

# AKRO



# AKRO

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

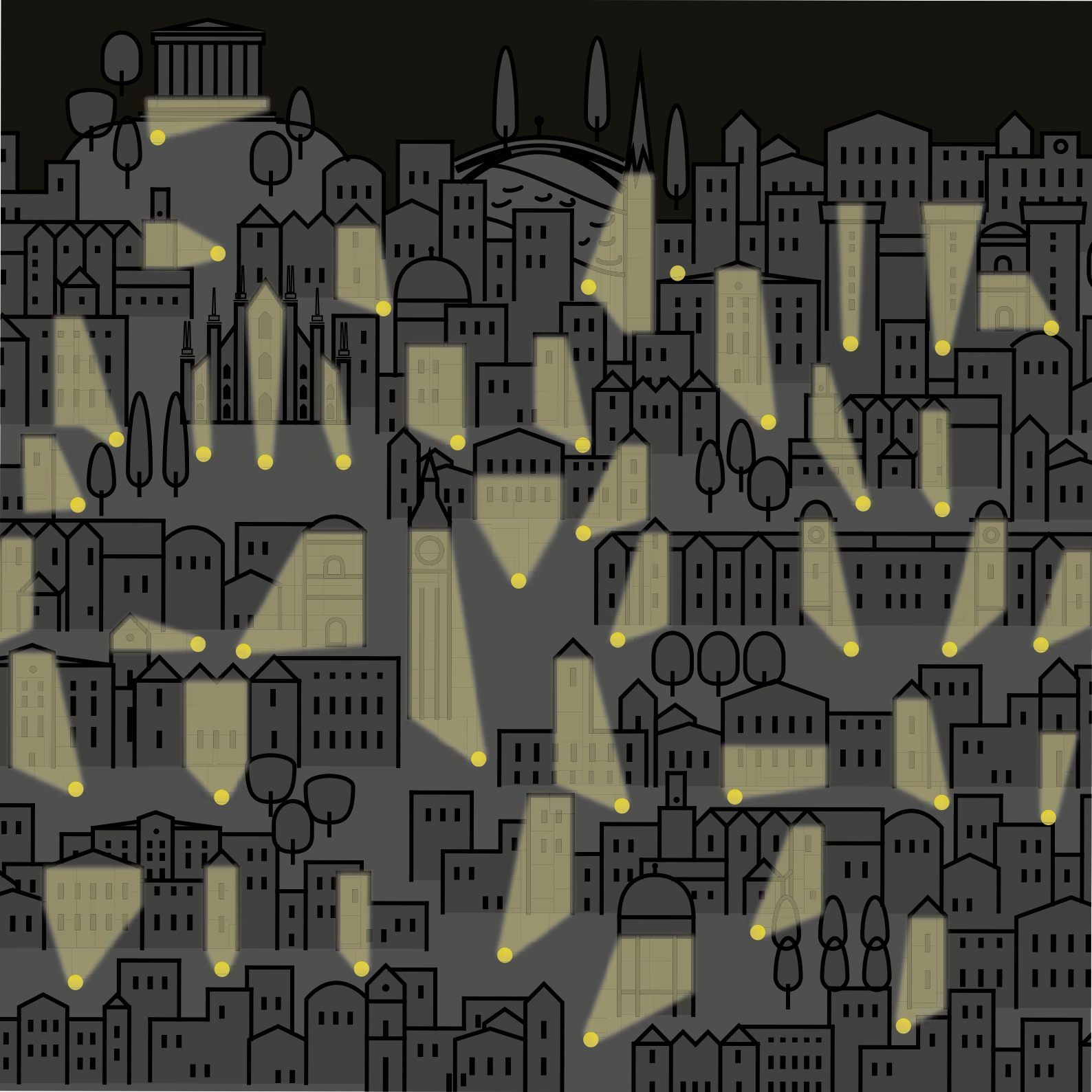


designplan™ 

The 'designplan' logo consists of the word 'designplan' in a lowercase, white, sans-serif font with a black outline. To the right of the word is a red circular icon containing a white stylized 'dp' monogram.

79 Trenton Avenue  
Frenchtown, NJ 08825

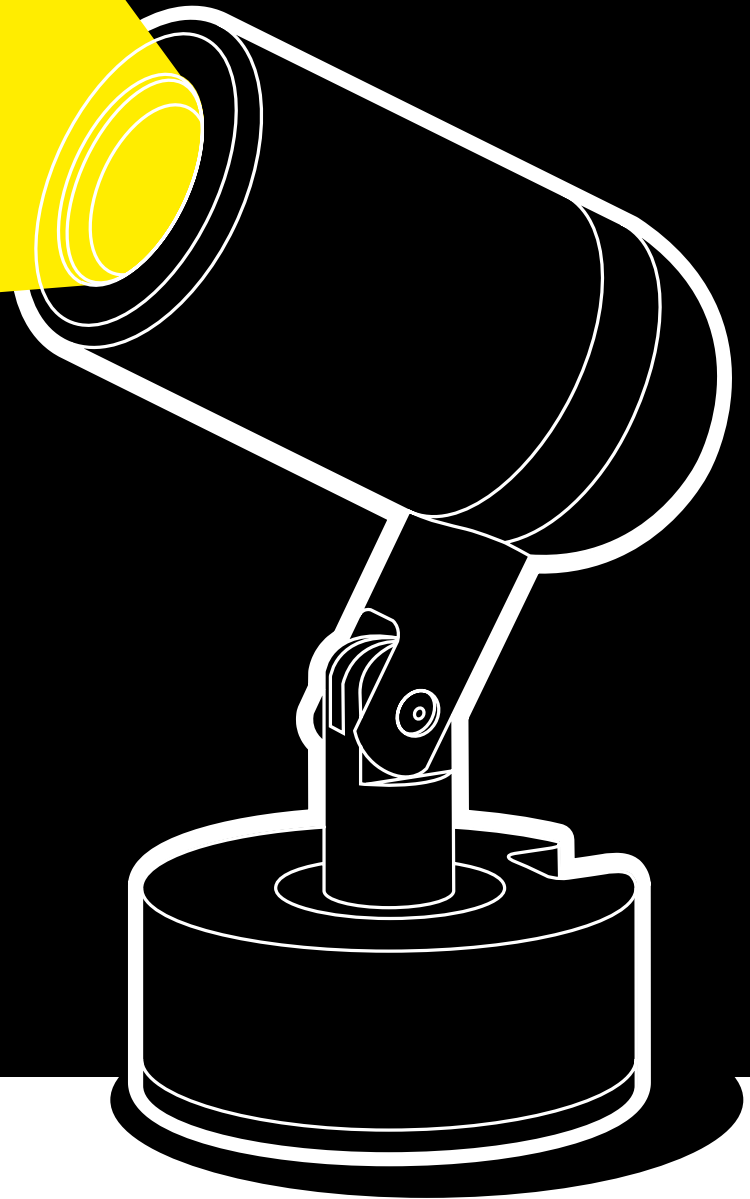
Tel: (908) 996-7710  
Fax: (908) 996-7042



