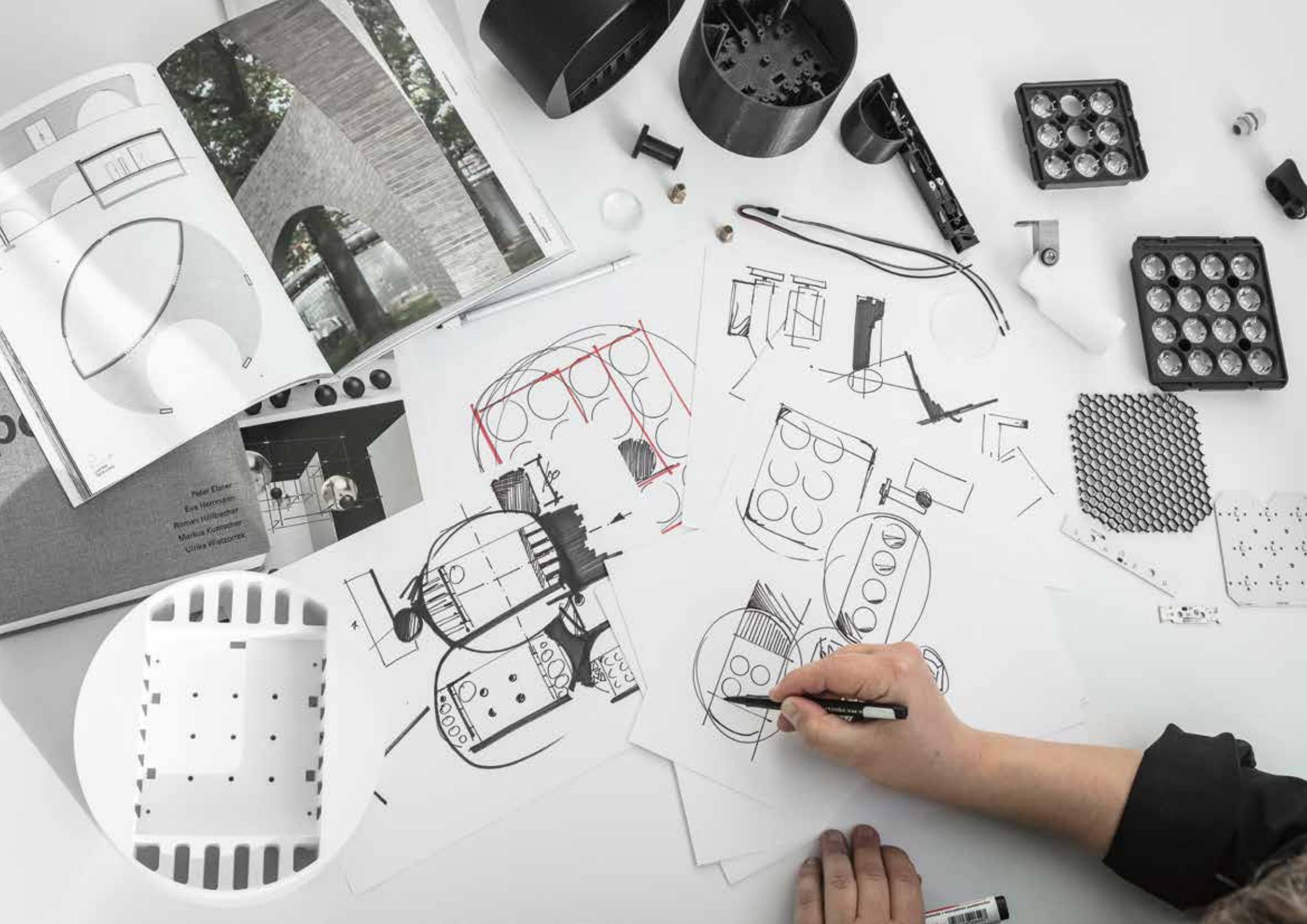
Fragma

It's all in the effect



Multiple Functions

No two lighting schemes are identical. Different geometries, different heights, different needs, there is more than only one factor that impacts a lighting set-up.
The Fragma range easily adapts to any variable influencing the project, thanks to a multitude in optics, lumen packages and dimming possibilities.

One Design

Its simple design and its circular shape let you use Fragma throughout the project,
as it blends in perfectly in any architectural environment,
combining clean cut optical performance, light quality and visual comfort.

Family Overview

ENDLESS POSSIBILITIES

Within the same design language, Fragma offers multiple power outputs in different sizes and with various dimming possibilities, a range of optics and a set of accessories to enhance the visual wellbeing. Which one to use? The choice is up to you!

