



AmphiLux

Light up your outdoor social areas



PHILIPS

sense and simplicity

Contents

AmphiLux - Light up your outdoor social areas	5
A complete range of outdoor submersible light fixtures	6
Range overview	8
Installing fixtures in wet environments for a mono color installation	10
White light	11
Dynamic color installation	12
Colored light	13
Beam overview	14
Accent lighting	15
Fountain lighting	16
surface-mounted	17
recessed-mounted	18
Accessories	19
Recessed mounting box application	19
Standard codes	20



Philips Outdoor Lighting Application Center,
Miribel, France



AmphiLux - Light up your outdoor social areas

**If architectural lighting is being installed where it is visible,
it really has to look good!**

Designed and manufactured in Italy, the AmphiLux range of products has been created for outdoor architectural lighting applications that require a visually appealing luminaire. Apart from its beautiful design, the AmphiLux range is packed with useful features to make it suitable for many accent and low-intensity floodlight applications.

Lighting social areas

Outdoor areas where people meet socially can be made much more attractive with the right lighting. AmphiLux will feel right and look very much at home in squares and parks, especially where there are water features.



A complete range of outdoor submersible light fixtures

AmphiLux is available in recessed and surface-mounted spotlights. Each type is available in three sizes: Micro, Mini and Compact.

Recessed-mounted



AmphiLux Micro

AmphiLux Mini

AmphiLux Compact

Surface-mounted



AmphiLux Compact

AmphiLux Mini

AmphiLux Micro

Stylish design and quality finish

The most distinctive feature of the AmphiLux range is its beautiful Italian design. Together with the high-quality chrome finish, this makes AmphiLux a stylish choice for outdoor accent lighting and floodlighting.

High-quality light

When specifying AmphiLux, there is a choice of three tones of high-quality white light: 2700 and 4000 K with CRI > 80 and 6000 K with CRI > 70.

Dynamic color and dynamic white options

The Mini and Compact spots are also available in dynamic white and dynamic color. The Dynamic Color spots are equipped with RGBW LEDs that enable true white, pastel or saturated colors to be produced by the same spot. The Dynamic White spots vary in color temperature from 2700 to 6000 K.





Ingress protection IP68

All AmphiLux products are rated IP68 to a depth of 10 meters.

Safe for use in swimming pools

Due to the low supply voltage, the AmphiLux fixtures are safe to use in swimming pools and other water facilities used by people.



Strong corrosion resistance

AmphiLux products are all made of brass and are finished with a glossy chrome layer. This makes the spots very resistant to corrosion, even in harsh environments. They are resistant to salt water with up to 35 g/L salinity and resistant to chlorine if the water has a pH between 6.8 and 8.

12V = installation-friendly

The monocolor AmphiLux products are all powered by 12V DC. This makes installation easy and straightforward. It also creates a cost-effective installation: for example, a single 60 W driver can power up to 38 Micro spots.

Range overview

The AmphiLux range is designed to enhance outdoor areas such as gardens, terraces, fountains and waterfalls. Amphilux is a family of LED spots that can be used under water, in semi-wet and in dry environments. Available in Micro, Mini and Compact sizes, both recessed and surface mounted, the range offers a choice of dynamic white and colored light for maximum flexibility in architectural lighting.



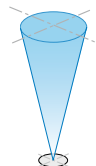
AmphiLux Micro



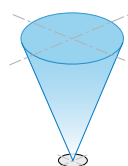
Surface BVD400



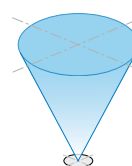
Recessed BBD400*



10° (Narrow beam)



20° (Medium beam)



35° (Wide beam)

- Cool white
 - Neutral white
 - Warm white
 - Blue
- Flux ~ 60 lm

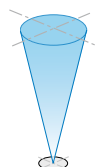
AmphiLux Mini



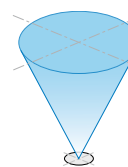
Surface BVD410



Recessed BBD410*

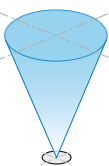


10° (Narrow beam)

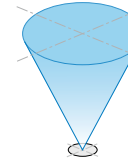


40° (Wide beam)

- Cool white
 - Neutral white
 - Warm white
 - Blue
- Flux ~ 240 lm



15° (Medium beam)



30° (Wide beam)

- RGBW
- Tunable white

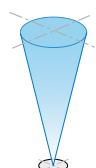
AmphiLux Compact



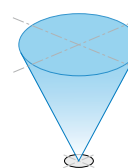
Surface BVD420



Recessed BBD420*

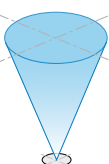


10° (Narrow beam)

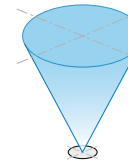


40° (WB)

- Cool white
 - Neutral white
 - Warm white
 - Blue
- Flux ~ 720 lm



15° (Medium beam)



