

FORTE™
TRANSFERABLE ENGINE



ROBE®



FORTE™ PIONEERING A NEW ERA IN HIGH OUTPUT LUMINAIRES WITH WHITE SOURCE LED ENGINES

Our ground-breaking TE™ - TRANSFERABLE ENGINE technology has revolutionised the way we view, and indeed use LED light engines. It has redefined the boundaries of technological development in LED luminaires.

We now harness all the advantages of TRANSFERABLE ENGINE technology to produce our brightest, most advanced LED luminaire to date, FORTE™.

With its piercing TE™ 1.000W White LED engine, FORTE™ gives you the next generation in performance strength and excellence, while cost-effectively removing the problem of maintaining light-quality consistency over time.

Once again proudly designed, developed, manufactured, and patented in our factory in the Czech Republic, we have ensured FORTE™ delivers superior performance and innovation while at the same time providing far more subtlety and finesse than found before on a luminaire of its type.

The combination of a blistering 50.000 lumens, our most precise optics ever, and our new, standard defining CMY colour mixing system, gives you the perfect platform to migrate from discharge to LED sources without performance compromise.

Our speciality is to excel at cutting-edge technology. FORTE™ is packed with innovations and features, such as our patent-pending minimum zoom output boost, negating the problem of output loss at narrow zoom settings. The ability to use frosts over the entire zoom range makes them more flexible than ever before.

FORTE™ delivers a comprehensive package of dynamic effects commensurate with a fixture of its class, with dual rotating gobo wheels, an animation wheel, and Robe patented dual overlaying prism system.

The next generation patented framing shutter module produces ultra-fine cuts with maximum flexibility, to guarantee both precision and repeatability.

As with our legendary BMFL™, we still maintain the advantage of size and weight, with FORTE™ being highly compact and comparatively lightweight at under 40 kg.

Using the most advanced design and engineering techniques, in combination with the TRANSFERABLE ENGINE system, we have future-proofed FORTE™, to give it a life way beyond the current norm, for you to enjoy a greater return on your investment.

FORTE™ - Excellence, Speciality, Strength.

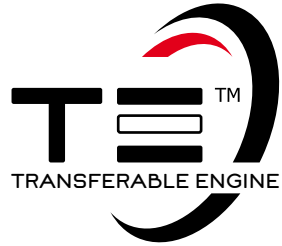
Josef Valchar
CEO

ROBE®

FORTE™

TRANSFERABLE ENGINE





Robe's world-first TE™ – TRANSFERABLE ENGINE guides performance lighting into the future!

The Robe reputation for innovative design, earned over the last 25 years, is the result of asking questions, listening to customers, and repeatedly redefining the boundaries of technology.

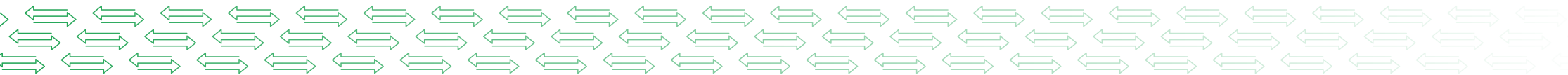
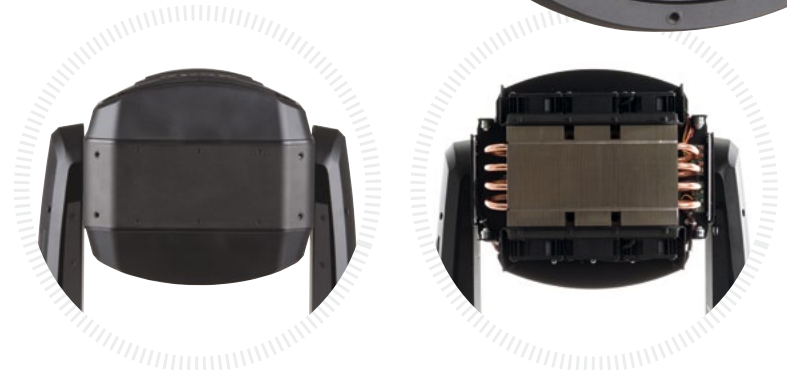
We have the most forward-thinking engineers and designers in our industry. We wanted to address the problem that white source LED engines cannot last forever and vary in colour consistency over time. The result of this intensive, and indeed extensive process is the ground-breaking **TRANSFERABLE ENGINE**.

