

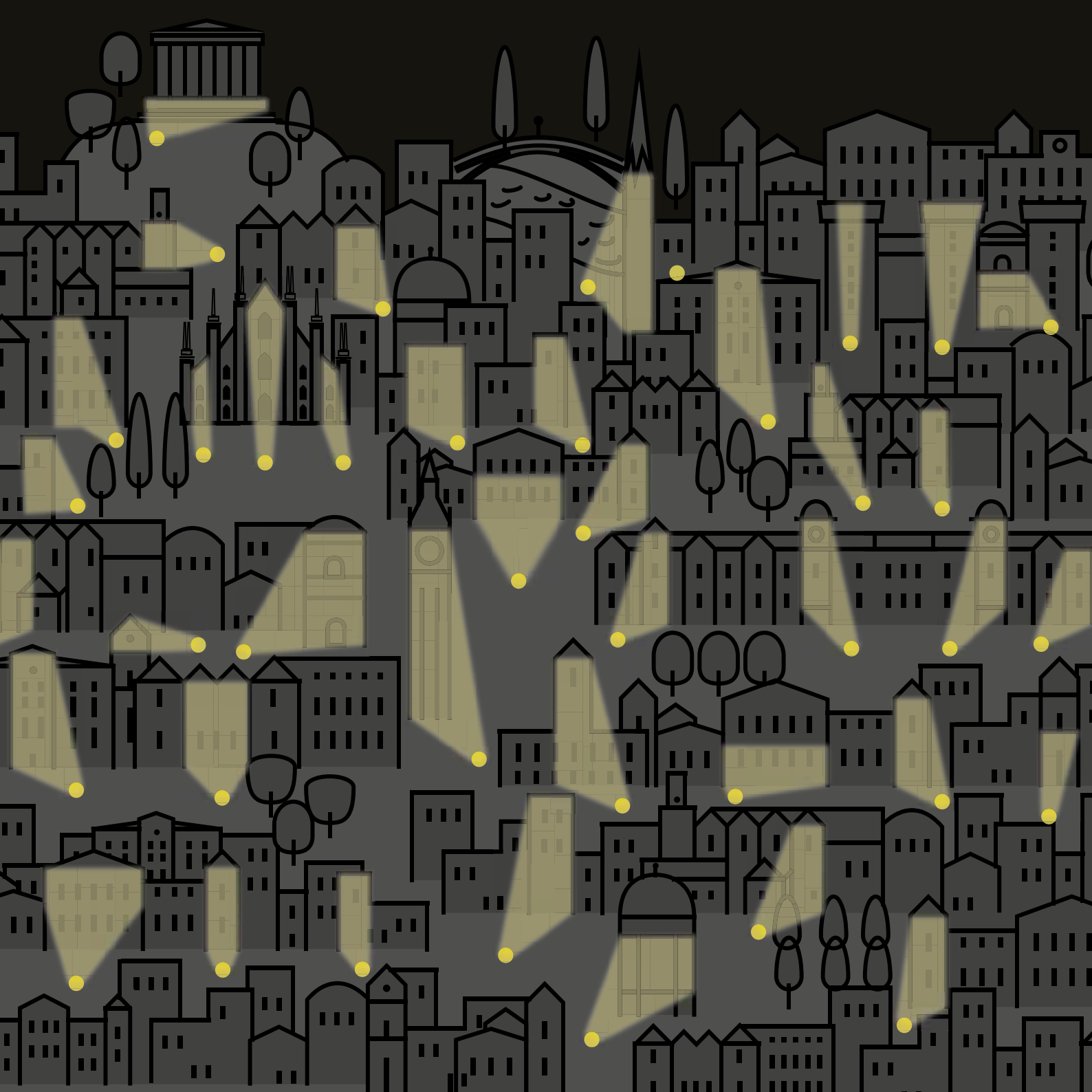
AKRO



AKRO

IP66 Outdoor Projectors.
The effects you've mastered indoors
have just left the building.

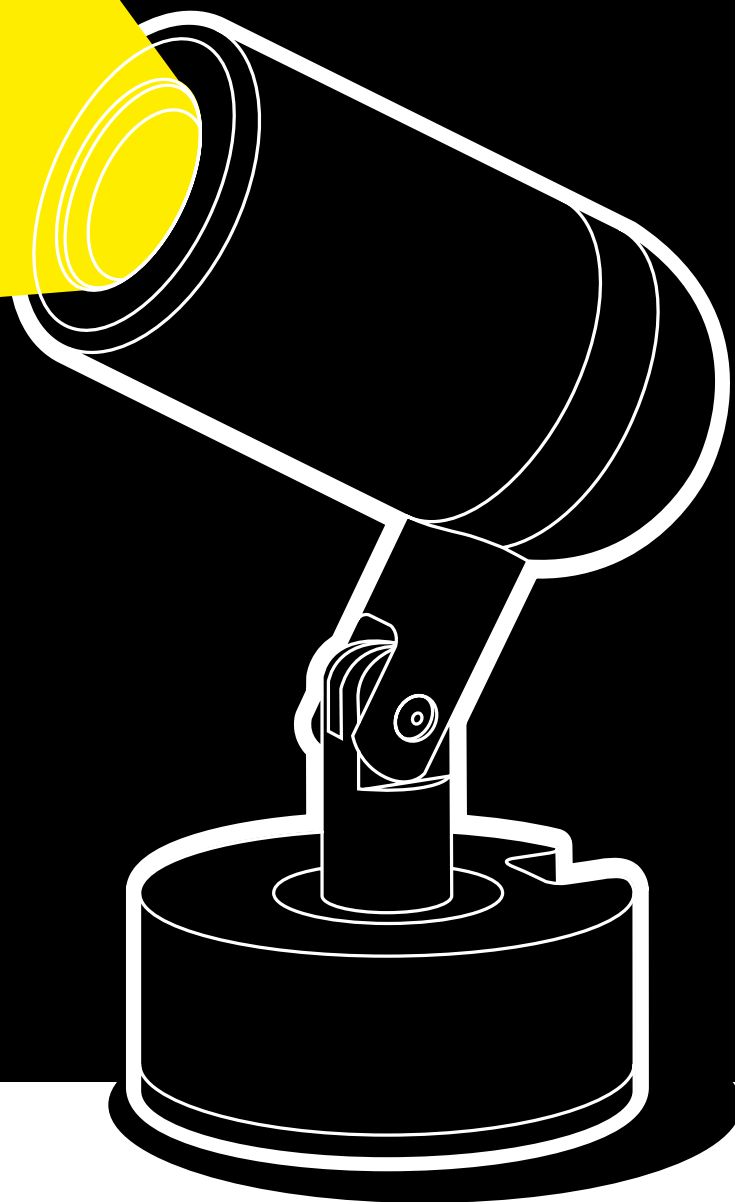




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MAIN FEATURES

- Range ottici: 13°÷32°, 16°÷42°
Optical ranges: 13°—32°, 16°—42°
- Sistema di ottiche interne
System of internal optics
- Zoom ottico per la regolazione manuale dell'emissione luminosa
Zoom lens to manually adjust beam
- Ampia gamma di filtri (dicroici, ellittici, diffusori)
Wide range of filters (dichroic, elliptical, diffusion)
- Scala graduata in tre diversi punti del corpo per un puntamento preciso dell'emissione luminosa
Body with three sets of graduations to ensure precise positioning of the light beam
- IP66
Adatto a installazioni in esterno
Suitable for outdoor applications
- Sistemi di protezione a bordo
On-board protection systems
IPS Intelligent Protection System (Akro 1.0)
PID Protective Impedance Device (Akro 1.1 / 1.2)





Akro è un proiettore da esterno a tecnologia LED, realizzato da L&L Luce&Light per offrire al professionista della luce una performance e una versatilità finora tipica degli apparecchi per interno. Il sistema di ottiche integrato nel corpo in alluminio anodizzato permette di variare manualmente i range ottici dello zoom, a scelta tra 13°÷32° e 16°÷42°. Il proiettore è disponibile nella versione standard con una temperatura di colore di 2700K, 3000K e 4000K, e con un indice di resa cromatica (CRI) fino a 90. I filtri a disposizione (dicroici, convertitori di temperatura di colore, ellittico e diffusore) in combinazione con lo zoom ottico, rendono Akro uno strumento altamente versatile. Gli accessori antiabbagliamento a corredo della gamma (nido d'ape, alette frangiluce, cannocchiale standard e cannocchiale asimmetrico) permettono d'intervenire sulla distribuzione luminosa, adattando la luce alle richieste progettuali. Akro è proposto con accessori per l'installazione quali picchetto e braccio per attacco a palo. Le scale graduate in tre diversi punti del corpo assicurano la precisione del puntamento dell'emissione luminosa in base a specifiche necessità. Come tutti gli apparecchi da esterno L&L, anche Akro è dotato di IPS (Intelligent Protection System). Akro è IP66 e IK06, e il suo corpo ruotabile di 350° e inclinabile di 150°. È disponibile in diverse versioni: dimmerabile, con alimentatore a 230Vac integrato o con una discreta base di appoggio che richiede alimentatore remoto fino a 1050mA, per un impatto estetico minimale.

L&L Luce&Light Akro projector is a lighting system that utilises LED technology, and is designed to offer the architectural lighting community indoor optical performance for exterior use.

The anodized aluminium body houses a system of optics allowing manual variation of the zoom: beam widths between 13°—32° or 16°—42°.

The Akro comes in standard colour temperature of 2700K, 3000K and 4000K, with a colour rendering of up to 90 CRI. Alongside zoom functionality, the enormous versatility of the Akro allows for multiple filter combinations such as elliptical, diffusion, dichroic and colour temperature conversion.