CHOOSE YOUR COLOUR

○ ●

CHOOSE YOUR POWER
Ø120mm – 2x2 LEDs – up to 1100 lm
Ø140mm – 3x3 LEDs – up to 2600 lm
Ø190mm – 4x4 LEDs – up to 4600 lm

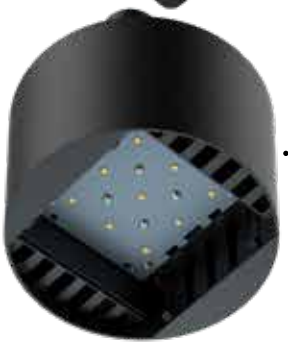
CHOOSE YOUR OPTICS
Standard 8° or 14° beam angle

Interchangeable micro lenses
to alter the 14° beam angle:
to other beam angles: 26° or 47°
–
to other effects: soft glow,
linear spread or wallwash

CHOOSE YOUR ACCESSORY
Honeycomb
reduce the minimum of
remaining spill light in all directions
–
Raster
shield off the light source from
directly being looked into
–
Flaps
take away an unwanted light effect
in one or more directions

Take a look inside

ADAPTER
Suited for an easy installation in either recessed, surface mounted or pendant 3 phase tracks



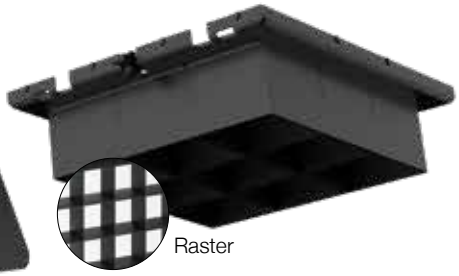
HOUSING
The bracket on the housing allows for an easy swivel (0-355°) and tilting (0-90°) mechanism
–
Powder coated in **black** or **white**
–
Power supply included:
Non-dimmable or dimmable by 1-10V, DALI, **on-board potentiometer** or **wireless**
–
PowerLEDs:
- Colour Rendering Index 90
- Colour temperature: 3000 or 4000 Kelvin
- Colour consistency 3 SDCM
- Lifetime L90 B10 100.000h
- Up to 4600 lm

COLLIMATOR LENSES
Individual PMMA collimator lens per LED for clean contoured beams
–
Standard 8° or 14° beam angle

MICROLENS
Additional sheet to put in front of the luminaire to alter the beam angle
–
- **26°** or **47°**
- **Softening**
- **Linear spread**
- **Wallwash**

Honeycomb

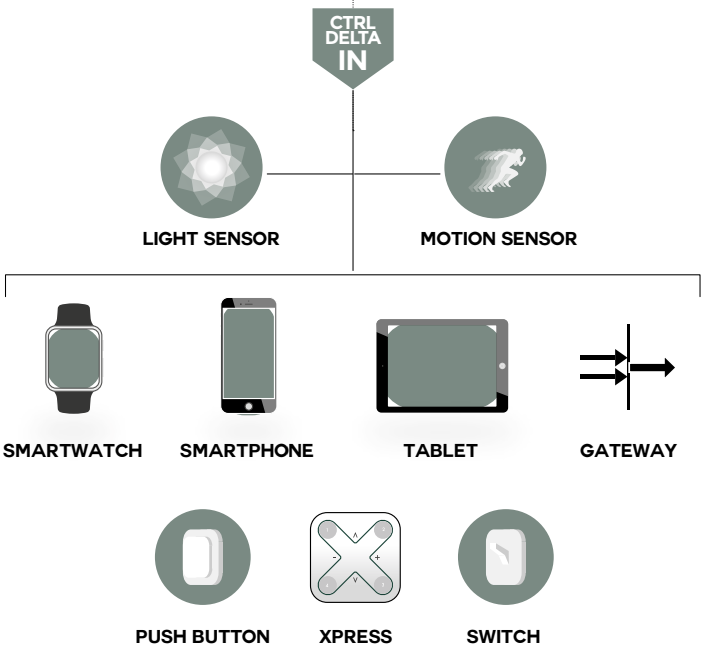
Flaps



Raster

ACCESSORIES
To improve the visual comfort, additional accessories can be added

DIMMING
Our Fragma luminaires can be used for simple switch on-switch off settings, but also come in different dimmable versions, be it 1-10V, DALI, with on-board potentiometer or even wireless.
1-10V dimmable Fragma spots allow for simple group dimming on track level, while our other dimmable versions can be used for individual dimming per spot. This going from individual handset dimming with the on-board potentiometer version, over the Dali addressable version controlled by a Dali master, till the wireless version based on CTRL Delta, offering solutions for both small and big installations.
All Fragma versions require a 3 phase track. However our wireless and on-board dimmable Fragma spots do not need additional dimming wiring within the 3 phase track and in this way offer an easier approach on flexible and individual dimming.