30° (Wide beam)

- RGBW
- Tunable white

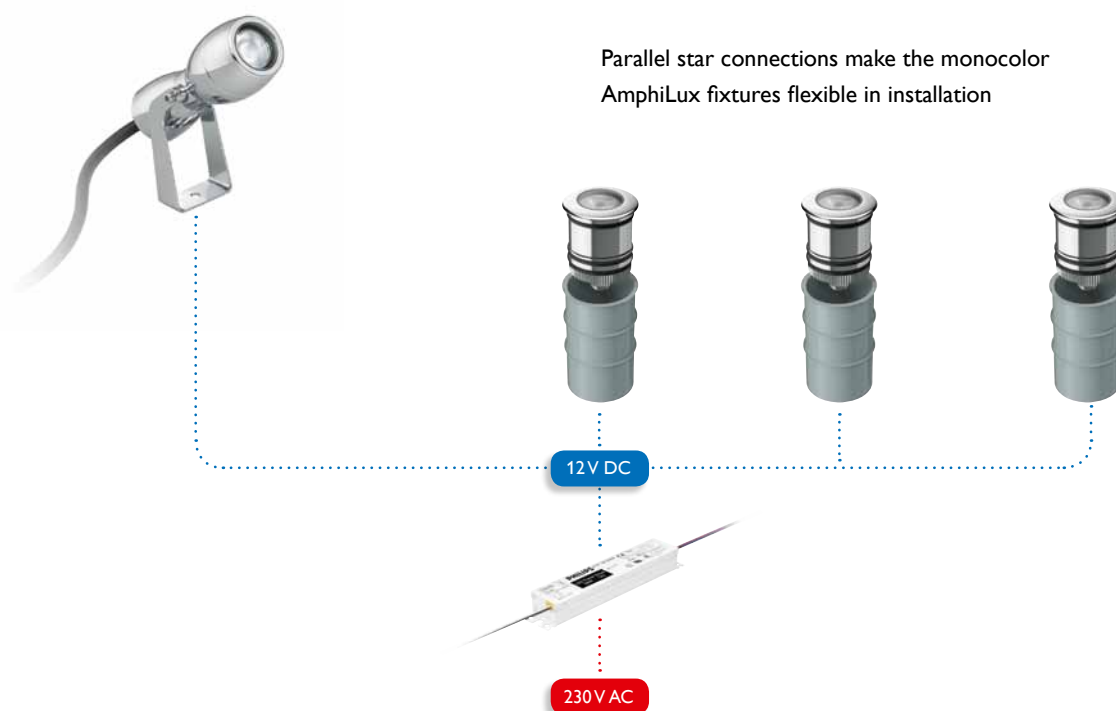
* Recessed spot also available in opal version

Installing fixtures in wet environments for a mono color installation

Installation in underwater environments can often be difficult due to the need for external drivers near to the spot. With monocolour AmphiLux spots the 12 V DC supply makes it possible to connect multiple spots to the 60 W driver:

Type	Wattage	No. of spots on 60 W driver	
		Min.	Max.
BVD400	1 x LED 1.5 W	3	38
BBD400			
BBC400			
BVD410	1 x LED 1.5 W	1	9
BBD410			
BBC410			
BVD420	12 x LED 15 W	1	4
BBD420			

The AmphiLux products are supplied as standard with a fixed cable of 4 meters. On request, Philips can supply custom cable lengths to simplify installation. The fixed cable enables a maximum cable length of 30 meters. When the fixed cable is extended with a 2.5 mm² cable it is possible to achieve a maximum cable length of 60 meters between the driver and the spot without reducing performance.



White light

Static white

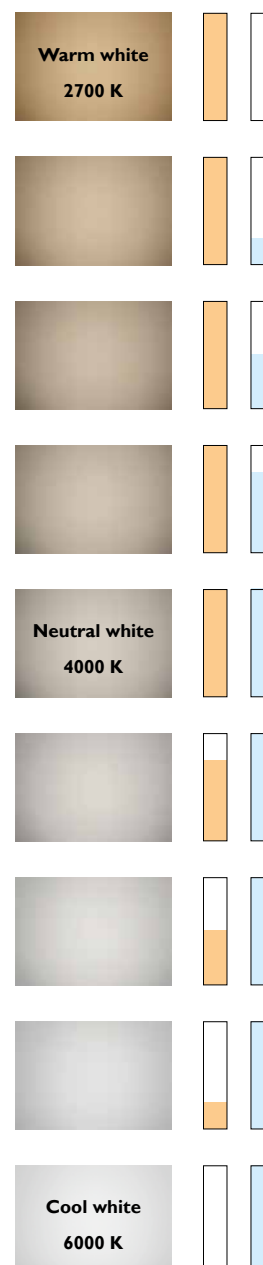
AmphiLux delivers static white light in three different shades of white: warm white (2700 K), neutral white (4000 K) and cool white (6000 K).