The range is also provided with anti-glare accessories such as honeycomb louvre, barn doors, and standard and asymmetrical snoots, allowing the user to contour and customise the beam distribution exactly to the project requirements. The Akro is site lockable in both pan and tilt and comes with multiple mounting accessories as standard. Akro has three sets of graduations to ensure the product can be precisely positioned upon commissioning. As with all L&L external products, Akro includes the Intelligent Protection System (IPS).

With 350° rotation and 150° tilt, the Akro is built to IP66 and IK06. Multiple dimming options are available via integral 230Vac control gear; alternatively, where a minimalist aesthetic is required, the luminaire can be supplied with a discreet mounting base and remote gear up to 1050mA.



AKRO 1.1

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Versioni / Versions



Prodotto / Product	AKRO 1.0	AKRO 1.1	AKRO 1.2
Potenza nomin. assorbita / Nom. power consumption	37W	43W	43W
Alimentazione / Power supply	max 1050mA	230Vac	230Vac
Alimentatore / Power supply unit	non incluso / not included	integrato / built in	integrato / built in
Dimmerazione / Dimming /	disponibile con alimentatore dimmerabile remoto / available with remote dimmable power supply unit	non disponibile / not available	disponibile / available

AKRO

Versioni / Versions



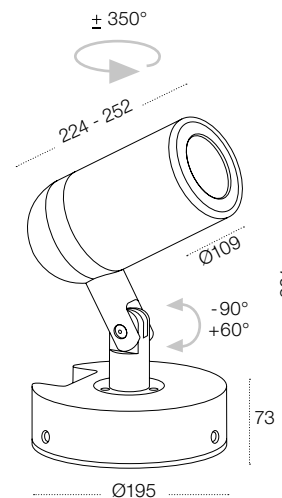
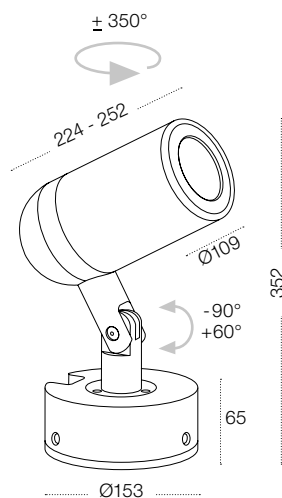
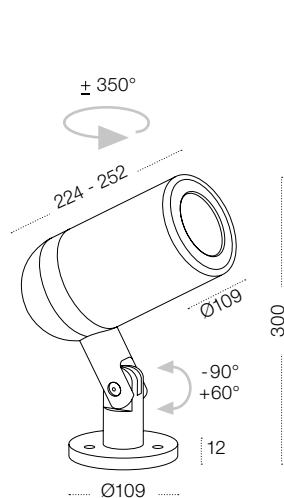
AKRO 1.2



AKRO 1.0



AKRO 1.1



IP66 IK06

37W - 1050mA - CRI 80
AK10000 **N** Nero / Black

37W - 1050mA - CRI 90
AK10001 **N** Nero / Black

Colore LED / LED colour Ottiche / Optics
F - 2700K **R1** - 13°—32°
5 - 3000K **R2** - 16°—42°
9 - 4000K

IP66 IK06

43W - 230Vac - CRI 80
AK11100 **N** Nero / Black

43W - 230Vac - CRI 90
AK11101 **N** Nero / Black

Colore LED / LED colour Ottiche / Optics
F - 2700K **R1** - 13°—32°
5 - 3000K **R2** - 16°—42°
9 - 4000K

IP66 IK06

43W - 230Vac - CRI 80 - DALI + 1-10V + PUSH
AK12100 **ND** Nero / Black

43W - 230Vac - CRI 90 - DALI + 1-10V + PUSH
AK12101 **ND** Nero / Black

Colore LED / LED colour Ottiche / Optics
F - 2700K **R1** - 13°—32°
5 - 3000K **R2** - 16°—42°
9 - 4000K

AKRO 1.0

AKRO 1.1

AKRO 1.2

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Materiali / Materials

Corpo in alluminio
anodizzato nero
EN AW 6082

Body in black
anodized aluminium
EN AW 6082

Schermo in vetro
temprato extrachiaro
di spessore 4 mm

Screen in 4 mm-thick
high-reflectance
tempered glass

Lenti in vetro ottico
borosilicato BK7

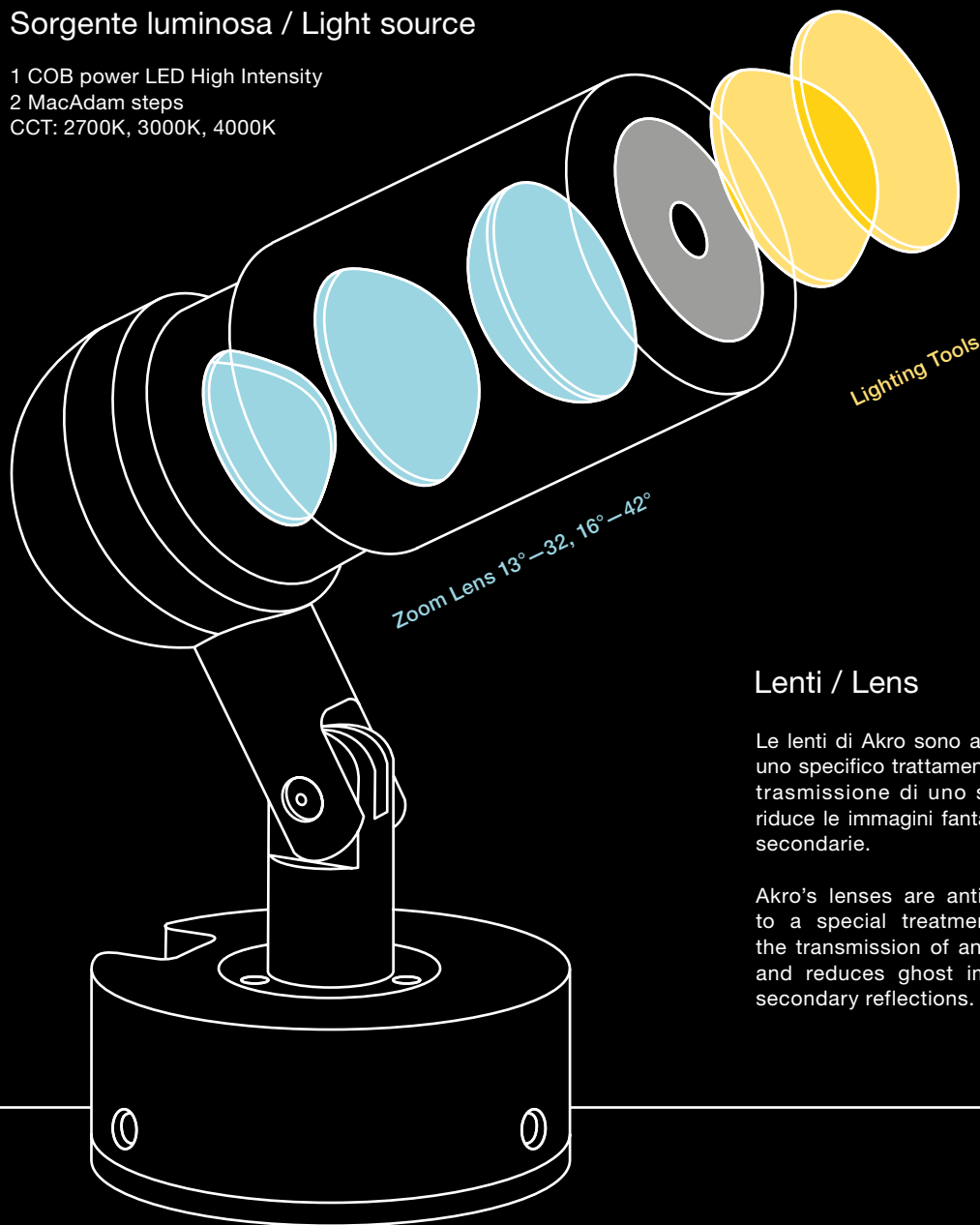
Lenses in BK7
borosilicate glass

Viti in acciaio inox
AISI 316L

Screws in AISI 316L
stainless steel

Sorgente luminosa / Light source

1 COB power LED High Intensity
2 MacAdam steps
CCT: 2700K, 3000K, 4000K



Lenti / Lens

Le lenti di Akro sono antiriflesso grazie a uno specifico trattamento che aumenta la trasmissione di uno substrato ottico e riduce le immagini fantasma di riflessioni secondarie.

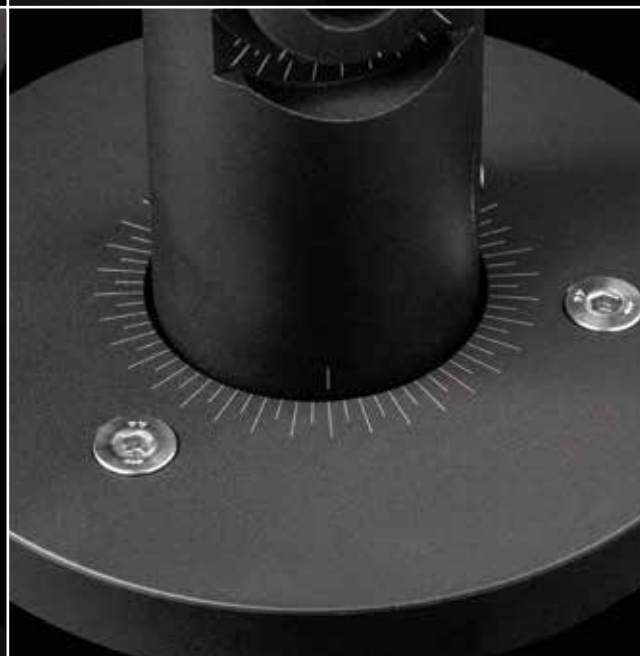
Akro's lenses are anti-reflective thanks to a special treatment that increases the transmission of an optical substrate and reduces ghost images caused by secondary reflections.