ON-BOARD POTENTIOMETER
Thanks to the extra potentiometer installed in our on-board dimmable Fragma luminaires, the output of these track spots can easily be controlled individually per spot. By turning the additional button on the backside of the housing, the intensity can be increased or decreased with a simple touch of the hand.
For use in museums for example, this dimming solution can be used for regularly changing set-ups of the room.

WIRELESS
Our Wireless dimmable Fragma luminaires are equiped with CTRL DELTA, an advanced lighting solution based on the bluetooth low energy standard.
Setting up light scenes, individual dimming and switching, all controlled with your smartphone or tablet. The easiest way of creating a flexible lighting scheme.

EASY TO INSTALL.
You don't need any new wiring, switches, devices or networks.
Plug in the lighting fixture and pair it with your smartphone or tablet.
No other configurations needed.

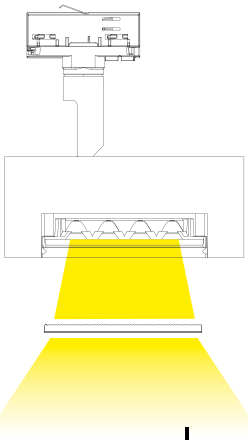
EASY TO USE.
You can control your lights with an intuitive and visual user interface on your smartphone or tablet.

EASY TO ENJOY.
With a tap on your smartphone you can set the ambience.
With the Casambi App you can control your luminaires individual or in groups.

LED Caset® Technology

LENSES - ENDLESS EFFECTS

Fragma is based on Delta Light's LED Caset® technology,
which combines multiple LEDs with individual collimator lenses per LED
to generate a clean-cut light distribution.
The individual lenses create a multi-layered light distribution to generate a
8° superspot or 14° beam angle as standard.
Be it for the smaller 2x2 version or the high-power 4x4 Fragma,
by concentrating the lenses together, the light distribution will be
the same thanks to the multi-layering process.

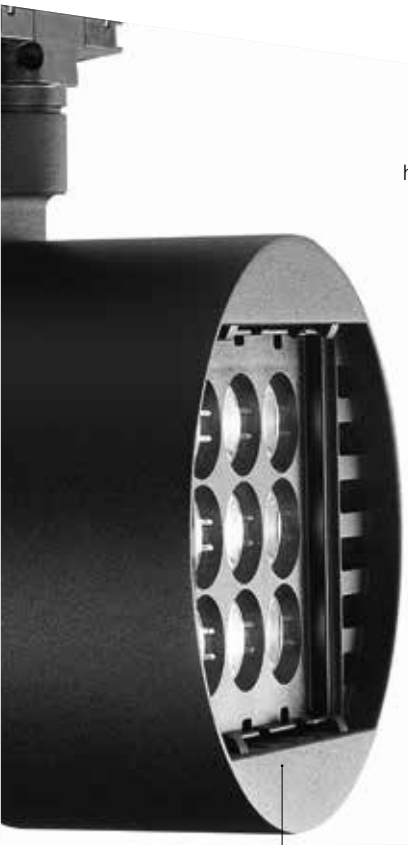


Microlens

With Fragma it is simple to change the light distribution to your needs. By adding a microlens on the frontside of the luminaire, the beam angle of 14° can easily be altered to 26° or 47°. The interchangeability of these microlenses allow for a quick installation on-site, as they can easily be added without the use of any tools.

These microlenses can not only be used to generate a different beam angle, also specific lighting effects can be created by putting an additional lens in front of the standard luminaire. Specific lenses can be used to generate a wallwash effect, to create an elliptical effect or to soften the clean-cut beam angle created by the collimator lenses.

Besides its interchangeability and easiness of creating different light effects, these in-house developed microlenses are designed to have an evenly spread light distribution for all beam angles, resulting in a scallops-free light effect.
With a good Colour Over Angle uniformity, the microlenses also reduce the colour shift that occurs when comparing the center of the distributed light with the edges.