Dynamic tunable white

Tunable white versions of AmphiLux mix warm white LEDs and cool white LEDs in a single luminaire. The light color is fully controllable from 2700 to 6500 K.

This range of white light corresponds to the natural tones of light we experience during the daytime, from the golden light of a sunset to the steel blue light of day.

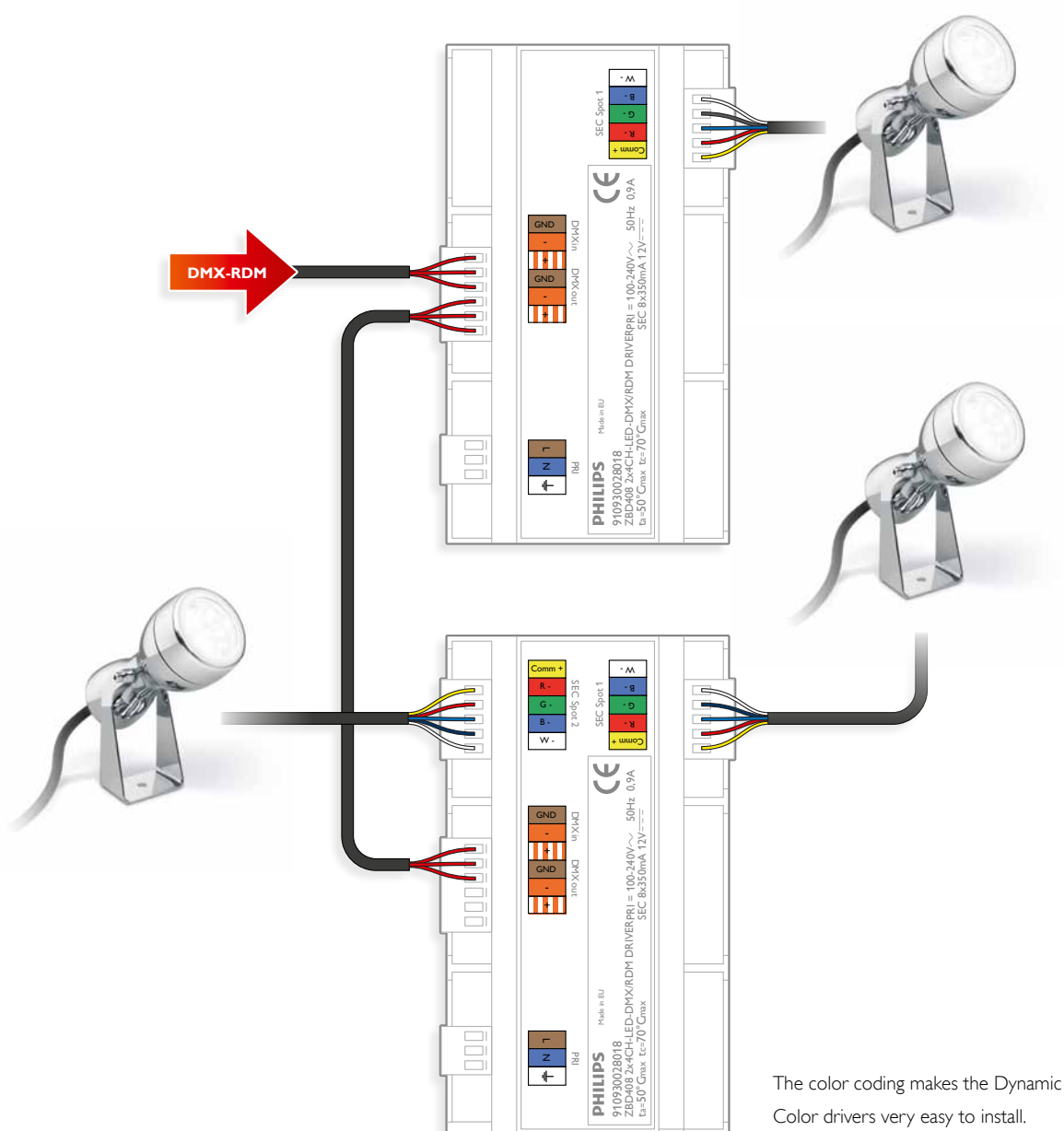
The shade of white can be adjusted to highlight the specific hue of a material when the light is used for accent lighting. Cool white light, for example, will emphasize the bluish shade of water when used in pools or fountains.



Dynamic color installation

The Dynamic Color fixtures are DMX-RDM controlled via the external Dynamic Color drivers ZDB404 or ZDB408.

ZDB404 connects to one fixture, ZDB408 connects two fixtures. The AmphiLux fixtures are connected using a common anode connection to the driver.