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Scale graduate / Sets of graduations

Akro è dotato di tre scale graduate per un puntamento preciso dell'emissione luminosa.

Akro has three sets of graduations to ensure precise positioning of the light beam.



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Come regolare lo zoom ottico /
Adjusting the zoom lens



1.



2.

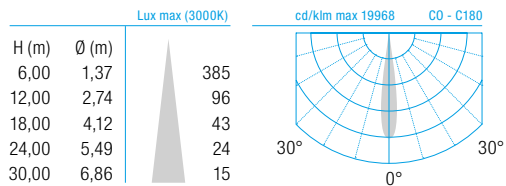


3.

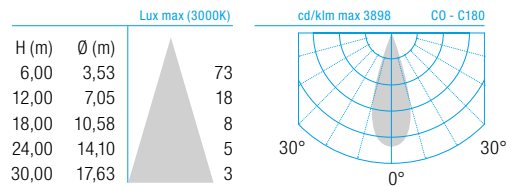
AKRO

Dati fotometrici / Photometric data

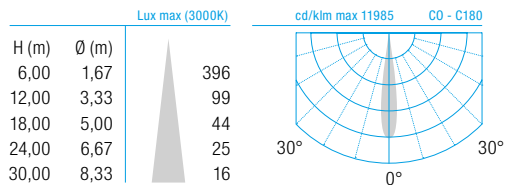
R1 - 13° (13°—32°)



R1 - 32° (13°—32°)

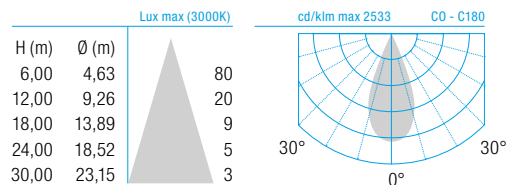


R2 - 16° (16°—42°)

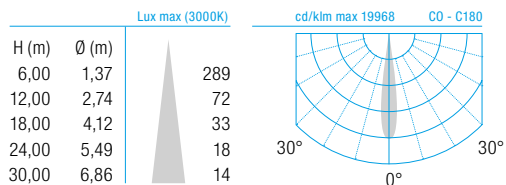


CRI 80

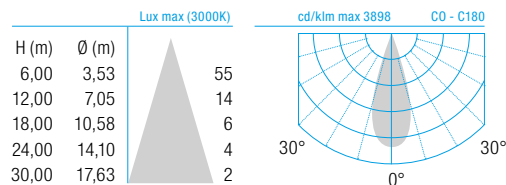
R2 - 42° (16°—42°)



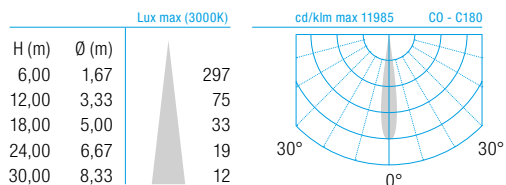
R1 - 13° (13°—32°)



R1 - 32° (13°—32°)

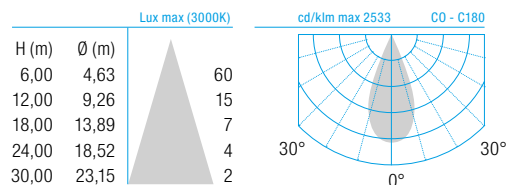


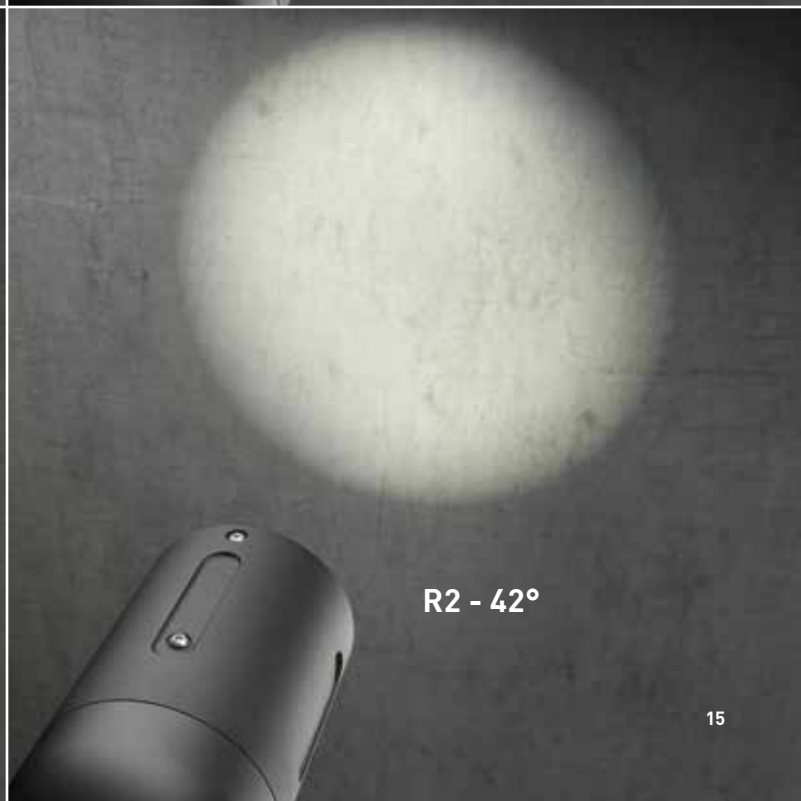
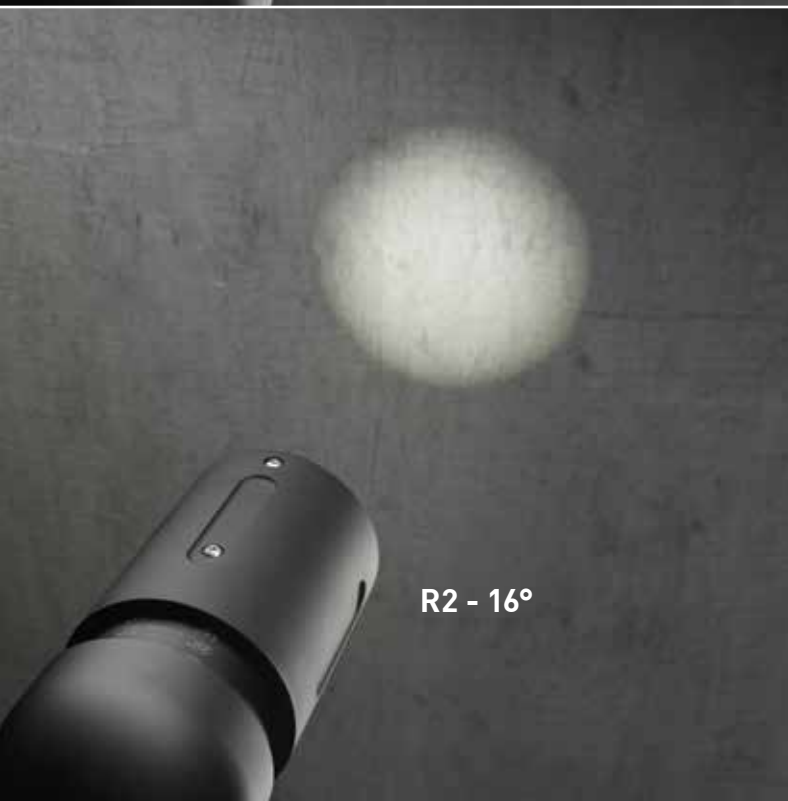
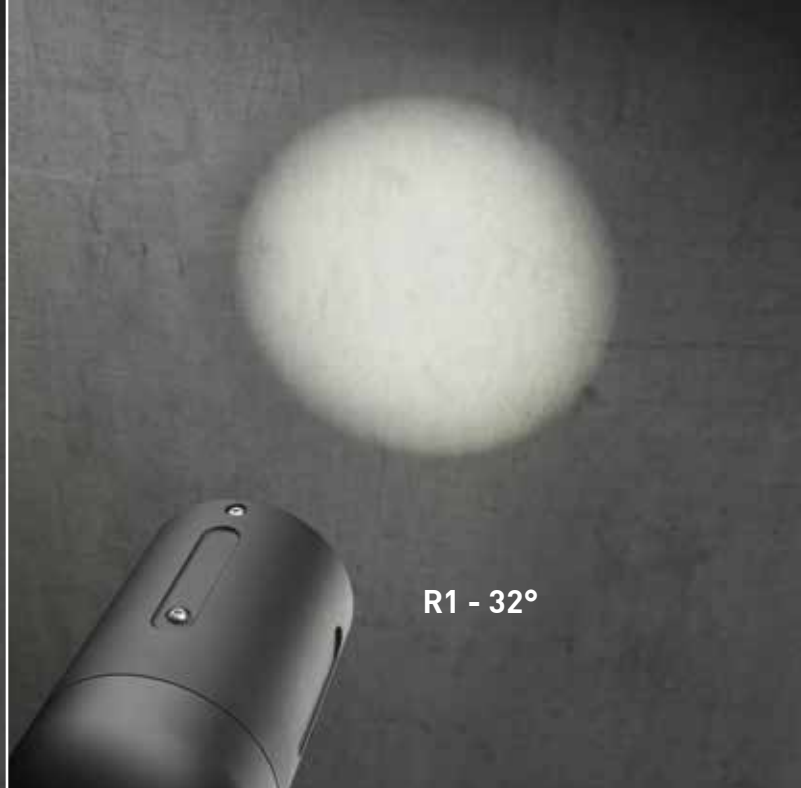
R2 - 16° (16°—42°)