# AKRO

## MAIN FEATURES

- Optical ranges: 13°—32°, 16°—42°
- System of internal optics
- Zoom lens to manually adjust beam
- Wide range of filters (dichroic, elliptical, diffusion)
- Body with three sets of graduations to ensure precise positioning of the light beam
- IP66  
Suitable for outdoor applications
- On-board protection systems  
IPS Intelligent Protection System (Akro 1.0)  
PID Protective Impedance Device (Akro 1.1 / 1.2)





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

The anodized aluminum 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 color temperature of 2700K, 3000K and 4000K, with a color 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 color 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 customize 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).

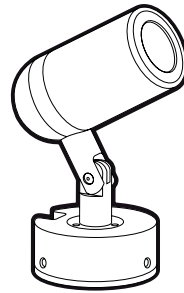
With 350° rotation and 150° tilt, the Akro is built to IP66 and IK06.



AKRO 1.1

# AKRO

## Versions



Product	AKRO 1.0	AKRO 1.1	AKRO 1.2
Nom. power consumption	37W	43W	43W
Power supply	1050mA	120VAC	120VAC
Power supply unit	remote, not included	integral	integral



# AKRO

**Versions**



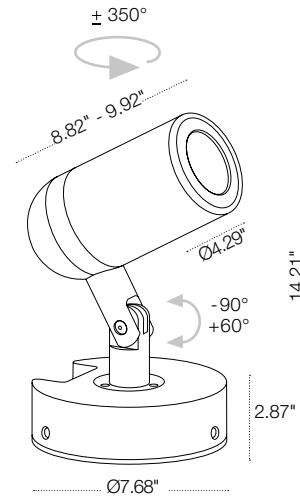
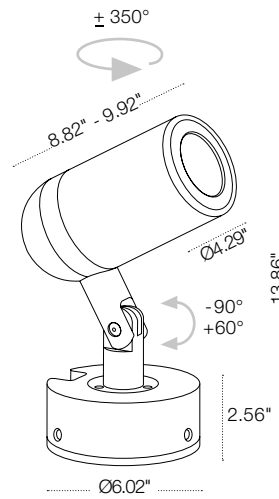
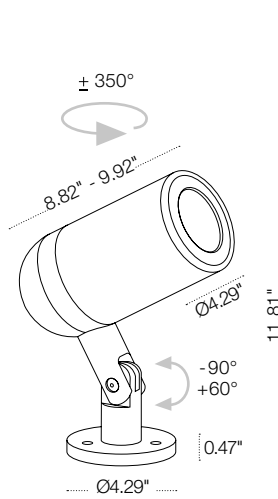
AKRO 1.2