FRAGMA 4x4 ADM 14°


FRAGMA 4x4 ADM 26°


FRAGMA 4x4 ADM 47°


SOFTENING LENS


LINEAR SPREAD LENS - HORIZONTAL


LINEAR SPREAD LENS - VERTICAL


WALLWASH LENS


FRAGMA 4x4 ADM 8°

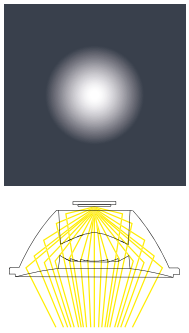

Cayenne
Macan


PORSCHE

Optical Precision

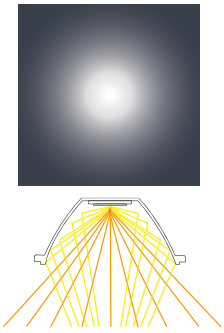
By using lenses, the light beam of Fragma can be completely controlled, as 100% of the light emitted by the LED engine goes through the lens and is being directed in the desired way. As a result, more precise beam angles can be created compared to the use of reflectors, as a reflector has no complete control of the light emitted by the LED engine.

LENS



Every ray of light passes through the lens and is directed in the desired way. As the light is fully controlled by the lens, clean beam angles can be created with a sharp cut-off.

REFLECTOR



A part of the light rays leaves the luminaire without being affected by the reflector and can not be fully controlled. By having light that leaves the luminaire without optical guidance, additional spill light is visible around the beam angle.

Visual Well-Being

Light is not only about light effects, it also affects the well-being of the passer-by. Good light quality is of main importance, as it influences the passer-by in an indirect way. CRI 90, good Colour Over Angle uniformity and uniform luminance on the emitting surface are some of the characteristics that let Fragma excel in light quality.

In a direct way, the passer-by is influenced by the light when directly looking into the light source. To reduce the direct impact on the passer-by, Fragma offers multiple accessories to further improve its visual comfort.

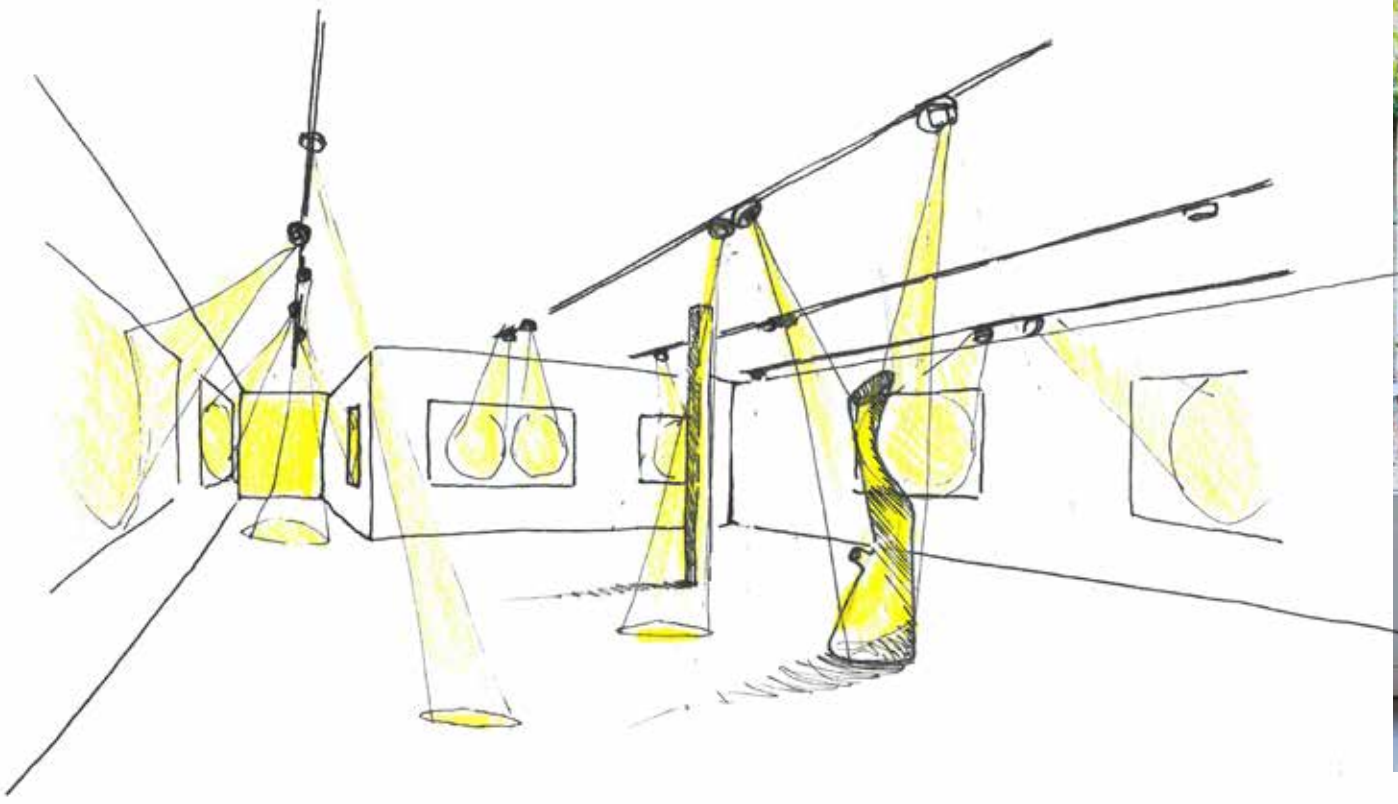
The **HONEYCOMB** is used as a small grid to put in front of the Fragma.
The small frames **reduce** the minimum of remaining spill light in all directions and the **glare** associated with it. The hexagonal openings make sure a minimum of efficiency is lost when adding the honeycomb.