CRI 90

R2 - 42° (16°—42°)





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Accessori / Accessories



Antiabbagliamento / Anti-glare



WB1101N Nero / Black

Cannocchiale standard /
Standard snoot



WB1102N Nero / Black

Cannocchiale asimmetrico /
Asymmetrical snoot



WB1103N Nero / Black

Alette frangiluce /
Barn doors

Filtri / Filters



- WR0001** Rosso / Red
- WR0002** Verde / Green
- WR0003** Blu / Blue
- WR0004** Arancio / Orange

Filtro dicroico / Dichroic filter



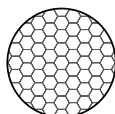
- WR0030** Variazione verso luce bianca calda / Variation towards warm white light
- WR0031** Variazione verso luce bianca fredda / Variation towards cold white light

Filtro convertitore di temperatura di colore / Colour temperature conversion filter



- WR0020** Ellittico / Elliptical
- WR0010** Diffusore / Diffusion

Filtro ottico / Optical filter



- WH0506**
Nido d'ape / Honeycomb louvre

Akro può alloggiare fino a 2 filtri / Akro can house up to two filters at the same time

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Filtri dicroici / Dichroic filters

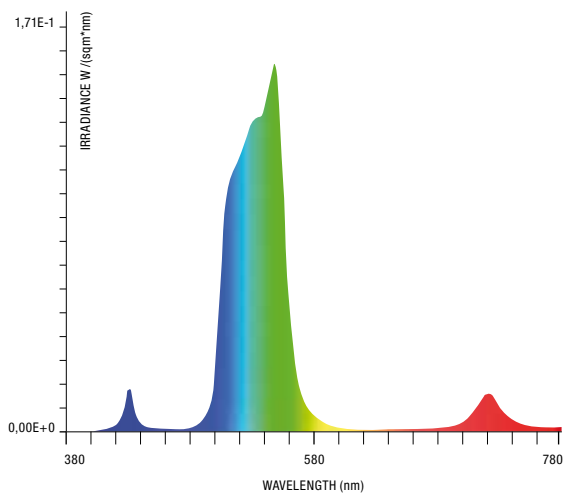
I filtri dicroici hanno la proprietà di trasmettere una specifica porzione dello spettro della luce visibile e di attenuare la parte restante.

The dichroic filters transmit a specific portion of the visible light spectrum and limit transmission of the remaining portion.

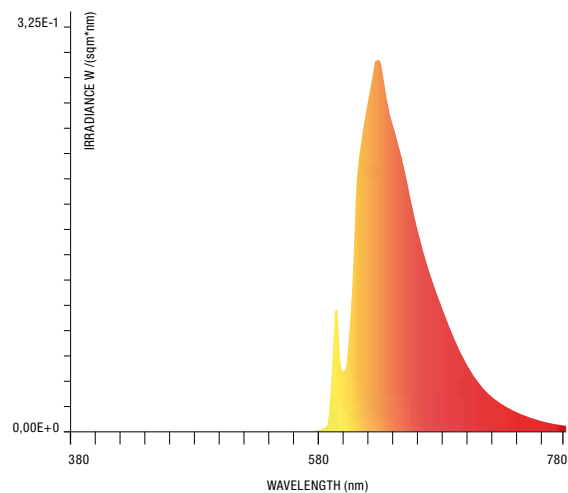


Akro 1.0

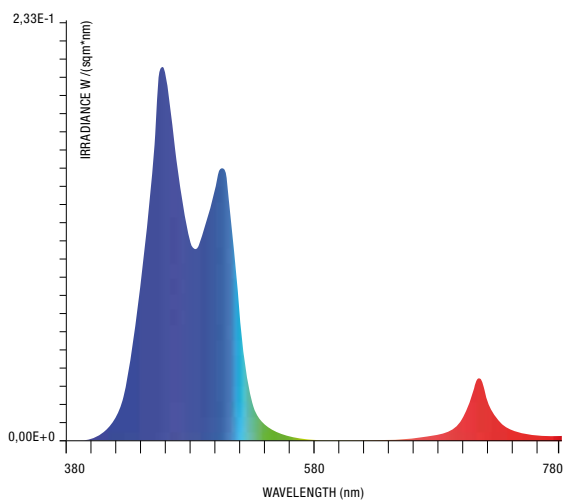
3000K, 37W, con filtro ellittico e filtri dicroici verde, rosso, blu, arancio /
with elliptical filter and green, red, blue and orange dichroic filters



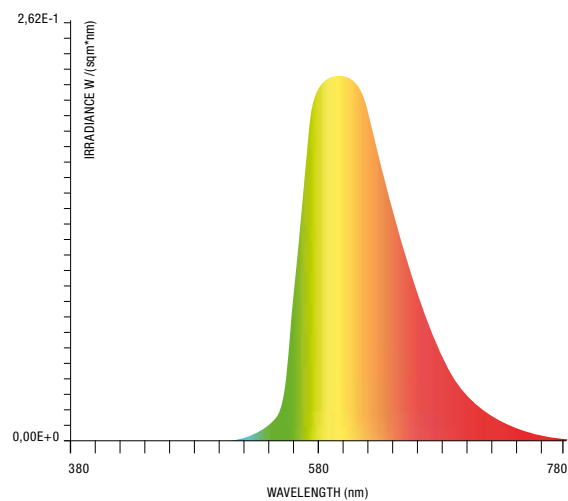
● Colore LED / LED colour: 3000K
 Filtro dicroico / dichroic filter: verde / green
 Lunghezza d'onda / Wavelength: 535,4 nm



● Colore LED / LED colour: 3000K
 Filtro dicroico / dichroic filter: rosso / red
 Lunghezza d'onda / Wavelength: 618,4 nm



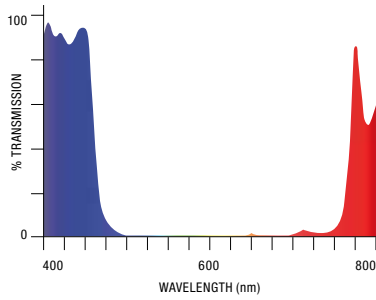
● Colore LED / LED colour: 3000K
 Filtro dicroico / dichroic filter: blu / blue
 Lunghezza d'onda / Wavelength: 480,3 nm



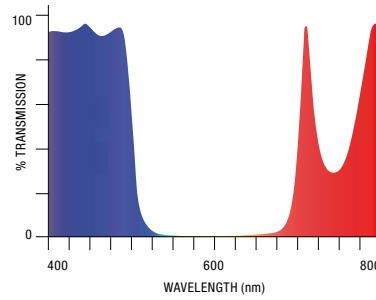
● Colore LED / LED colour: 3000K
 Filtro dicroico / dichroic filter: arancio / orange
 Lunghezza d'onda / Wavelength: 593,3 nm

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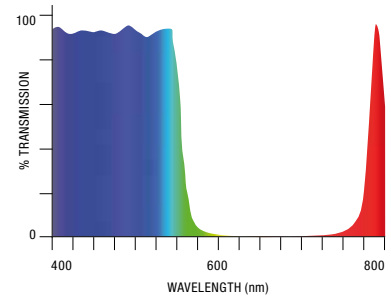
Filtri dicroici su richiesta / Dichroic filters on request



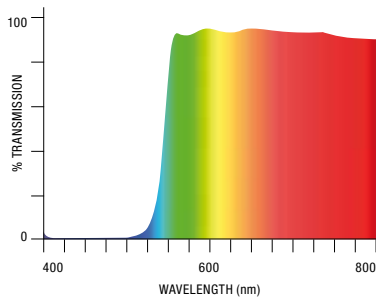
● Blu notte / Midnight blue



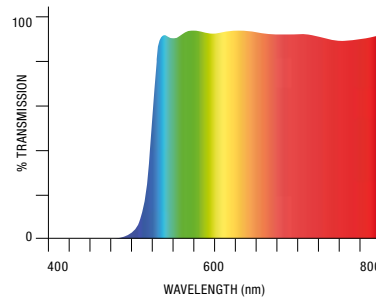
● Blu scuro / Dark blue



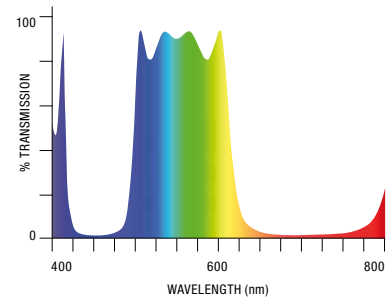
● Ciano / Cyan



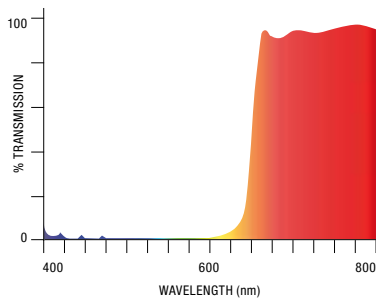
● Giallo scuro / Dark yellow



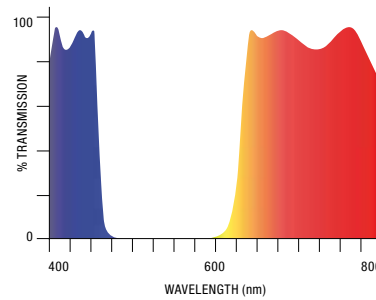
● Giallo / Yellow



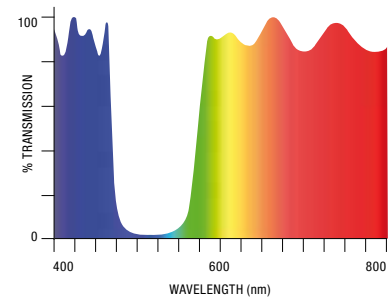
● Verde chiaro / Light green



● Rosso scuro / Dark red



● Magenta



● Rosa / Pink



Akro 1.0
3000K, 37W, range ottico 13°÷32°,
con filtri dicroici su richiesta /
optical range 13°—32°, with dichroic
filters on request