AKRO 1.0



AKRO 1.1



37W - 1050mA - CRI 80

**AK10000** ■ ■ N Black

37W - 1050mA - CRI 90

**AK10001** ■ ■ N Black

■ LED color

■ Optics

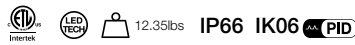
**F** - 2700K

**R1** - 13°—32°

**5** - 3000K

**R2** - 16°—42°

**9** - 4000K



43W - 120VAC - CRI 80

**AK11100** ■ ■ N Black

43W - 120VAC - CRI 90

**AK11101** ■ ■ N Black

■ LED color

■ Optics

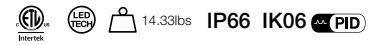
**F** - 2700K

**R1** - 13°—32°

**5** - 3000K

**R2** - 16°—42°

**9** - 4000K



43W - 120VAC - CRI 80 - 0-10V Dimming

**AK12100** ■ ■ ND Black

43W - 120VAC - CRI 90 - 0-10V Dimming

**AK12101** ■ ■ ND Black

■ LED color

■ Optics

**F** - 2700K

**R1** - 13°—32°

**5** - 3000K

**R2** - 16°—42°

**9** - 4000K

AKRO 1.0

AKRO 1.1

AKRO 1.2

# AKRO

## Materials

Body in black  
anodized aluminum  
EN AW 6082

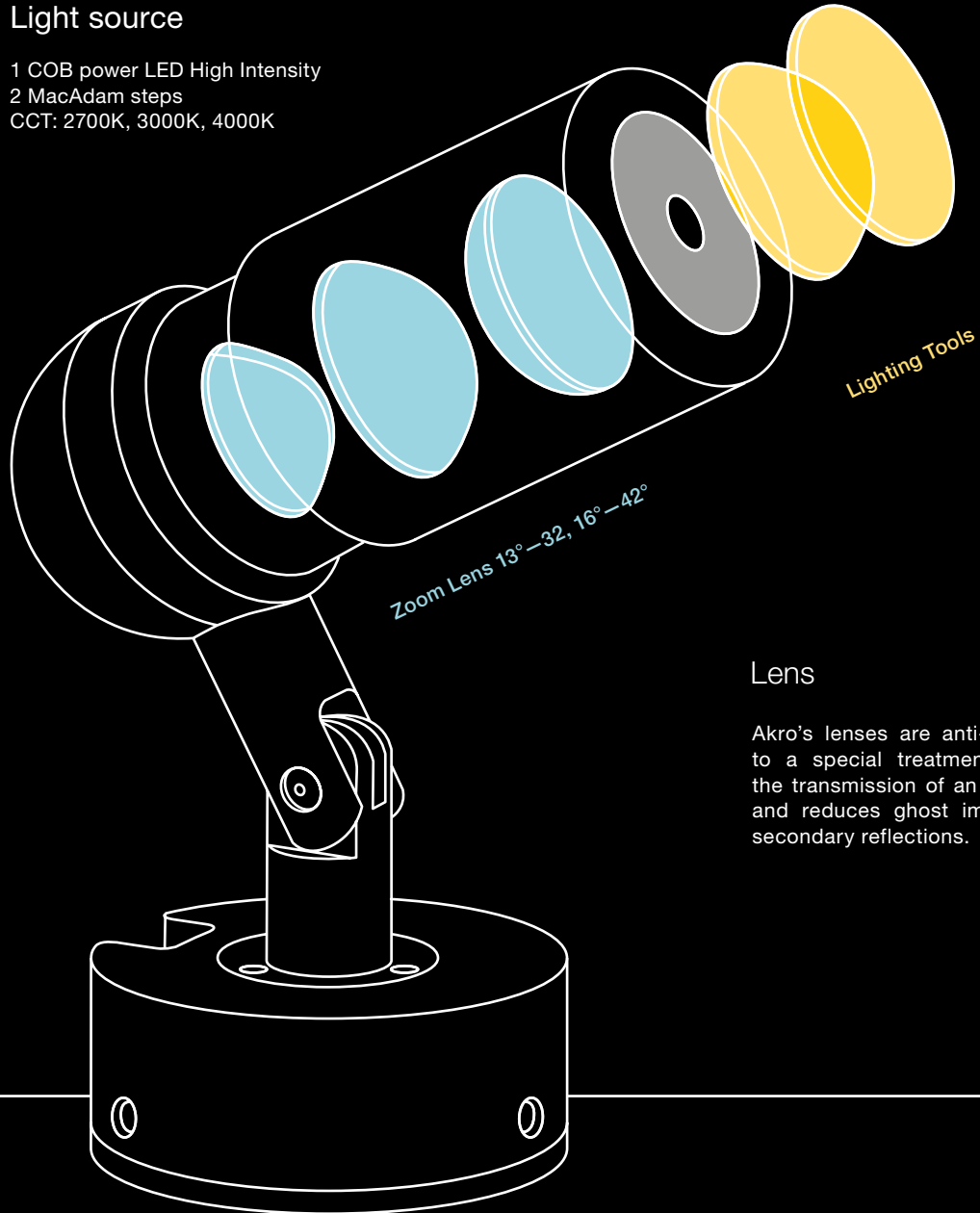
Lenses in BK7  
borosilicate glass

Lens in 0.16"-thick  
high-reflectance  
tempered glass

Screws in AISI 316L  
stainless steel

## Light source

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



## Lens

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.

# AKRO

## Sets of graduations

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



# AKRO

Adjusting the zoom lens



1.



2.

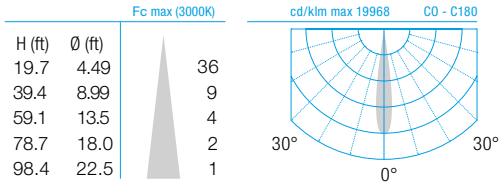


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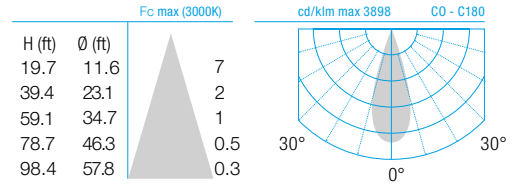
# AKRO