Similar to the honeycomb, the **RASTER** is placed in front of the Fragma to **reduce** the remaining **spill light in all directions.** The larger vertical ribs perfectly shield the light source from directly being looked into.

FLAPS are a good way to **remove an unwanted light effect in one or more directions**. In some cases, the beam angle used is perfect to lit up for example an item on the wall, but no light on the floor is wanted. By repositioning one or more flaps, the light distribution can be shaped in multiple ways.

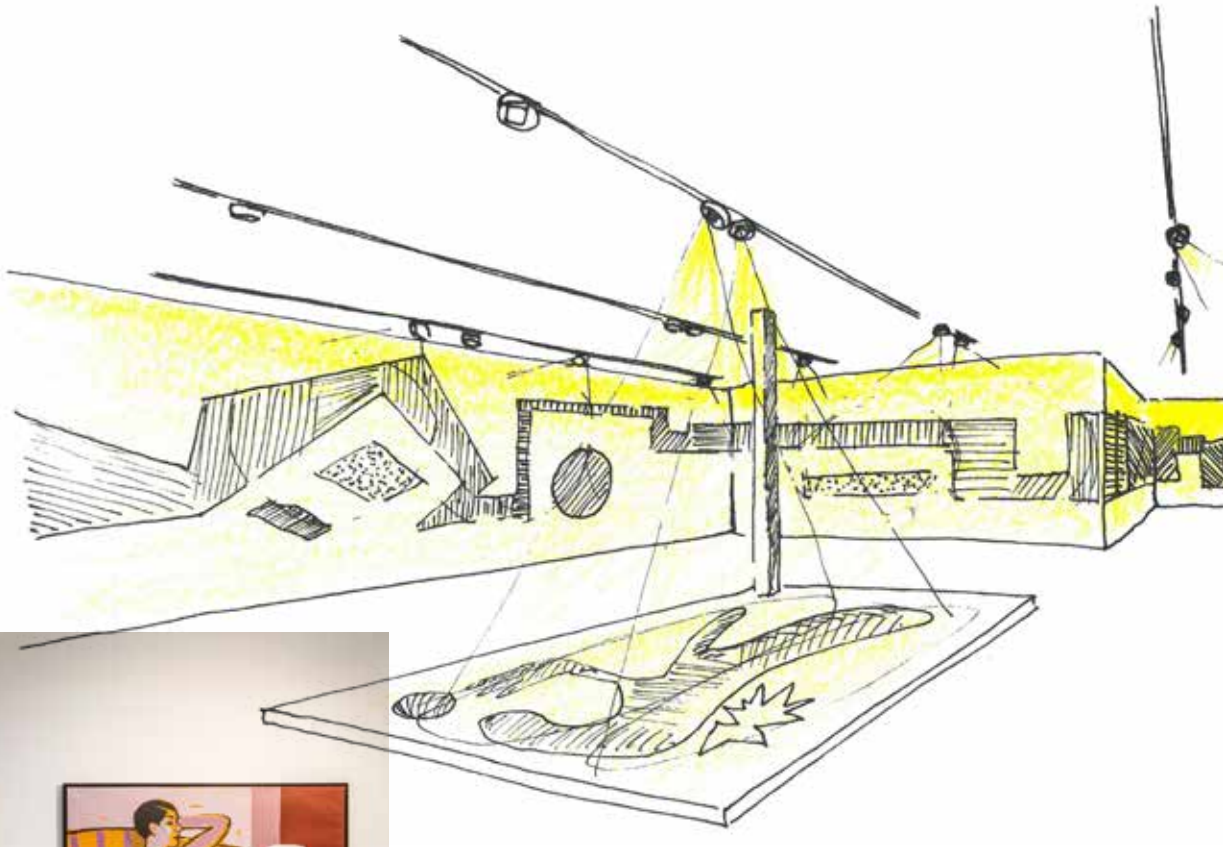
How To

Culture. Retail. Showroom. Different worlds, miles apart and yet so close when it comes to lighting, as all they want is to showcase their valuables in the best way possible. Be it to emphasize beauty, to attract people, to highlight details or to create an atmosphere, Fragma is the ultimate all-round trackspot that allows you to create any setting possible.