Stand L&L, Light+Building 2016,
Francoforte sul Meno, Germania /
L&L Stand, Light+Building 2016,
Frankfurt am Main, Germany

AKRO

Filtri convertitori di temperatura di colore / Colour temperature conversion filters

I filtri convertitori cambiano lo spettro di emissione di una sorgente luminosa, permettono quindi di variare la temperatura di colore della luce bianca.

The conversion filters change the emission spectrum of a light source, making it possible to change the white light colour temperature.



Akro 1.1

3000K, 43W, con filtro convertitore
verso luce bianca fredda /
with conversion filter for cold white light



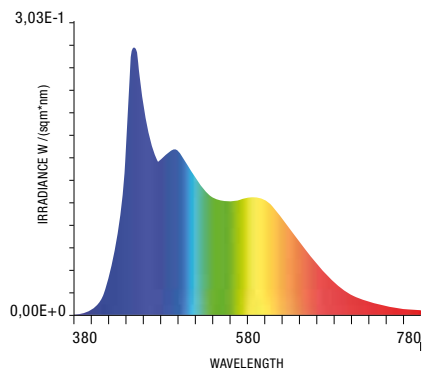
Akro 1.1

3000K, 43W

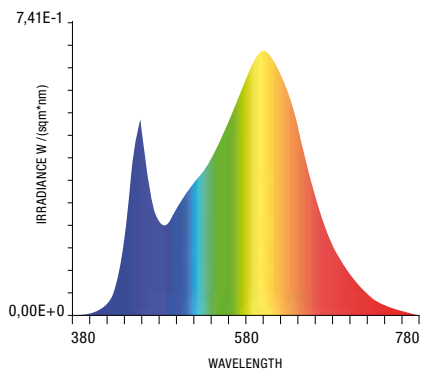


Akro 1.1

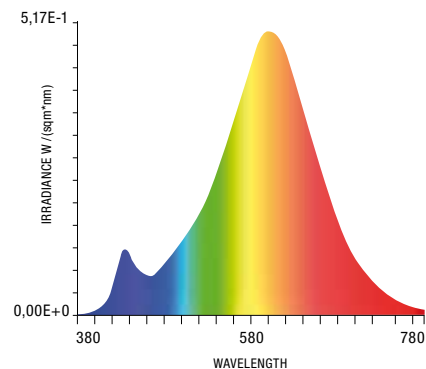
3000K, 43W, con filtro convertitore
verso luce bianca calda /
with conversion filter for warm white light



● Colore LED / LED colour: 3000K
Filtro / Filter: 6000K
Lunghezza d'onda / Wavelength: 488,2 nm



● Colore LED / LED colour: 3000K
Lunghezza d'onda / Wavelength: 583,2 nm

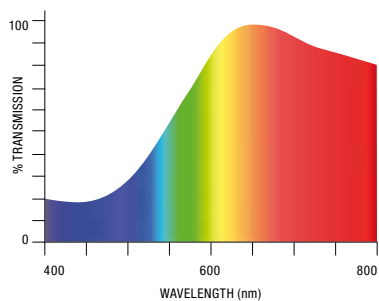


● Colore LED / LED colour: 3000K
Filtro / Filter: 2200K
Lunghezza d'onda / Wavelength: 586,4 nm

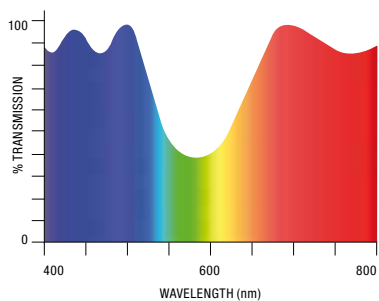
CCT DEL LED / LED CCT	FILTRO CONVERTITORE / CONVERSION FILTER	CODICE CODE	CCT DEL LED CON FILTRO CONVERTITORE / LED CCT WITH CONVERSION FILTER	VARIAZIONE CCT / CCT VARIATION
2700K	Variatione verso luce bianca calda / Variation towards warm white light	WR0030	1950K	750K
2700K	Variatione verso luce bianca fredda / Variation towards cold white light	WR0031	4500K	1800K
3000K	Variatione verso luce bianca calda / Variation towards warm white light	WR0030	2100K	900K
3000K	Variatione verso luce bianca fredda / Variation towards cold white light	WR0031	5400K	1400K
4000K	Variatione verso luce bianca calda / Variation towards warm white light	WR0030	2550K	1750K
4000K	Variatione verso luce bianca fredda / Variation towards cold white light	WR0031	9400K	5400K

AKRO

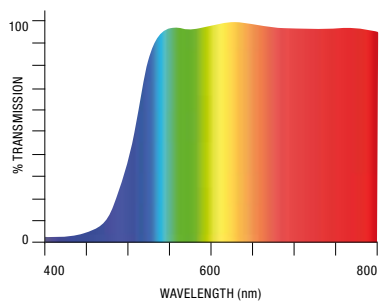
Filtri per esaltare la tonalità su richiesta /
Hue-enhancing filters on request



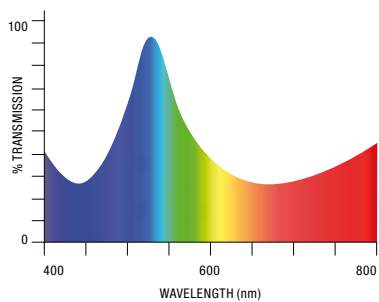
01



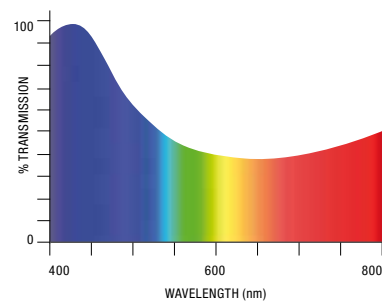
02



03



04



05



Akro 1.1

3000K, 43W, con filtro per esaltare
le tonalità giallo, arancio e rosso /
with yellow-, orange- and red-hue-enhancing filter



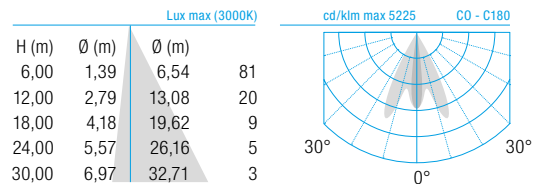
Akro 1.1

3000K, 43W, con filtro per esaltare
le tonalità blu e verde /
with blue- and green-hue-enhancing filter

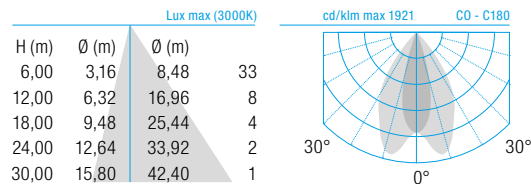
AKRO Filtro ellittico / Elliptical filter

Dati fotometrici / Photometric data

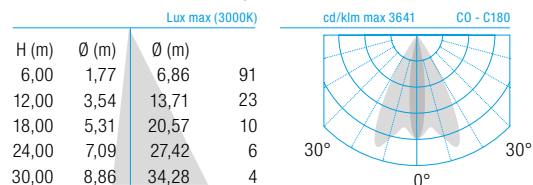
R1 + Filtro ellittico / Elliptical filter 13°x57°



R1 + Filtro ellittico / Elliptical filter 29°x70°

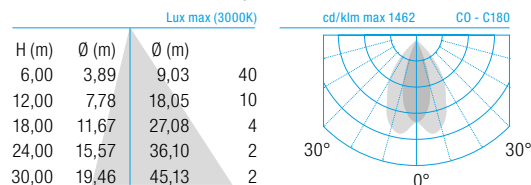


R2 + Filtro ellittico / Elliptical filter 17°x59°

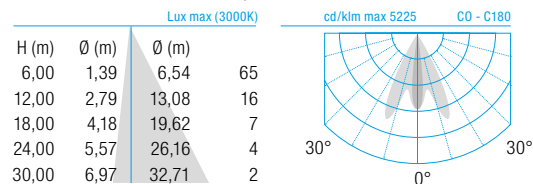


CRI 80

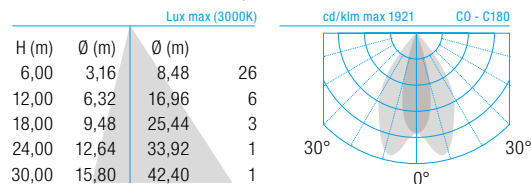
R2 + Filtro ellittico / Elliptical filter 36°x74°