## Photometric data

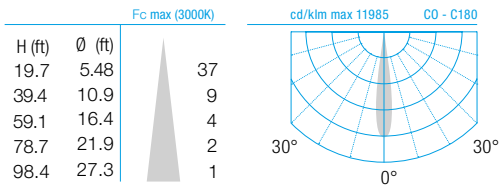
**R1 - 13° (13°—32°)**



**R1 - 32° (13°—32°)**

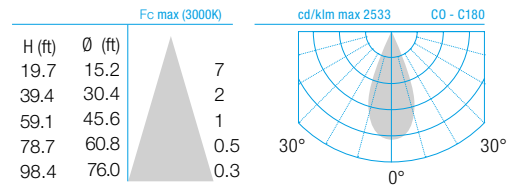


**R2 - 16° (16°—42°)**

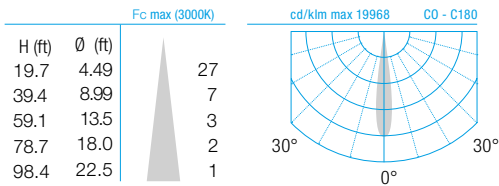


## CRI 80

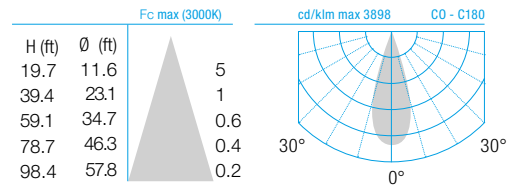
**R2 - 42° (16°—42°)**



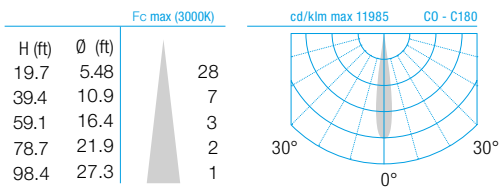
**R1 - 13° (13°—32°)**



**R1 - 32° (13°—32°)**

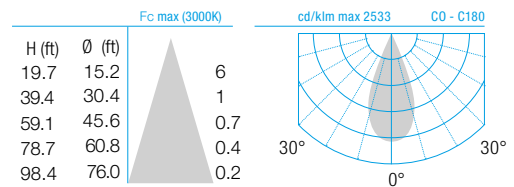


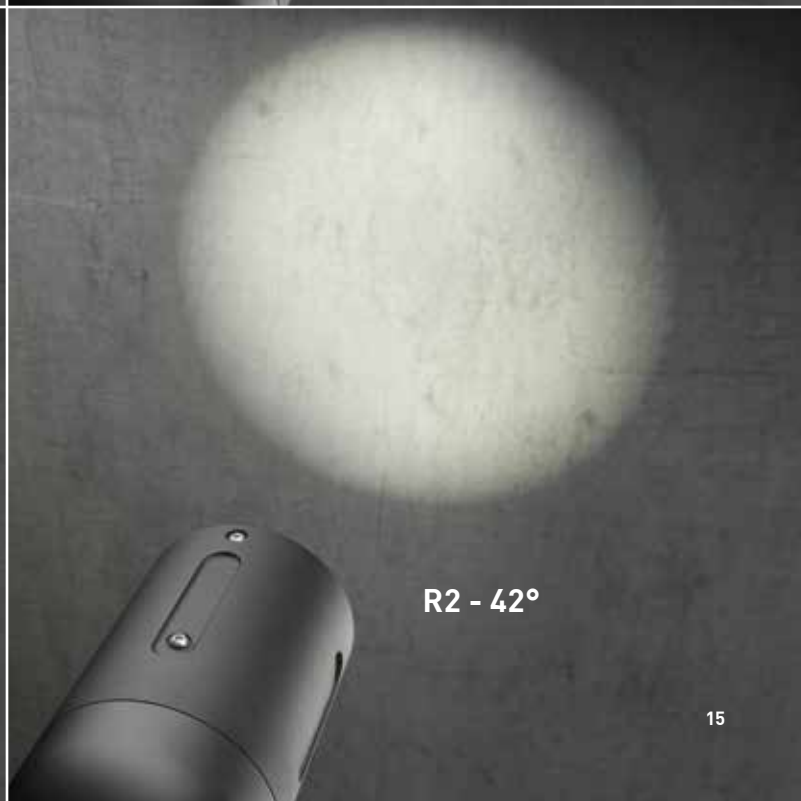
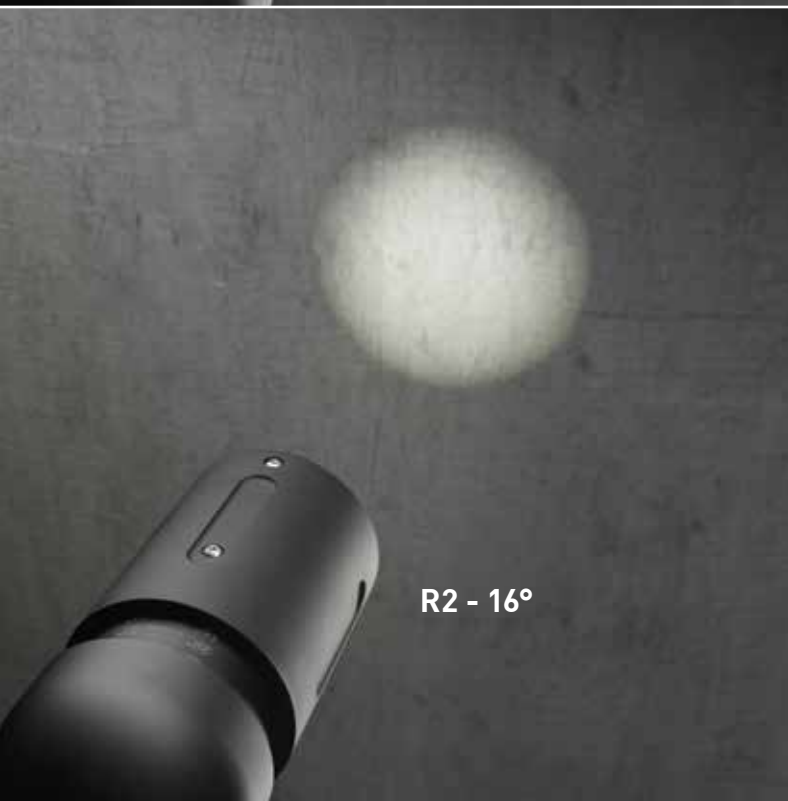
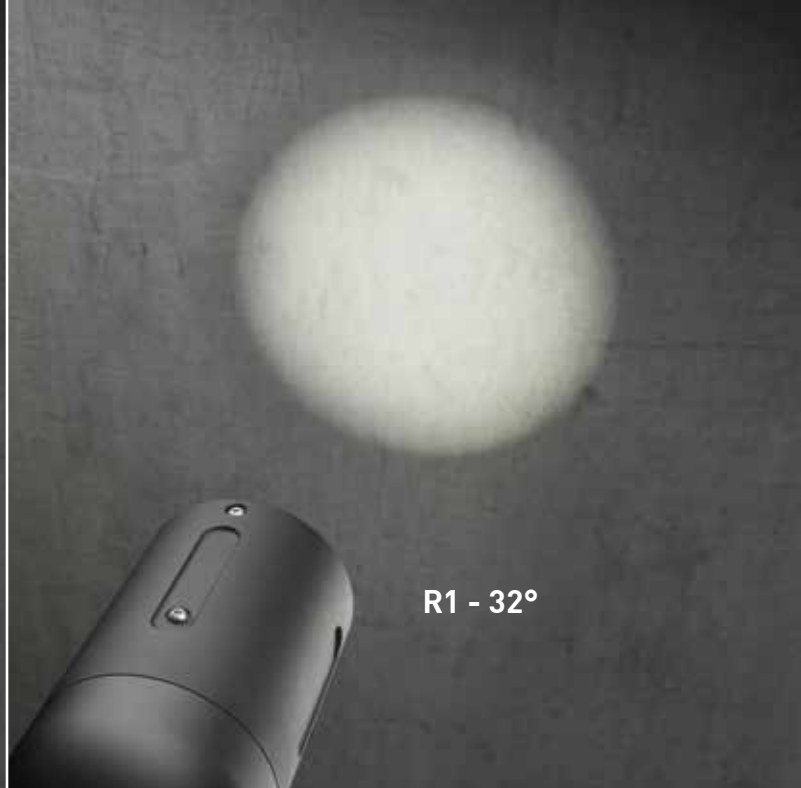
**R2 - 16° (16°—42°)**