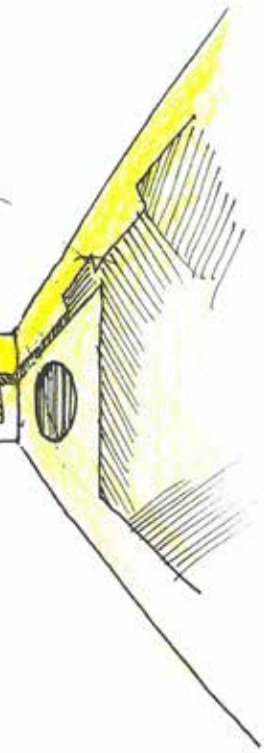


CLAIR OBSCUR
Play with light and shadow to set a mood.

THAT'S INTENSE
Play with light intensity to emphasize the most important.



WASH IT
Light up vertical surfaces with perfect wallwash illumination.

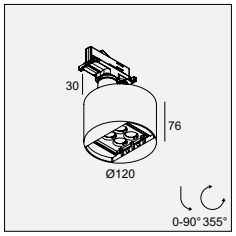


SHOW ME THE WAY
Let light guide your audience in the right direction.

Range

CTRL DELTA INSIDE
Within the Fragma range, our WDL dimmable versions are standard wireless controllable, as they have the required CTRL DELTA component inside.

FRAGMA 2x2 ADM



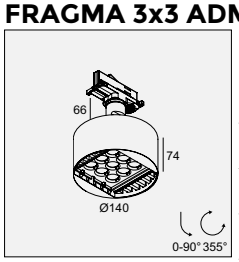
	3000K / CRI>90			4000K / CRI>90		
	LED CLUSTER 10,2W / 1063lm / 900mA			LED CLUSTER 10,2W / 1160lm / 900mA		
	14°	26°	47°	14°	26°	47°
NON DIM	**23612 9310** ◇	**23612 9310** ◇ **+ 23613 0030**	**23612 9310** ◇ **+ 23613 0060**	**23612 9410** ◇	**23612 9410** ◇ **+ 23613 0030**	**23612 9410** ◇ **+ 23613 0060**
1-10V DIM	**23612 9311** ◇	**23612 9311** ◇ **+ 23613 0030**	**23612 9311** ◇ **+ 23613 0060**	**23612 9411** ◇	**23612 9411** ◇ **+ 23613 0030**	**23612 9411** ◇ **+ 23613 0060**
DALI DIM	**23612 9315** ◇	**23612 9315** ◇ **+ 23613 0030**	**23612 9315** ◇ **+ 23613 0060**	**23612 9415** ◇	**23612 9415** ◇ **+ 23613 0030**	**23612 9415** ◇ **+ 23613 0060**
1-10V P DIM**	**23612 931P** ◇	**23612 931P** ◇ **+ 23613 0030**	**23612 931P** ◇ **+ 23613 0060**	**23612 941P** ◇	**23612 941P** ◇ **+ 23613 0030**	**23612 941P** ◇ **+ 23613 0060**
WDL*	**23612 931W** ◇	**23612 931W** ◇ **+ 23613 0030**	**23612 931W** ◇ **+ 23613 0060**	**23612 941W** ◇	**23612 941W** ◇ **+ 23613 0030**	**23612 941W** ◇ **+ 23613 0060**
	◇ B / W					
	220-240V / 50-60Hz (DALI DIM & WDL) - 110-240V / 50-60Hz (NON DIM & 1-10V DIM)					
	◇ 0,9 IP20					

* WIRELESS DIM
** 1-10V POTENTIOMETER DIM

REQUIREMENTS
TRACK 3F DIM IN / ON / H ▸ PAG INT 592-597

ACCESSORIES (ONLY FOR 14°)
SOFTENING LENS 2x2 ▸ **23613 0090**
WALLWASH LENS 2x2 ▸ **23613 0180**
LINEAR SPREAD LENS 2x2 ▸ **23613 0140**
HONEYCOMB 2x2 ◇ ▸ **23613 0240 B**
RASTER 2x2 ▸ **23613 0270**