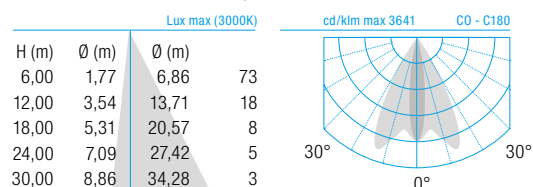
R1 + Filtro ellittico / Elliptical filter 13°x57°



R1 + Filtro ellittico / Elliptical filter 29°x70°

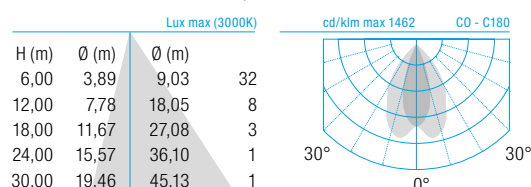


R2 + Filtro ellittico / Elliptical filter 17°x59°



CRI 90

R2 + Filtro ellittico / Elliptical filter 36°x74°



Posizionamento del filtro: lato zigrinato verso la sorgente / Filter positioning: structured side towards the source



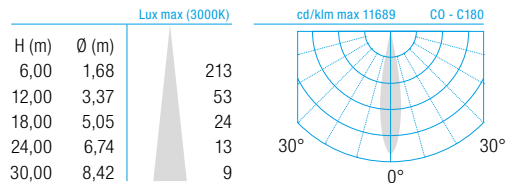
Akro 1.0

3000K, 37W, range ottico 13°÷32°, con filtro ellittico /
optical range 13°—32°, with elliptical filter

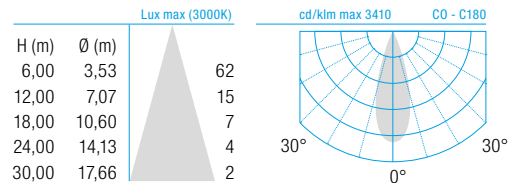
AKRO Filtro diffusore / Diffusion filter

Dati fotometrici / Photometric data

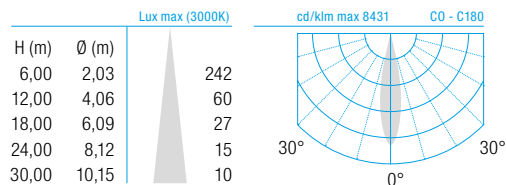
R1 + Filtro diffusore / Diffusion filter 16° (16°–33°)



R1 + Filtro diffusore / Diffusion filter 33° (16°–33°)

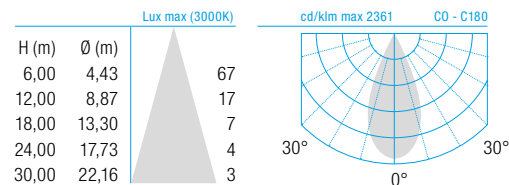


R2 + Filtro diffusore / Diffusion filter 19° (19°–42°)

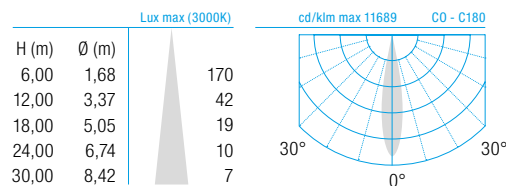


CRI 80

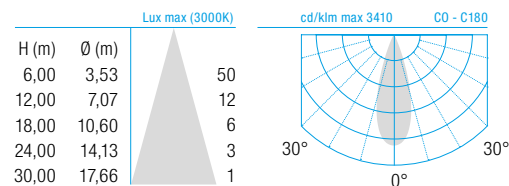
R2 + Filtro diffusore / Diffusion filter 42° (19°–42°)



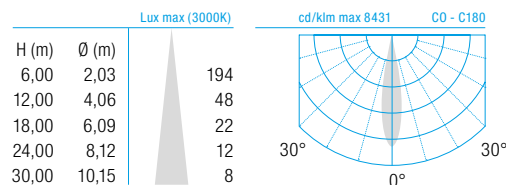
R1 + Filtro diffusore / Diffusion filter 16° (16°–33°)



R1 + Filtro diffusore / Diffusion filter 33° (16°–33°)

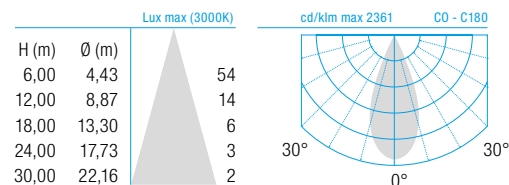


R2 + Filtro diffusore / Diffusion filter 19° (19°–42°)



CRI 90

R2 + Filtro diffusore / Diffusion filter 42° (19°–42°)



Posizionamento del filtro: lato zigrinato verso la sorgente / Filter positioning: structured side towards the source



Akro 1.1

3000K, 43W, range ottico 13°-32°, con filtro diffusore /
optical range 13°-32°, with diffusion filter

Villa Da Porto Casarotto, Dueville, Vicenza, Italia /
Villa Da Porto Casarotto, Dueville, Vicenza, Italy

AKRO

Sostituzione filtri / Changing filters

Per agevolare le prove illuminotecniche sul posto e per testare i vari effetti luminosi, L&L fornisce a richiesta una cartuccia mockup per la sostituzione immediata dei filtri.

Una volta definito l'effetto luminoso, deve essere sostituita con la cartuccia standard per garantire la protezione dell'apparecchio (IP66).

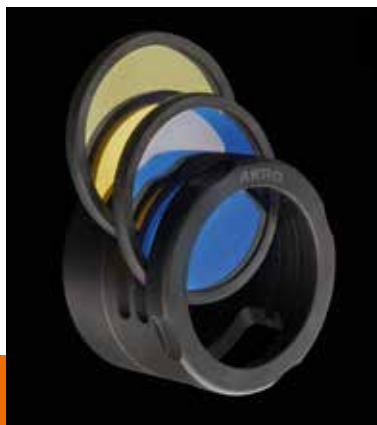
To facilitate lighting tests on site, and to test the various lighting effects, L&L will provide a mock-up cartridge on request so that the filters can be changed immediately.

Once the lighting effect has been finalised, you must replace the mock-up with the standard cartridge, to guarantee the device's protection (IP66).



WE0300

Accessorio per sostituzione filtri /
Accessory for changing filters



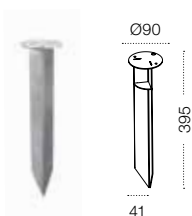
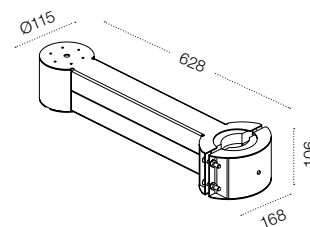
Cartuccia mockup su richiesta
Mock-up cartridge on request



Cartuccia IP66 in dotazione
IP66 cartridge supplied

AKRO**Accessori / Accessories**

Per installazione / For installation

**WP0300** - Akro 1.0Picchetto per installazione a terra /
Stake for installation in the ground**WP1005N** - Akro 1.0Braccio per attacco a palo /
Arm for pole mounting