## CRI 90

**R2 - 42° (16°—42°)**







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## AKRO

### Accessories



## Anti-glare



**WB1101N** Black  
Standard snoot

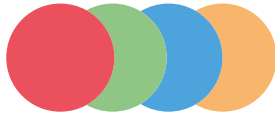


**WB1102N** Black  
Asymmetrical snoot



**WB1103N** Black  
Barn doors

## Filters



- WR0001** Red
- WR0002** Green
- WR0003** Blue
- WR0004** Orange

Dichroic filter



**WR0030** Variation towards warm white light

**WR0031** Variation towards cold white light

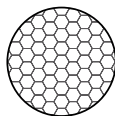
Color temperature conversion filter



**WR0020** Elliptical

**WR0010** Diffusion

Optical filter



**WH0506**

Honeycomb louvre

Akro can house up to two filters at the same time

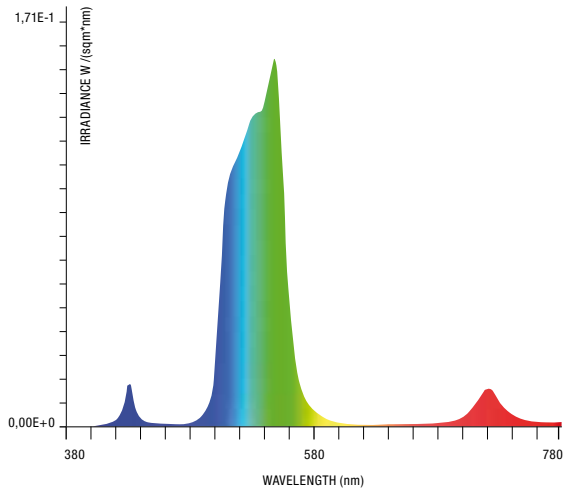
# AKRO

## Dichroic filters

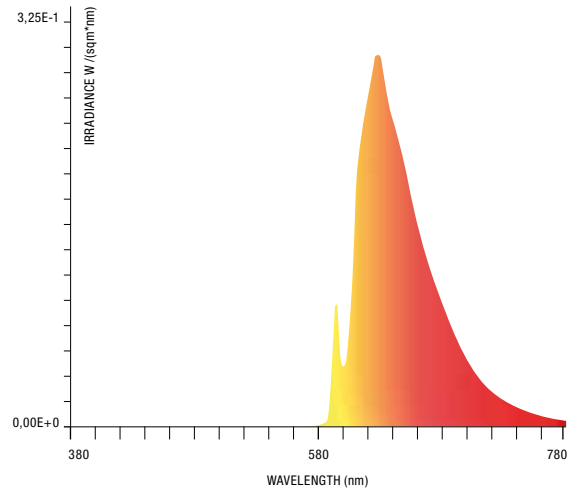
The dichroic filters transmit a specific portion of the visible light spectrum and limit transmission of the remaining portion.



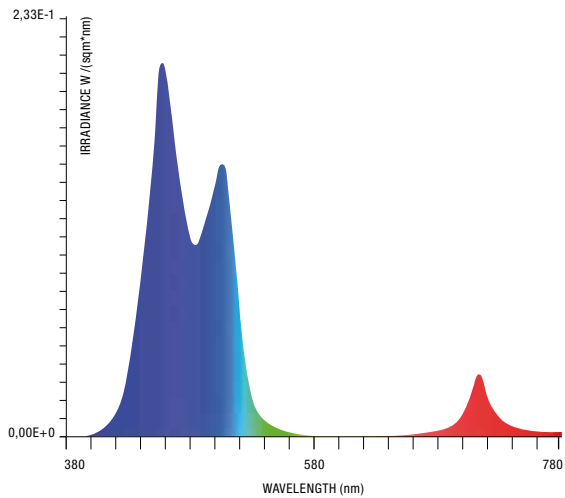
Akro 1.0  
3000K, 37W, with elliptical filter and green, red, blue and orange dichroic filters