Colored light

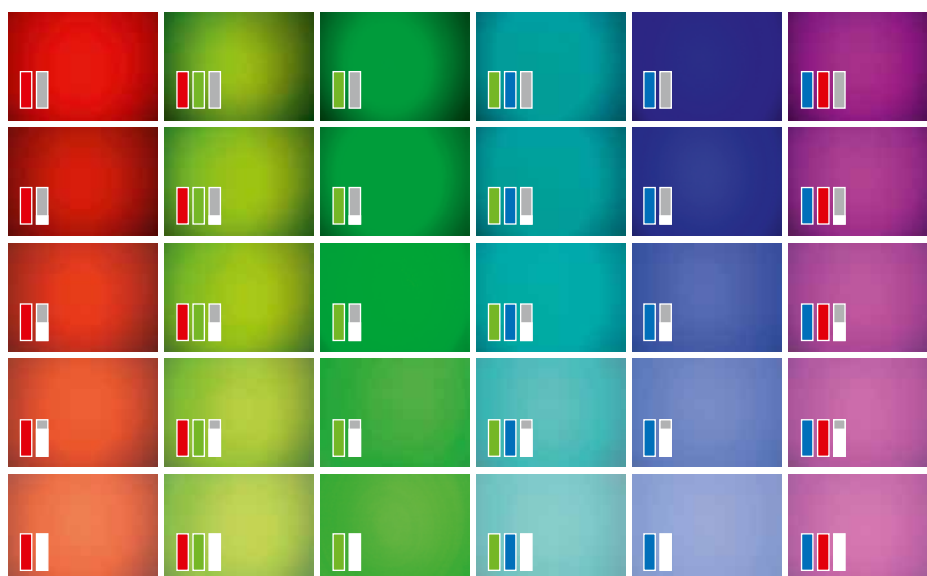
RGBW color mixing

The red, green and blue colors of LEDs transform the natural color of the material and give it a strong saturated tint.

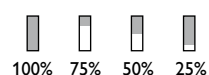
The AmphiLux dynamic spot has four channels: red, green, blue and white.

The white LEDs make it possible to create a pure white. When mixed with other colors, the tints become increasingly less saturated and create different shades of paste colors.

The matrix below shows the tones of light when primary and secondary colors are mixed with different quantities of white light.



Flux per channel



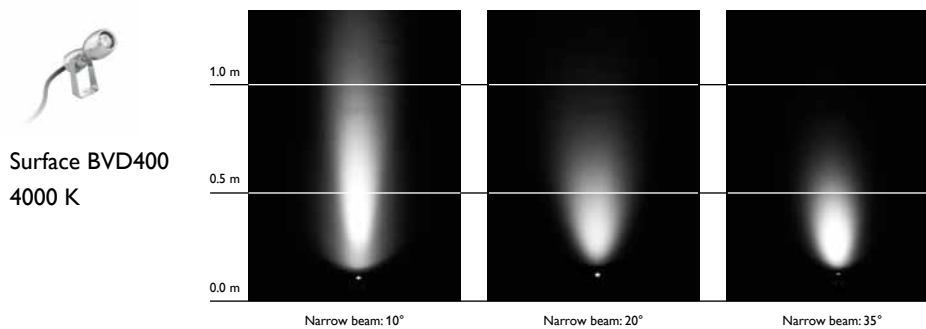
Dmx controller

The AmphiLux Dynamic Color products are 4-channel LED fixtures that require a DMX controller with the facility to control RGBW products. Philips supplies a number of compatible products, like the Philips Color Kinetics iPlayer 3 and Pharos LPC controllers.

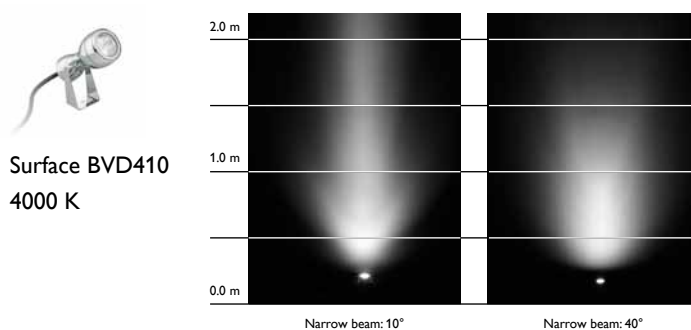
Please note that in order to commission the Dynamic Color drivers via DMX-RDM the controller of the commissioning device must support DMX-RDM.