AKRO

ISTRUZIONI DI INSTALLAZIONE

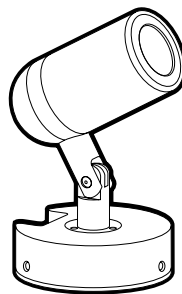
INSTALLATION INSTRUCTIONS



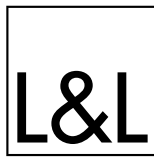
AKRO 1.0



AKRO 1.1

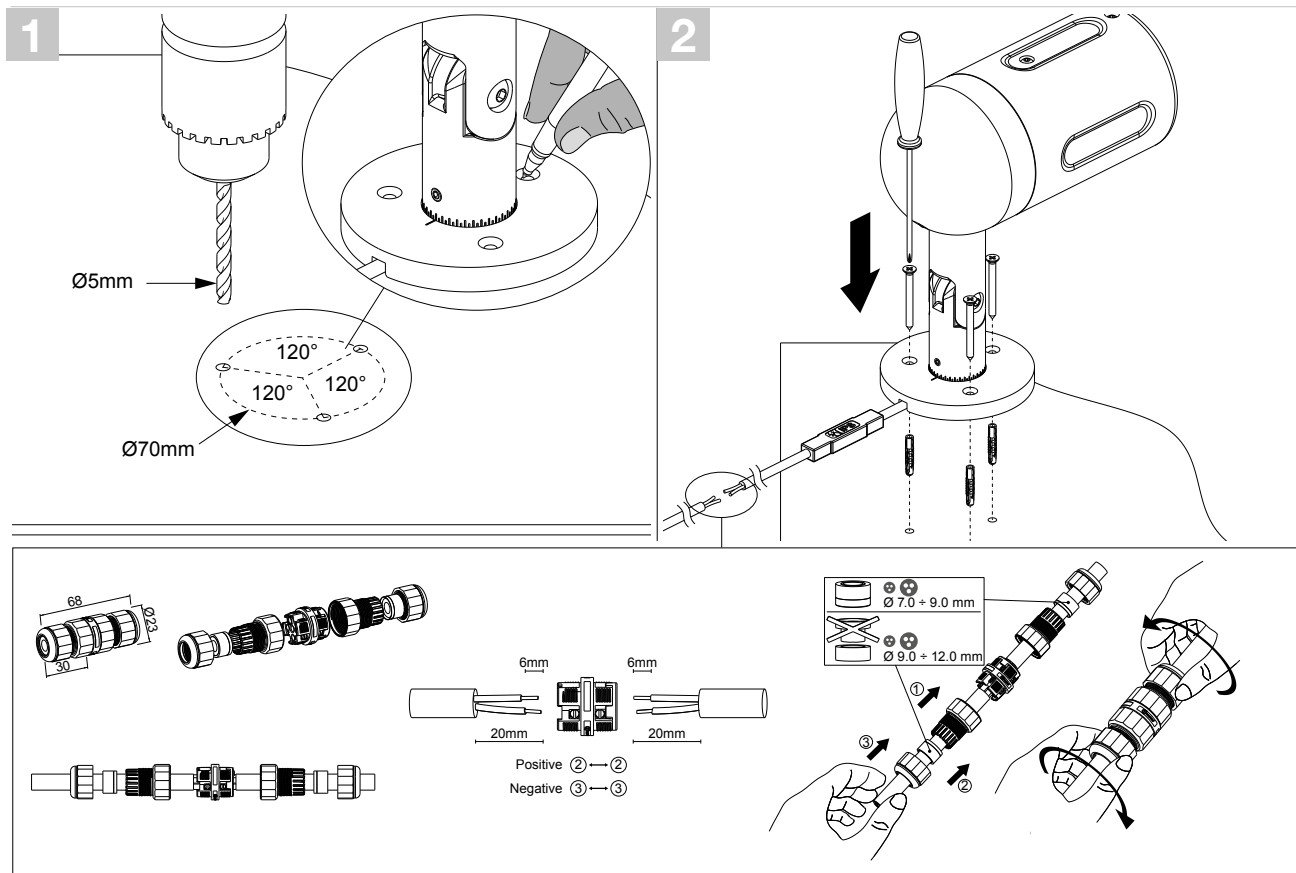


AKRO 1.2

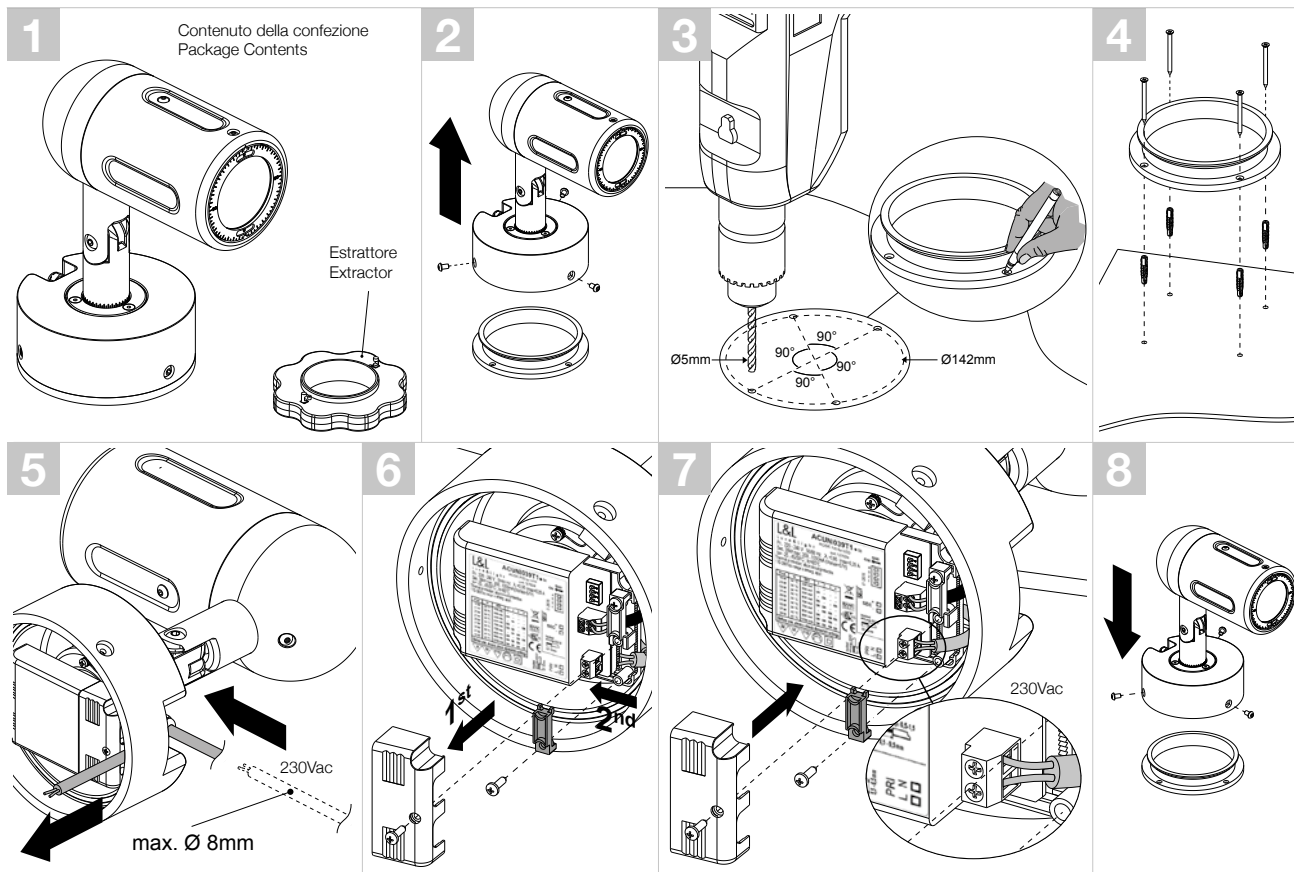


Luce & Light

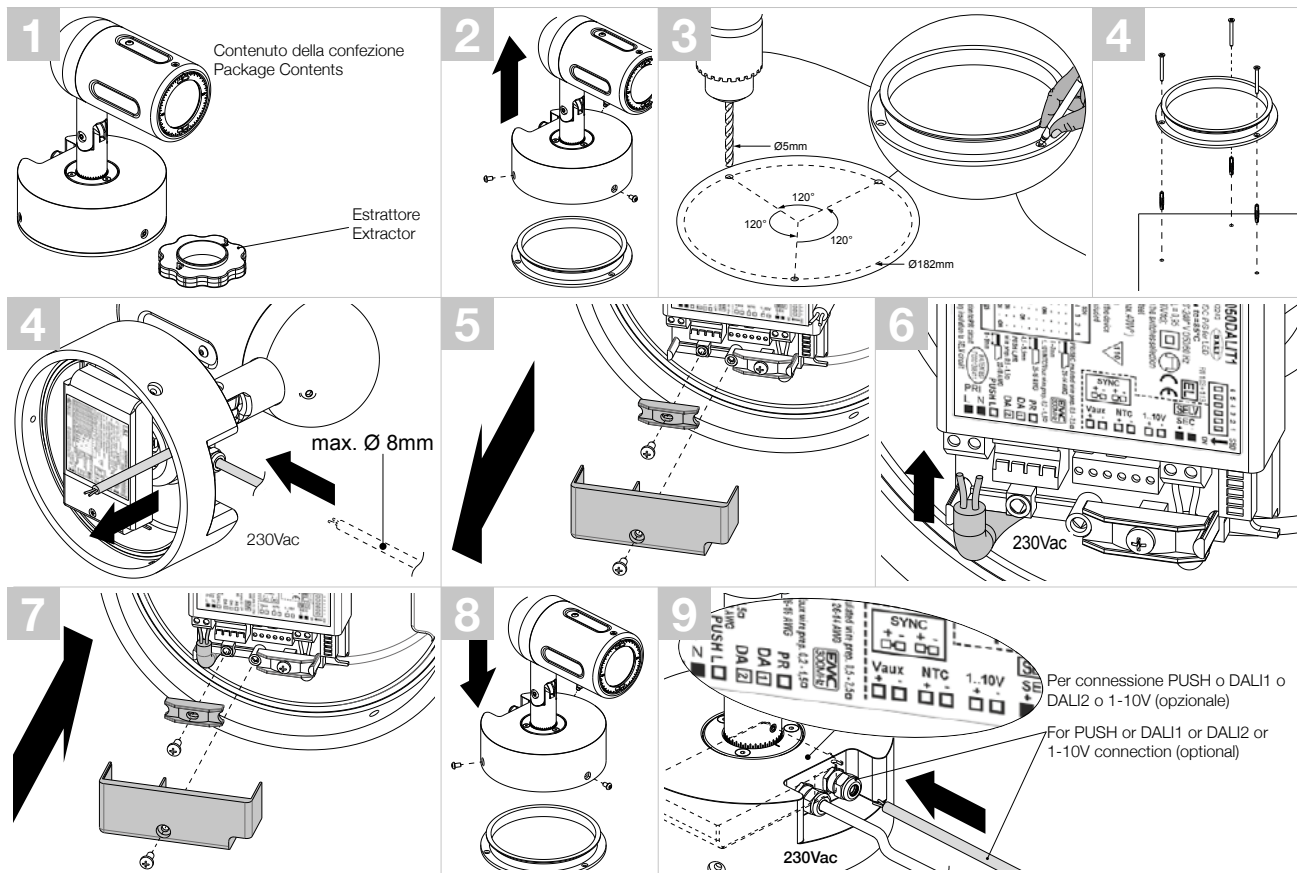
AKRO 1.0



AKRO 1.1



AKRO 1.2

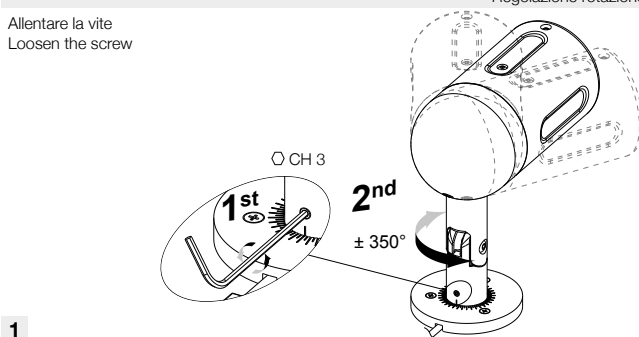


AKRO 1.0 / AKRO 1.1 / AKRO 1.2

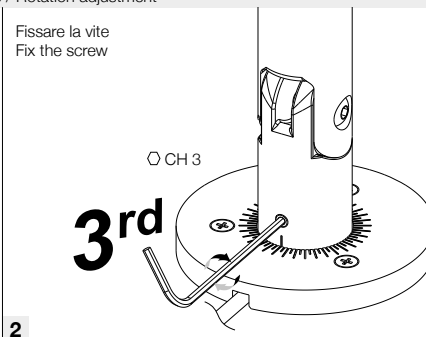
REGOLAZIONI DEL PROIETTORE / PROJECTOR ADJUSTMENTS