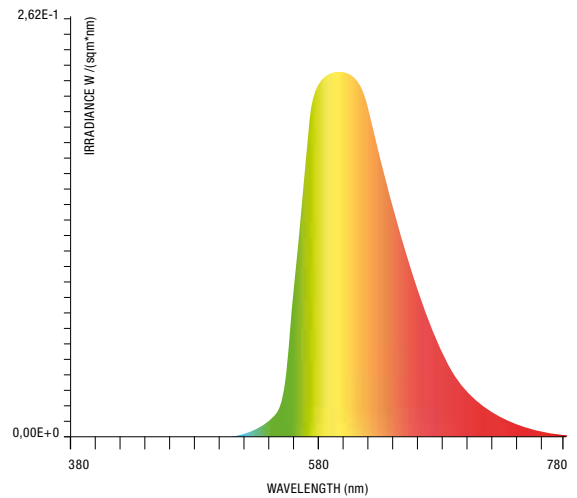
● LED color : 3000K  
 Dichroic filter : green  
 Wavelength : 535.4 nm



● LED Colour : 3000K  
 Dichroic filter : red  
 Wavelength : 618.4 nm



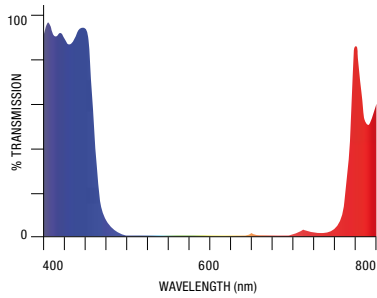
● LED color : 3000K  
 Dichroic filter : blue  
 Wavelength : 480.3 nm



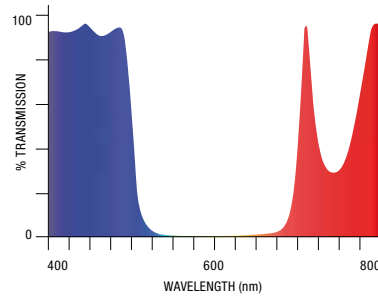
● LED color : 3000K  
 Dichroic filter : orange  
 Wavelength : 593.3 nm

# AKRO

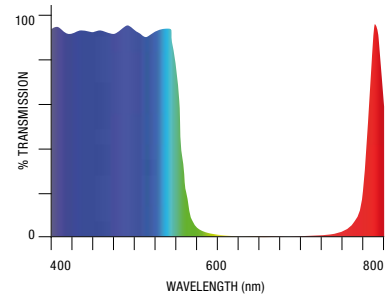
## Dichroic filters on request



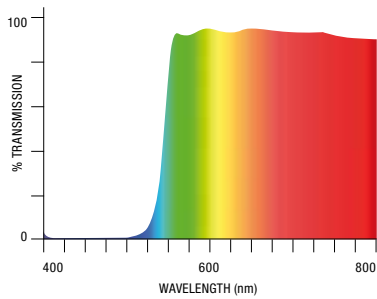
Midnight blue



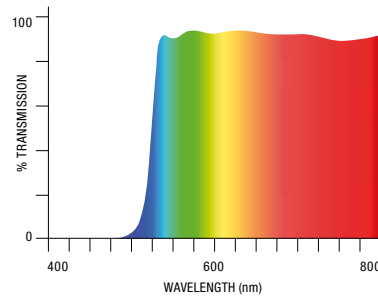
Dark blue



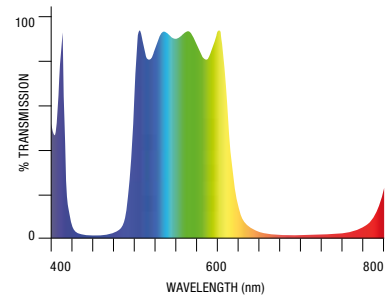
Cyan



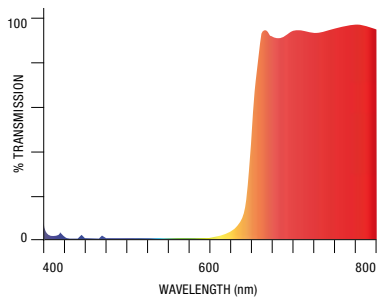
Dark yellow



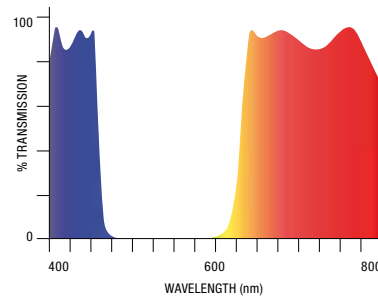
Yellow



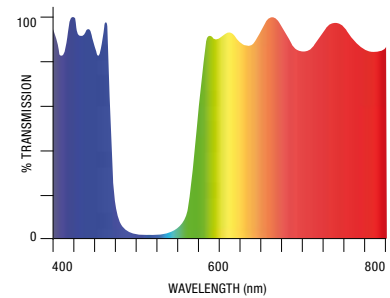
Light green



Dark red



Magenta



Pink



**Akro 1.0**  
3000K, 37W, optical range 13°—32°,  
with dichroic filters on request /

# AKRO

## Colour temperature conversion filters

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, with conversion filter for cold white light