FRAGMA 3x3 ADM



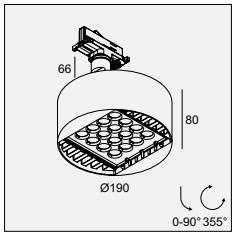
	3000K / CRI>90			4000K / CRI>90		
	LED CLUSTER 23,1W / 2390lm / 900mA			LED CLUSTER 23,1W / 2610lm / 900mA		
	14°	26°	47°	14°	26°	47°
NON DIM	**23611 9310** ◇	**23611 9310** ◇ **+ 23613 0020**	**23611 9310** ◇ **+ 23613 0050**	**23611 9410** ◇	**23611 9410** ◇ **+ 23613 0020**	**23611 9410** ◇ **+ 23613 0050**
1-10V DIM	**23611 9311** ◇	**23611 9311** ◇ **+ 23613 0020**	**23611 9311** ◇ **+ 23613 0050**	**23611 9411** ◇	**23611 9411** ◇ **+ 23613 0020**	**23611 9411** ◇ **+ 23613 0050**
DALI DIM	**23611 9315** ◇	**23611 9315** ◇ **+ 23613 0020**	**23611 9315** ◇ **+ 23613 0050**	**23611 9415** ◇	**23611 9415** ◇ **+ 23613 0020**	**23611 9415** ◇ **+ 23613 0050**
1-10V P DIM**	**23611 931P** ◇	**23611 931P** ◇ **+ 23613 0020**	**23611 931P** ◇ **+ 23613 0050**	**23611 941P** ◇	**23611 941P** ◇ **+ 23613 0020**	**23611 941P** ◇ **+ 23613 0050**
WDL*	**23611 931W** ◇	**23611 931W** ◇ **+ 23613 0020**	**23611 931W** ◇ **+ 23613 0050**	**23611 941W** ◇	**23611 941W** ◇ **+ 23613 0020**	**23611 941W** ◇ **+ 23613 0050**
	◇ B / W					
	220-240V / 50-60Hz					
	◇ 1,3 IP20					

* WIRELESS DIM
** 1-10V POTENTIOMETER DIM

REQUIREMENTS
TRACK 3F DIM IN / ON / H ▸ PAG INT 592-597

ACCESSORIES (ONLY FOR 14°)
SOFTENING LENS 3x3 ▸ **23613 0080**
WALLWASH LENS 3x3 ▸ **23613 0170**
LINEAR SPREAD LENS 3x3 ▸ **23613 0120**
HONEYCOMB 3x3 ◇ ▸ **23613 0230 B**
RASTER 3x3 ▸ **23613 0260**
FLAPS 3x3 ◇ ▸ **23613 0200 B**

FRAGMA 4x4 ADM



	3000K / CRI>90			4000K / CRI>90		
	LED CLUSTER 41W / 4250lm / 900mA			LED CLUSTER 41W / 4640lm / 900mA		
	14°	26°	47°	14°	26°	47°
NON DIM	**23610 9310** ◇	**23610 9310** ◇ **+ 23613 0010**	**23610 9310** ◇ **+ 23613 0040**	**23610 9410** ◇	**23610 9410** ◇ **+ 23613 0010**	**23610 9410** ◇ **+ 23613 0040**
1-10V DIM	**23610 9311** ◇	**23610 9311** ◇ **+ 23613 0010**	**23610 9311** ◇ **+ 23613 0040**	**23610 9411** ◇	**23610 9411** ◇ **+ 23613 0010**	**23610 9411** ◇ **+ 23613 0040**
DALI DIM	**23610 9315** ◇	**23610 9315** ◇ **+ 23613 0010**	**23610 9315** ◇ **+ 23613 0040**	**23610 9415** ◇	**23610 9415** ◇ **+ 23613 0010**	**23610 9415** ◇ **+ 23613 0040**
1-10V P DIM**	**23610 931P** ◇	**23610 931P** ◇ **+ 23613 0010**	**23610 931P** ◇ **+ 23613 0040**	**23610 941P** ◇	**23610 941P** ◇ **+ 23613 0010**	**23610 941P** ◇ **+ 23613 0040**
WDL*	**23610 931W** ◇	**23610 931W** ◇ **+ 23613 0010**	**23610 931W** ◇ **+ 23613 0040**	**23610 941W** ◇	**23610 941W** ◇ **+ 23613 0010**	**23610 941W** ◇ **+ 23613 0040**
	◇ B / W					
	220-240V / 50-60Hz (NON DIM) - 110-240V / 50-60Hz (DIM)					
	◇ 1,9 IP20					

