tungsten
Filament and electrode material.

UV-block
Ultraviolet (UV) blocking glass absorbs the UV light created by the filament or the electric arc. UV block is mandatory for all ECE complying car bulbs because UV light can damage the plastic cover of the headlamp.
See also Quartz glass.

Wedge base
Bulb with a glass base, such as W5W. Mainly used for parking lights, side indicators, and interior lighting.

Xenon (Xe)
One of the noble gases. Commonly used to refer to HID bulbs.

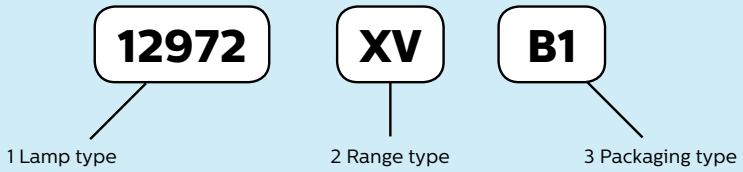
Xenon light
Headlights with HID bulbs.
See also D(...), Discharge bulb, HID.

Xenon system
A complete Xenon system consists of the HID bulb, the high-voltage starter and the electronic ballast which controls the electric arc.

Understanding Philips **ordering codes**

All our automotive lighting products can be ordered using **Philips Order Entry**.
With Philips Order Entry you can identify the **lamp type**, the **product range** and the **packaging type.**

Example: **12972XVB1**, H7 X-tremeVision, single blister



1 Lamp type

Every **lamp type** is designated by Philips with a unique number. All 12V lamps start with 12 (for example, 12972 for H7 12V)

2 Range type

Most lamp types are available in different ranges that are linked to color codes (PR – Vision, blue; VP-VisionPlus, maroon, etc.).

See “Upgrades for every bulb in your car” on pages 18-19 to see how color codes are used to show the availability of each lamp in a specific product range.

3 Packaging type

Commercial Pack
Material carton
Contents 1 lamp
Contents 10 lamps
Packaging type **C1/CP**

Double blister
Material carton/plastic
Contents 2 lamps
Packaging type **B2**

Single blister
Material carton/plastic
Contents 1 lamp
Packaging type **B1**

Order Entry Code Guide

General Part Number	Philips Standard Part Number	Philips Vision Part Number	Philips VisionPlus Part Number	Philips X-tremeVision Part Number	Philips CrystalVision ultra Part Number
9003	9003B1, 9003B2, 9003C1	9003PRB1, 9003PRB2	9003VPB1, 9003VPB2	9003XVB1, 9003XVB2	9003CVB1, 9003CVB2
9004	9004B1, 9004B2, 9004C1	9004PRB1, 9004PRB2	9004VPB1, 9004VPB2	9004XVB1, 9004XVB2	9004CVB1, 9004CVB2
9005	9005B1, 9005C1	9005PRB1, 9005PRB2	9005VPB1, 9005VPB2	9005XVB2	9005CVB1, 9005CVB2
9006	9006B1, 9006B2, 9006C1	9006PRB1, 9006PRB2	9006VPB1, 9006VPB2	9006XVB1, 9006XVB2	9006CVB1, 9006CVB2
9007	9007B1, 9007B2, 9007C1	9007PRB1, 9007PRB2	9007VPB1, 9007VPB2	9007XVB1, 9007XVB2	9007CVB1, 9007CVB2
9008(H13)	9008B1, 9008C1	9008PRB1	9008VPB1, 9008VPB2	9008XVB2	9008CVB1, 9008CVB2
H1	12258B1, 12258C1	12258PRB1	12258VPB1, 12258VPB2	12258XVB2	12258CVB2
H3	12336B1	12336PRB1, 12336PRC1	12336VPB1	N/A	12336CVB2
H3-100W	12455RAB1, 12455RAC1	N/A	N/A	N/A	N/A
H7	12972PRB1, 12972PRB2	12972PRB1, 12972PRB2	12972VPB1, 12972VPB2	12972XVB1, 12972XVB2	12972CVB1, 12972CVB2
H8	12360B1, 12360C1	N/A	N/A	N/A	N/A
H9	12361B1, 12361C1	N/A	N/A	N/A	N/A
H10	9145B1	N/A	N/A	N/A	9145CVB1
H11	12362B1, 12362B2	12362PRB1, 12362PRB2	12362VPB1, 12362VPB2	12362XVB1, 12362XVB2	12362CVB1, 12362CVB2
H11B	12363B1	N/A	N/A	N/A	N/A
D1R	85409C1	N/A	N/A	N/A	N/A
D1S	85415C1	N/A	N/A	N/A	N/A
D2R	85126C1	N/A	N/A	N/A	N/A
D2S	85122C1	N/A	N/A	N/A	N/A
D3R	42306C1	N/A	N/A	N/A	N/A
D3S	42302C1	N/A	N/A	N/A	N/A
D4R	42406C1	N/A	N/A	N/A	N/A
D4S	42402C1	N/A	N/A	N/A	N/A

Philips suffix explanation:
B1 = Blister pack of 1 bulb
B2 = Blister pack of 2 bulbs
C1 = Commercial box packaging of 1 bulb

Mazimize your **visibility & style.**

Upgrade your vehicle's style with Philips bright white **6000K high power LED fog lamps.** They provide the perfect color match with Xenon and LED headlights and Philips CrystalVision ultra headlights. And, their patented **Safe Beam** technology eliminates glare to other drivers.

innovation you

LED X-tremeVision LED fog lamps

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