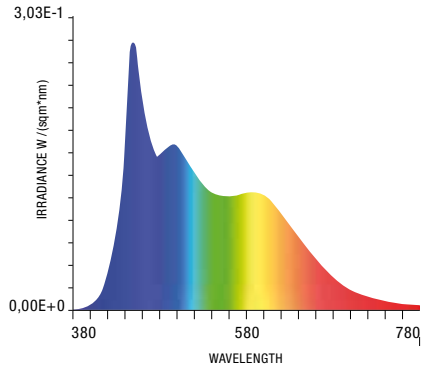
Akro 1.1

3000K, 43W

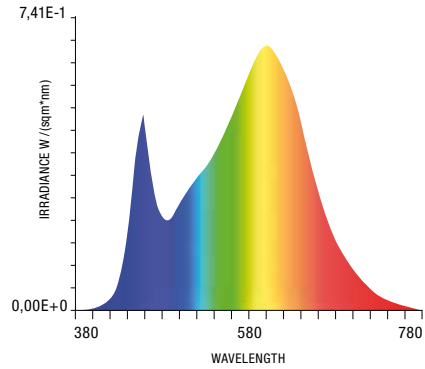


Akro 1.1

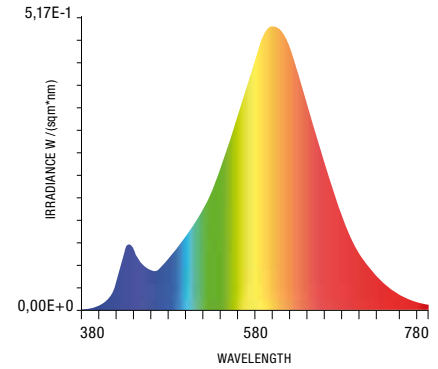
3000K, 43W, with conversion filter for warm white light



LED color : 3000K  
Filter : 6000K  
Wavelength : 488.2 nm



LED color : 3000K  
Wavelength : 583.2 nm



LED color : 3000K  
Filter : 2200K  
Wavelength : 586.4 nm

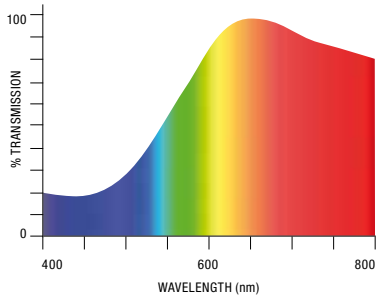
LED CCT	CONVERSION FILTER	CODE	LED CCT WITH CONVERSION FILTER	CCT VARIATION
2700K	Variation towards warm white light	<b>WR0030</b>	1950K	750K
2700K	Variation towards cold white light	<b>WR0031</b>	4500K	1800K
3000K	Variation towards warm white light	<b>WR0030</b>	2100K	900K
3000K	Variation towards cold white light	<b>WR0031</b>	5400K	1400K
4000K	Variation towards warm white light	<b>WR0030</b>	2550K	1750K
4000K	Variation towards cold white light	<b>WR0031</b>	9400K	5400K



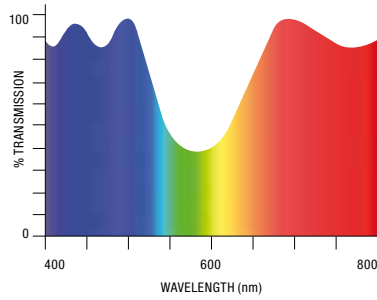
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# AKRO

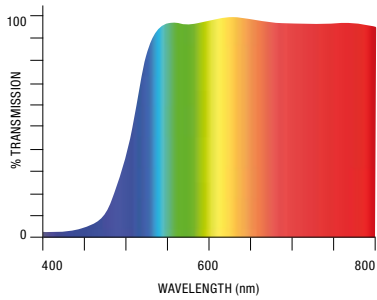
Hue-enhancing filters on request



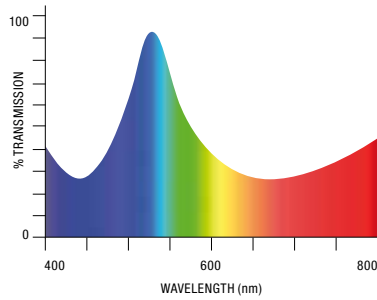
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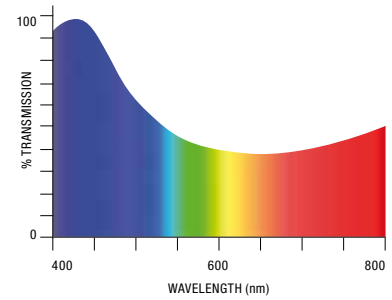
02