Beam overview

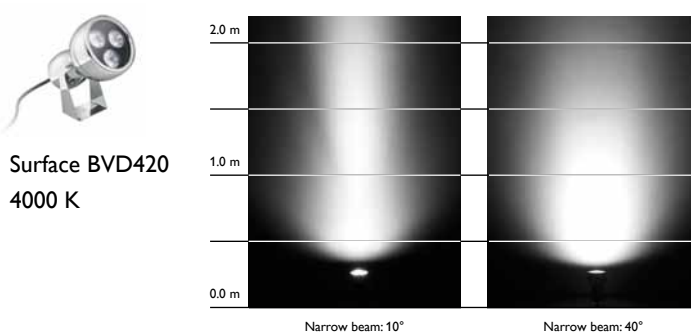
AmphiLux Micro



AmphiLux Mini

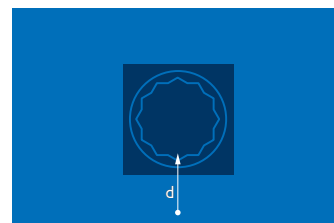
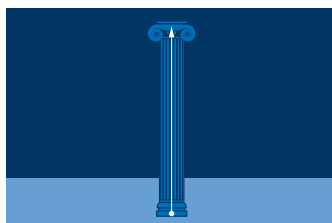


AmphiLux Compact



Accent lighting

Narrow beams



When lighting a narrow element, it is advisable to use a narrow beam. AmphiLux is placed close to the element (d) and aimed at the top of it.



AmphiLux Micro 10°

- Distance: $d = 5$ cm
- Height at $E = 5$ lux*: $h = 2.2$ m



AmphiLux Mini 10°

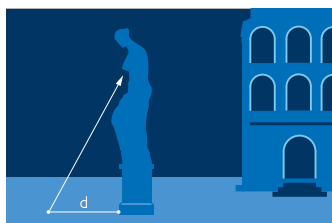
- Distance: $d = 10$ cm
- Height at $E = 5$ lux*: $h = 3.1$ m



AmphiLux Compact 10°

- Distance: $d = 20$ cm
- Height at $E = 5$ lux*: $h = 4.8$ m

Wide beams



When illuminating larger elements, such as statues or low vegetation, it is advisable to use a wide beam.



AmphiLux Micro 35°

- Distance: $d = 5$ cm
- Height at $E = 5$ lux*: $h = 1.4$ m



AmphiLux Mini 40°

- Distance: $d = 10$ cm
- Height at $E = 5$ lux*: $h = 2.1$ m

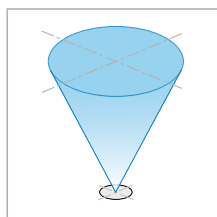


AmphiLux Compact 40°

- Distance: $d = 20$ cm
- Height at $E = 5$ lux*: $h = 3.4$ m

*The height h is given for an illuminance (E) of 5 lux, calculated with a neutral white product.

Fountain lighting



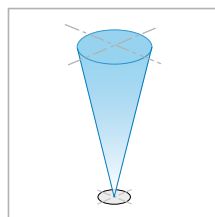
WB 30° / 40°



Side water jets

Side water jets can be illuminated from below. This is particularly useful for large fountains where it is difficult to light the full jet from the side.

It is advisable to use a wide beam below the top of the water jet to emphasize the volume of the curve it defines.



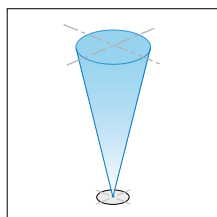
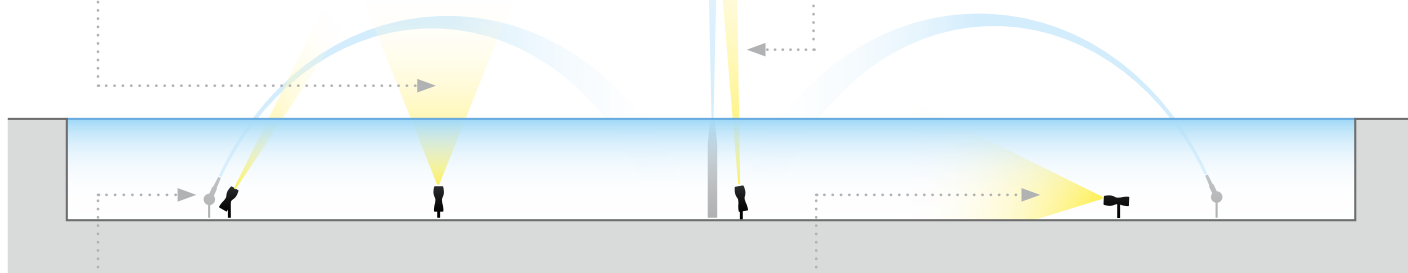
NB 10° / 15°



Central water jets

The central water jet is often the main feature in a fountain. In most cases several luminaires will be needed to illuminate the full height of the jet.

Narrow beams placed close to the nozzle will focus the light along the water jet.



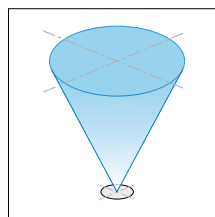
NB 10° / 15°



Side water jets

As with the central water jet, the side water jets can be illuminated from the base to create emphasis.