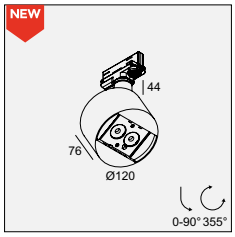
* WIRELESS DIM
** 1-10V POTENTIOMETER DIM

REQUIREMENTS
TRACK 3F DIM IN / ON / H ▸ PAG INT 592-597

ACCESSORIES (ONLY FOR 14°)
SOFTENING LENS 4x4 ▸ **23613 0070**
WALLWASH LENS 4x4 ▸ **23613 0160**
LINEAR SPREAD LENS 4x4 ▸ **23613 0100**
HONEYCOMB 4x4 ◇ ▸ **23613 0220 B**
RASTER 4x4 ▸ **23613 0250**
FLAPS 4x4 ◇ ▸ **23613 0190 B**

FRAGMA S SUPERSPOT ADM

NEW



	3000K / CRI>90	4000K / CRI>90
	LED CLUSTER 5,1W / 531lm / 900mA	LED CLUSTER 5,1W / 580lm / 900mA
	8°	8°
NON DIM	**23614 9310** ◇	**23614 9410** ◇
1-10V DIM	**23614 9311** ◇	**23614 9411** ◇
1-10V P DIM**	**23614 931P** ◇	**23614 941P** ◇
WDL*	**23614 931W** ◇	**23614 941W** ◇
	◇ B / W	
	220-240V / 50-60Hz (WDL) - 110-240V / 50-60Hz (NON DIM & 1-10V DIM)	
	I 0,9 IP20	

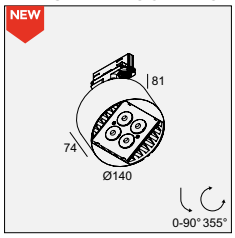
* WIRELESS DIM
** 1-10V POTENTIOMETER DIM

REQUIREMENTS
TRACK 3F DIM IN / ON / H ▸ SEE LB AE PAG INT 592-597

ACCESSORIES
HONEYCOMB 2x2 ◇ ▸ **23613 0240 B**

FRAGMA M SUPERSPOT ADM

NEW



	3000K / CRI>90	4000K / CRI>90
	LED CLUSTER 10,2W / 1062lm / 900mA	LED CLUSTER 10,2W / 1160lm / 900mA
	8°	8°
1-10V DIM	**23615 9311** ◇	**23615 9411** ◇
DALI DIM	**23615 9315** ◇	**23615 9415** ◇
1-10V P DIM**	**23615 931P** ◇	**23615 941P** ◇
WDL*	**23615 931W** ◇	**23615 941W** ◇
	◇ B / W	
	220-240V / 50-60Hz	
	I 1,3 IP20	

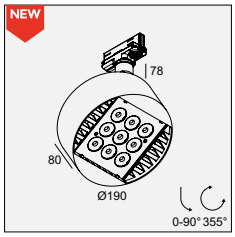
* WIRELESS DIM
** 1-10V POTENTIOMETER DIM

REQUIREMENTS
TRACK 3F DIM IN / ON / H ▸ SEE LB AE PAG INT 592-597

ACCESSORIES
HONEYCOMB 3x3 ◇ ▸ **23613 0230 B**

FRAGMA L SUPERSPOT ADM

NEW



	3000K / CRI>90	4000K / CRI>90
	LED CLUSTER 23W / 2390m / 900mA	LED CLUSTER 23W / 2610lm / 900mA
	8°	8°
NON DIM	**23616 9310** ◇	**23616 9410** ◇
1-10V DIM	**23616 9311** ◇	**23616 9411** ◇
DALI DIM	**23616 9315** ◇	**23616 9415** ◇
1-10V P DIM**	**23616 931P** ◇	**23616 941P** ◇
WDL*	**23616 931W** ◇	**23616 941W** ◇
	◇ B / W	
	220-240V / 50-60Hz (NON DIM & DALI DIM) - 110-240V / 50-60Hz (1-10V DIM & WDL)	
	I 1,9 IP20	

* WIRELESS DIM
** 1-10V POTENTIOMETER DIM

REQUIREMENTS
TRACK 3F DIM IN / ON / H ▸ SEE LB AE PAG INT 592-597

ACCESSORIES
HONEYCOMB 4x4 ◇ ▸ **23613 0220 B**

DELTALIGHT®

deltalight.com

2020