03



04



05



Akro 1.1  
3000K, 43W,  
with yellow-, orange- and red-hue-enhancing filter

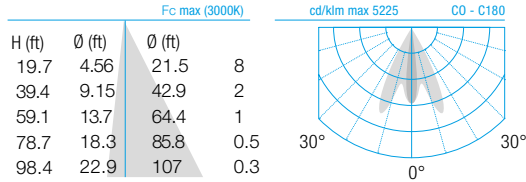


Akro 1.1  
3000K, 43W, with blue- and green-hue-enhancing filter

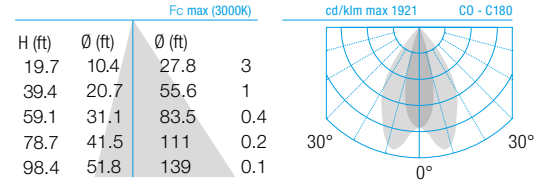
# AKRO Elliptical filter

## Photometric data

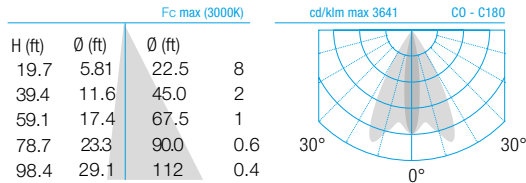
### R1 + Elliptical filter 13°x57°



### R1 + Elliptical filter 29°x70°

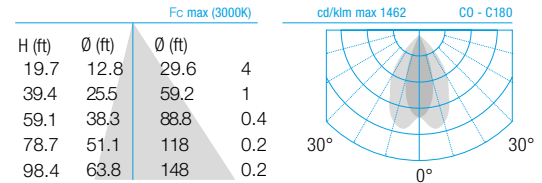


### R2 + Elliptical filter 17°x59°

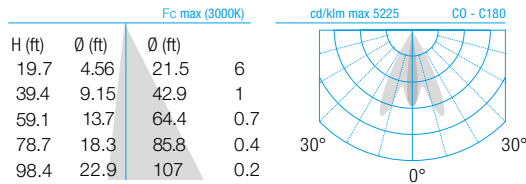


## CRI 80

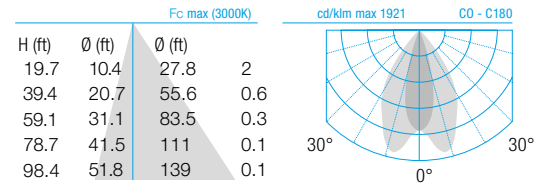
### R2 + Elliptical filter 36°x74°



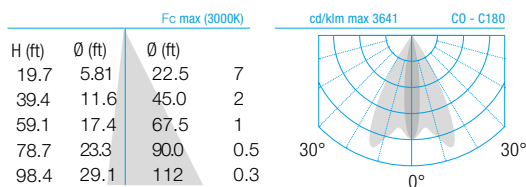
### R1 + Elliptical filter 13°x57°



### R1 + Elliptical filter 29°x70°

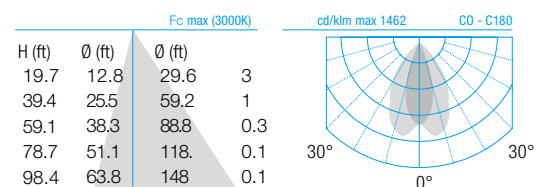


### R2 + Elliptical filter 17°x59°



## CRI 90

### R2 + Elliptical filter 36°x74°



Filter positioning: structured side towards the source

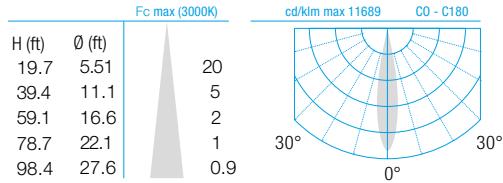


Akro 1.0  
3000K, 37W, optical range 13°—32°, with elliptical filter

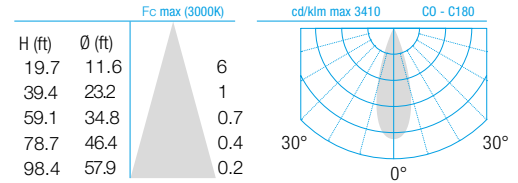
# AKRO Diffusion filter

## Photometric data

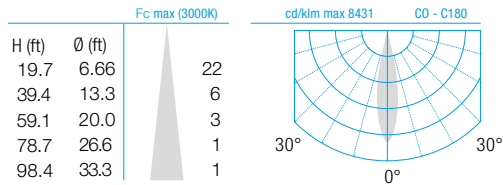
**R1 + Diffusion filter 16° (16°—33°)**



**R1 + Diffusion filter 33° (16°—33°)**

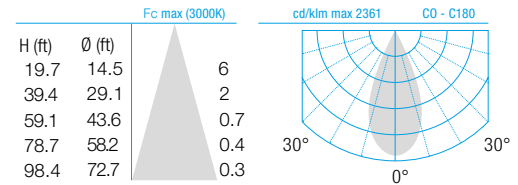


**R2 + Diffusion filter 19° (19°—42°)**

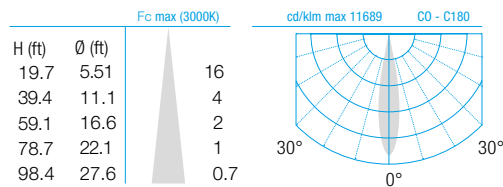


## CRI 80

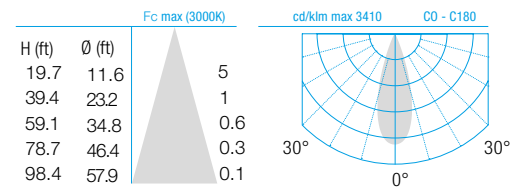
**R2 + Diffusion filter 42° (19°—42°)**



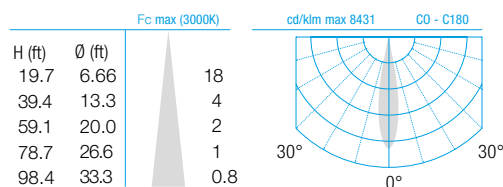
**R1 + Diffusion filter 16° (16°—33°)**



**R1 + Diffusion filter 33° (16°—33°)**

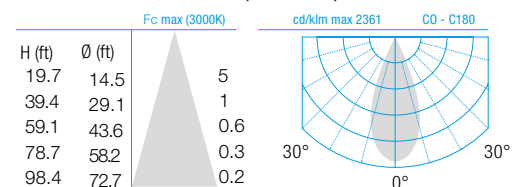


**R2 + Diffusion filter 19° (19°—42°)**



## CRI 90

**R2 + Diffusion filter 42° (19°—42°)**



Filter positioning: structured side towards the source



**Akro 1.1**

3000K, 43W, optical range 13°—32°, with diffusion filter

Villa Da Porto Casarotto, Dueville, Vicenza, Italy

## AKRO Changing filters

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**

Accessory for changing filters



Mock-up cartridge on request



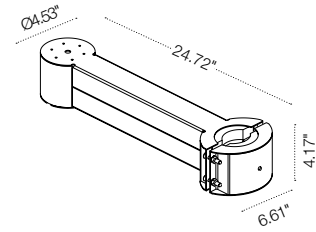
IP66 cartridge supplied

# AKRO Accessories

For installation



**WP0300** - Akro 1.0  
Stake for installation in the ground



**WP1005N** - Akro 1.0  
Arm for pole mounting







# designplan

79 Trenton Avenue  
Frenchtown, NJ 08825

Tel: (908) 996-7710  
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