Narrow or medium beams positioned close to the nozzle create a strong shaft of light starting from the base of the water jet.



WB 30° / 40°



Pool

Lighting the actual pool itself is a good way to reveal the full scale of a fountain.

In this case, it is best to use a wide beam to cover a larger area with a single luminaire.

AmphiLux surface-mounted

Like all AmphiLux products, the surface-mounted spots can be used under water; but they can also be used equally well in a dry environment. The three available sizes range from ~70 to 800 lumens for an optimal fit per application.

Flexible aiming

To allow freedom of aiming, the spots can pivot on the bracket supplied and are securely fixed with hex key screws on the side of the spot.



BVD400



BVD410



BVD420

Specifications

Product features	Variations
Type	BVD400 Micro (1 x LED, Mono Color version) BVD410 Mini (4 x LED, Mono and Dynamic Color version) BVD420 Compact (12 x LED, Mono and Dynamic Color version)
Light source	Non-replaceable LED-module
Power	Micro versions: 1.5 W Mini version (Mono Color): 5 W Mini version (Dynamic Color): 4 W Compact version (Mono Color): 15 W Compact version (Dynamic Color): 12 W
Beam angle	Micro versions: 10, 20 and 35° Mini and Compact versions: 10 and 40°
Luminous flux	Micro versions: +/- 60 lm Mini version: +/- 240 lm Compact version: +/- 720 lm
Correlated Color Temperature	2700, 4000 and 6000 K for the Mono Color versions 2700 - 6000 K for tunable white
Color Rendering Index	> 80 (2700 and 4000 K) > 70 (6000 K)
Maintenance of lumen output - L90	43,000 hours at 35 °C
Maintenance of lumen output - L70	147,000 hours at 35 °C
Maintenance of lumen output - L50	> 200,000 hours at 35 °C

Product features	Variations
Operating temperature range	-20 to +35 °C
Driver	Built-in for Mono Color versions External (DMX-RDM driver) for Dynamic Color versions
Mains voltage	12 V DC for Mono Color versions
Material	Housing: chromed brass Optical cover: hardened glass
Corrosion-resistance	Salt water-resistant up to 35 gr/L salinity Chlorine-resistant if water has a stable pH level between 6.8 and 8
Color	Chrome
Connection	Flying leads
Installation	Screwed onto surface



AmphiLux recessed-mounted

The recessed-mounted AmphiLux products can be applied wherever unobtrusive in-ground architectural lighting is required. The spots are mounted in an ABS plastic recessing box.

The three available sizes range from ~70 to 800 lumens for an optimal fit per application.

Walk-over rating

Once fitted, the recessed AmphiLux products can withstand a static load of 500 kg, making them walk-over-rated. The unique mechanical construction of the spots means the IP rating is guaranteed for many years, even with people walking over the products.



BBD400



BBD410



BBD420

Specifications

Product features	Variations
Type	BBD400 Micro (1 x LED, Mono Color version) BBC400 Micro (1 x LED, Mono Color version)* BBD410 Mini (4 x LED, Mono and Dynamic Color version) BBD420 Compact (12 x LED, Mono and Dynamic Color version) *special plastic version for harsh environments
Light source	Non-replaceable LED-module
Power	Micro versions: 1.5 W Mini version (Mono Color): 5 W Mini version (Dynamic Color): 4 W Compact version (Mono Color): 15 W Compact version (Dynamic Color): 12 W
Beam angle	Micro versions: 10, 20 and 35° Mini and Compact versions: 10 and 40°
Luminous flux	Micro versions: +/- 60 lm Mini version: +/- 240 lm Compact version: +/- 720 lm
Correlated Color Temperature	2700, 4000 and 6000 K for the Mono Color versions 2700 - 6000 K for tunable white
Color Rendering Index	> 80 (2700 and 4000 K) > 70 (6000 K)
Maintenance of lumen output - L90	43,000 hours at 35 °C

Product features	Variations
Maintenance of lumen output - L70	147,000 hours at 35 °C
Maintenance of lumen output - L50	> 200,000 hours at 35 °C
Operating temperature range	-20 to +35 °C
Driver	Built-in for Mono Color versions External (DMX-RDM driver) for Dynamic Color versions
Mains voltage	12V DC for Mono Color versions
Material	Housing: • BBD versions: chromed brass • BBC version: Ertacetal Optical cover: hardened glass
Corrosion resistance	For BBD versions: • Salt water-resistant up to 35 gr/L salinity • Chlorine-resistant if water has a stable pH level between 6.8 and 8 • If these levels are exceeded, use the BBC range of products
Color	BBD versions: chrome BBC versions: white
Connection	Flying leads
Installation	Recessed mounting. For in-ground (concrete etc.) use the matching ZBD400 RMB recessed box
Accessories	Recessed box, ZBD400 RMB