Regolazione rotazione / Rotation adjustment

Allentare la vite
Loosen the screw

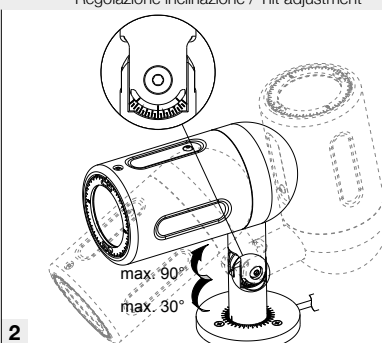
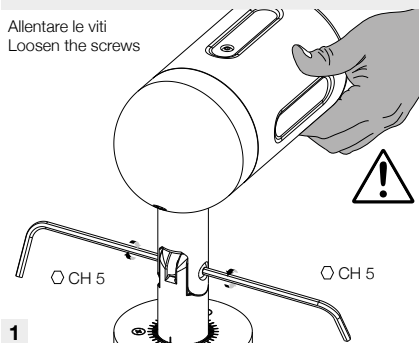


Fissare la vite
Fix the screw

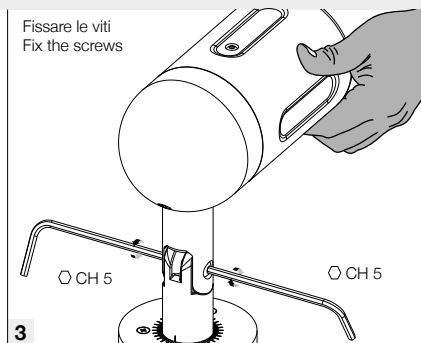


Regolazione inclinazione / Tilt adjustment

Allentare le viti
Loosen the screws



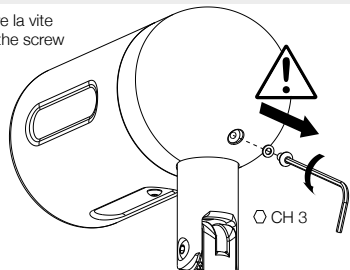
Fissare le viti
Fix the screws



AKRO 1.0 / AKRO 1.1 / AKRO 1.2

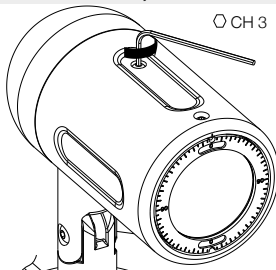
Regolazione zoom / Zoom adjustment

Rimuovere la vite
Remove the screw



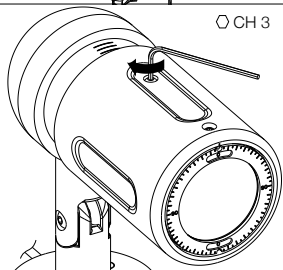
1

Allentare la vite
Loosen the screw



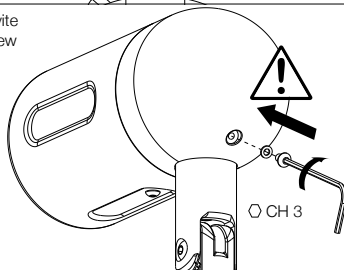
2

Fissare la vite
Fix the screw

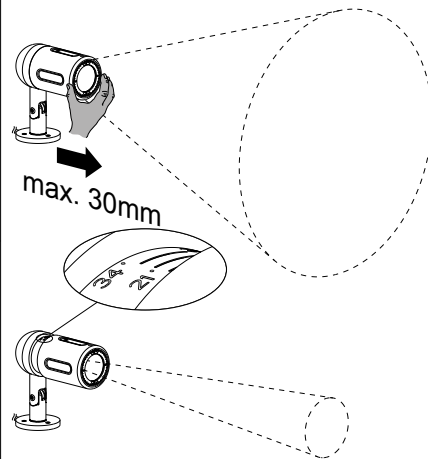


4

Fissare la vite
Fix the screw



5

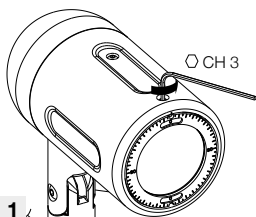


3

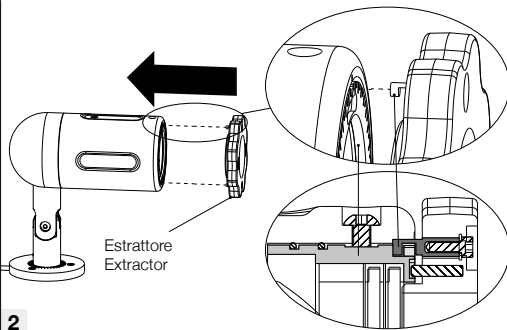
AKRO 1.0 / AKRO 1.1 / AKRO 1.2

Sostituzione filtro / Filter replacement

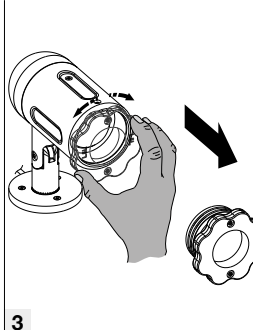
Rimuovere la vite
Remove the screw



1

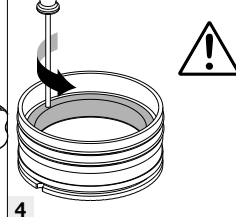


2



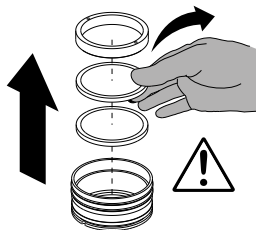
3

Rimuovere la ghiera
Remove the ferrule



4

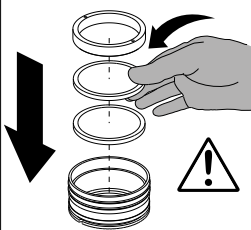
Usare i guanti!
Use gloves!



5

max. 2 filters

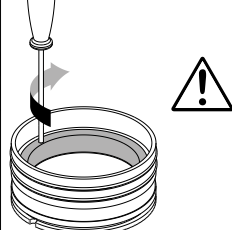
Filtri diffusore ed ellittico: lato zigrinato verso la sorgente
Diffusion and elliptical filters: structured side towards the source



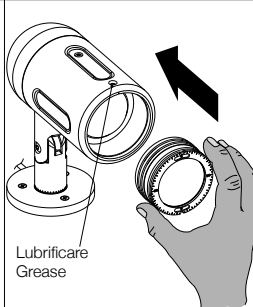
6

max. 2 filters

Fissare la ghiera
Fix the ferrule



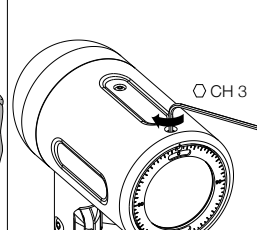
7



8

Lubrificare
Grease

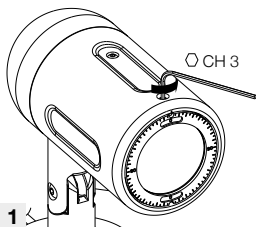
Fissare la vite
Fix the screw



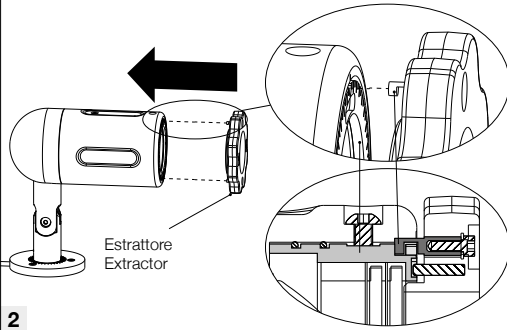
9

Regolazione filtro ellittico / Elliptical filter adjustment

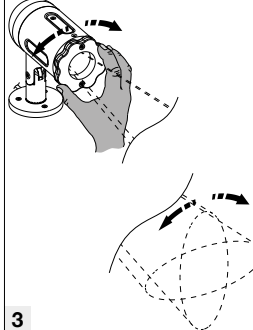
Allentare la vite
Loosen the screw



1

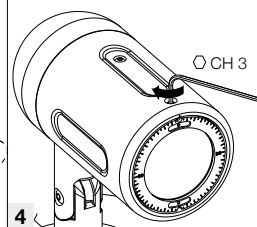


2



3

Fissare la vite
Fix the screw



4



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