Accessories



ZBD401 power supply unit 60 W



ZBD404 power supply unit
DMX/RDM with two or four
channels



Recessed mounting box for
AmphiLux BBD/BBC400

Recessed mounting box application



AmphiLux BBD400 recessed
Micro spotlight with recessed box
ZBD400



AmphiLux BBD410 recessed
Mini spotlight with recessed box
ZBD401



AmphiLux BBD420 recessed
Compact spotlight with recessed
box ZBD402

Standard codes

AmphiLux, surface-mounted

Catalog Product ID	Cat. Prod. Code	EOC
BVD400 1xLED-HB-2700 12V 10	893034 99	9105 036 71918
BVD400 1xLED-HB-2700 12V 20	893072 99	9105 036 72318
BVD400 1xLED-HB-2700 12V 35	893119 99	9105 036 72718
BVD400 1xLED-HB-4000 12V 10	893027 99	9105 036 71818
BVD400 1xLED-HB-4000 12V 20	893065 99	9105 036 72218
BVD400 1xLED-HB-4000 12V 35	893102 99	9105 036 72618
BVD400 1xLED-HB-6000 12V 10	893010 99	9105 036 71718
BVD400 1xLED-HB-6000 12V 20	893058 99	9105 036 72118
BVD400 1xLED-HB-6000 12V 35	893096 99	9105 036 72518
BVD400 1xLED-HB/BL 12V 10	893041 99	9105 036 72018
BVD400 1xLED-HB/BL 12V 20	893089 99	9105 036 72418
BVD400 1xLED-HB/BL 12V 35	893126 99	9105 036 72818
BVD410 4xLED-HB-2700 12V 10	894574 99	9105 036 81818
BVD410 4xLED-HB-2700 12V 40	894581 99	9105 036 81918
BVD410 4xLED-HB-2700-6000 E 15	894673 99	9105 036 82818
BVD410 4xLED-HB-2700-6000 E 30	894680 99	9105 036 82918
BVD410 4xLED-HB-4000 12V 10	894598 99	9105 036 82018
BVD410 4xLED-HB-4000 12V 40	894604 99	9105 036 82118
BVD410 4xLED-HB-6000 12V 10	894611 99	9105 036 82218
BVD410 4xLED-HB-6000 12V 40	894628 99	9105 036 82318
BVD410 4xLED-HB/BL 12V 10	894635 99	9105 036 82418
BVD410 4xLED-HB/BL 12V 40	894642 99	9105 036 82518
BVD410 4xLED-HB/RGBW E 15	894659 99	9105 036 82618
BVD410 4xLED-HB/RGBW E 30	894666 99	9105 036 82718
BVD420 12xLED-HB-2700 12V 10	894871 99	9105 036 84818
BVD420 12xLED-HB-2700 12V 40	894888 99	9105 036 84918
BVD420 12xLED-HB-2700-6000 E 15	894970 99	9105 036 85818
BVD420 12xLED-HB-2700-6000 E 30	894987 99	9105 036 85918
BVD420 12xLED-HB-4000 12V 10	894895 99	9105 036 85018
BVD420 12xLED-HB-4000 12V 40	894901 99	9105 036 85118
BVD420 12xLED-HB-6000 12V 10	894918 99	9105 036 85218
BVD420 12xLED-HB-6000 12V 40	894925 99	9105 036 85318
BVD420 12xLED-HB/BL 12V 10	894932 99	9105 036 85418
BVD420 12xLED-HB/BL 12V 40	894949 99	9105 036 85518
BVD420 12xLED-HB/RGBW E 15	894956 99	9105 036 85618
BVD420 12xLED-HB/RGBW E 30	894963 99	9105 036 85718

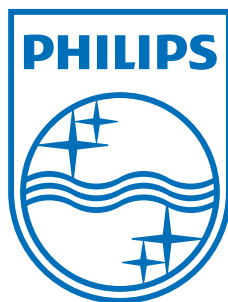
AmphiLux, recessed

Catalog Product ID	Cat. Prod. Code	EOC
BBC400 1xLED-HB-2700 12V 10	893270 99	9105 036 74318
BBC400 1xLED-HB-2700 12V 20	893317 99	9105 036 74718
BBC400 1xLED-HB-2700 12V 35	893355 99	9105 036 75118
BBC400 1xLED-HB-4000 12V 10	893263 99	9105 036 74218
BBC400 1xLED-HB-4000 12V 20	893300 99	9105 036 74618
BBC400 1xLED-HB-4000 12V 35	893348 99	9105 036 75018
BBC400 1xLED-HB-6000 12V 10	893256 99	9105 036 74118
BBC400 1xLED-HB-6000 12V 20	893294 99	9105 036 74518
BBC400 1xLED-HB-6000 12V 35	893331 99	9105 036 74918
BBC400 1xLED-HB/BL 12V 10	893287 99	9105 036 74418
BBC400 1xLED-HB/BL 12V 20	893324 99	9105 036 74818
BBC400 1xLED-HB/BL 12V 35	893362 99	9105 036 75218
BBD400 1xLED-HB-2700 12V 10	893157 99	9105 036 73118
BBD400 1xLED-HB-2700 12V 20	893195 99	9105 036 73518
BBD400 1xLED-HB-2700 12V 35	893232 99	9105 036 73918
BBD400 1xLED-HB-2700 12V OB	893393 99	9105 036 75518
BBD400 1xLED-HB-4000 12V 10	893140 99	9105 036 73018
BBD400 1xLED-HB-4000 12V 20	893188 99	9105 036 73418
BBD400 1xLED-HB-4000 12V 35	893225 99	9105 036 73818
BBD400 1xLED-HB-4000 12V OB	893386 99	9105 036 75418
BBD400 1xLED-HB-6000 12V 10	893133 99	9105 036 72918
BBD400 1xLED-HB-6000 12V 20	893171 99	9105 036 73318
BBD400 1xLED-HB-6000 12V 35	893218 99	9105 036 73718
BBD400 1xLED-HB-6000 12V OB	893379 99	9105 036 75318
BBD400 1xLED-HB/BL 12V 10	893164 99	9105 036 73218
BBD400 1xLED-HB/BL 12V 20	893201 99	9105 036 73618
BBD400 1xLED-HB/BL 12V 35	893249 99	9105 036 74018
BBD400 1xLED-HB/BL 12V OB	893409 99	9105 036 75618
BBD410 4xLED-HB-2700 12V 10	894697 99	9105 036 83018
BBD410 4xLED-HB-2700 12V 40	894703 99	9105 036 83118
BBD410 4xLED-HB-2700 12V OB	894819 99	9105 036 84218
BBD410 4xLED-HB-2700-6000 E 15	894796 99	9105 036 84018
BBD410 4xLED-HB-2700-6000 E 30	894802 99	9105 036 84118
BBD410 4xLED-HB-2700-6000 E OB	894864 99	9105 036 84718
BBD410 4xLED-HB-4000 12V 10	894710 99	9105 036 83218
BBD410 4xLED-HB-4000 12V 40	894727 99	9105 036 83318

Catalog Product ID	Cat. Prod. Code	EOC
BBD410 4xLED-HB-4000 12V OB	894826 99	9105 036 84318
BBD410 4xLED-HB-6000 12V 10	894734 99	9105 036 83418
BBD410 4xLED-HB-6000 12V 40	894741 99	9105 036 83518
BBD410 4xLED-HB-6000 12V OB	894833 99	9105 036 84418
BBD410 4xLED-HB/BL 12V 10	894758 99	9105 036 83618
BBD410 4xLED-HB/BL 12V 40	894765 99	9105 036 83718
BBD410 4xLED-HB/BL 12V OB	894840 99	9105 036 84518
BBD410 4xLED-HB/RGBW E 15	894772 99	9105 036 83818
BBD410 4xLED-HB/RGBW E 30	894789 99	9105 036 83918
BBD410 4xLED-HB/RGBW E OB	894857 99	9105 036 84618
BBD420 12xLED-HB-2700 12V 10	894994 99	9105 036 86018
BBD420 12xLED-HB-2700 12V 40	895007 99	9105 036 86118
BBD420 12xLED-HB-2700-6000 E 15	895090 99	9105 036 87018
BBD420 12xLED-HB-2700-6000 E 30	895106 99	9105 036 87118
BBD420 12xLED-HB-4000 12V 10	895014 99	9105 036 86218
BBD420 12xLED-HB-4000 12V 40	895021 99	9105 036 86318
BBD420 12xLED-HB-6000 12V 10	895038 99	9105 036 86418
BBD420 12xLED-HB-6000 12V 40	895045 99	9105 036 86518
BBD420 12xLED-HB/BL 12V 10	895052 99	9105 036 86618
BBD420 12xLED-HB/BL 12V 40	895069 99	9105 036 86718
BBD420 12xLED-HB/RGBW E 15	895076 99	9105 036 86818
BBD420 12xLED-HB/RGBW E 30	895083 99	9105 036 86918

Standard codes overview of outdoor accessories BBD400

Catalog Product ID	Cat. Prod. Code	EOC
ZBD400 RMB	893416 99	9109 300 18718
ZBD401 PSU-60W 12V	897216 99	9109 300 28718
ZBD404 PSU DMX/RDM 2x4CH	895144 99	9109 300 28118
ZBD408 PSU DMX/RDM 1x4CH	895137 99	9109 300 28018
ZBD420 RMB	895120 99	9109 300 27918



© 2012 Koninklijke Philips Electronics N.V.

All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner.

The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent or other industrial or intellectual property rights.

Document order number: 3222 635 67275

11/2012

Data subject to change.

www.philips.com/catalog