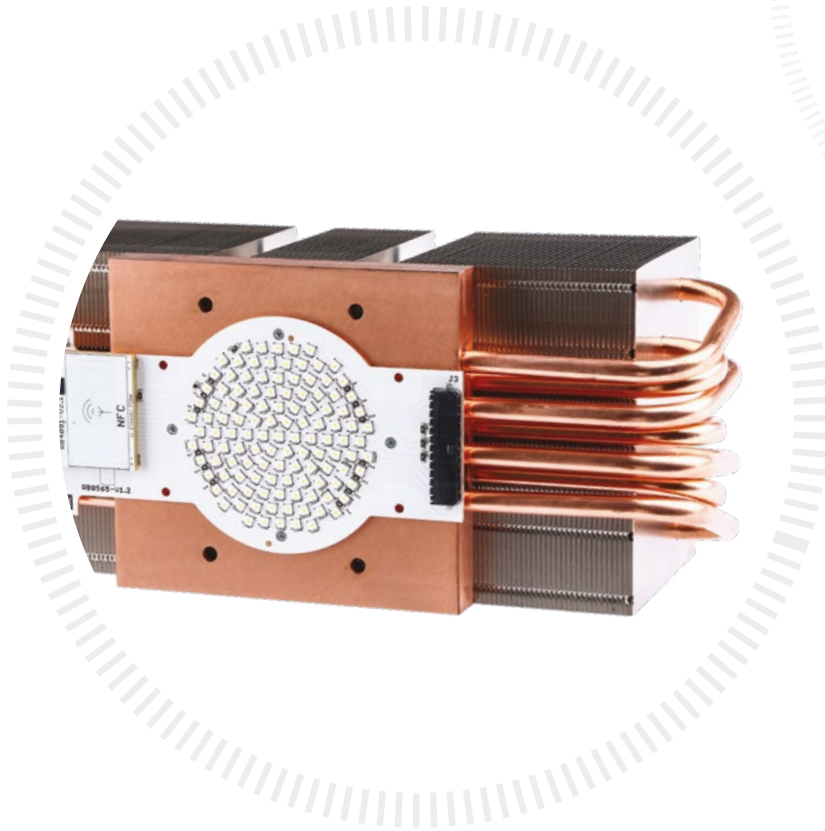
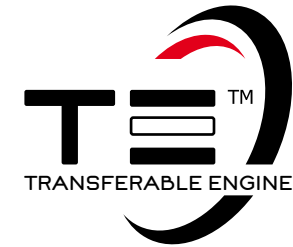
The fast change, low-cost **TRANSFERABLE ENGINE** technology ingeniously solves the problem of performance longevity for those preferring the higher brightness of white source LEDs as an obvious replacement for their ageing stock of discharge workhorses.

To ensure the very best performance and consistency, we have designed, developed, patented, and manufactured the engines all within our own factory in the Czech Republic. They provide a monumental shift in LED technology and fixture design.

Commensurate with this level of technology, every Robe **TRANSFERABLE ENGINE** has its own, unique, memory with all engine data staying with the engine. This means when you transfer the engine to a new fixture, the data travels with it.

All data stored on the **TRANSFERABLE ENGINE** is easily accessible through Near Field Communication (NFC) technology via the ROBE COM app. This provides direct access to the engine information, including engine type and serial number; full module installation history; intensity compared to initial performance; hours worked and much more. All data is available without powering the engine while sitting on your shelf, giving you instant accessibility. Furthermore, when the module is installed in a fixture, the data is available directly from the fixture display.





Our **TRANSFERABLE ENGINES** are fast-changing, taking under 5 minutes. They require no special tools, complex procedures or return to workshop or agent. With no alignment or calibration needed, you have a rapid “lamp-like” exchange.

Robe **TRANSFERABLE ENGINES** are very economical, costing only around twice the price of high-performance discharge lamps. Combined with the advantages of LED, you now have the tools available to maintain a high level of light consistency across your inventory.

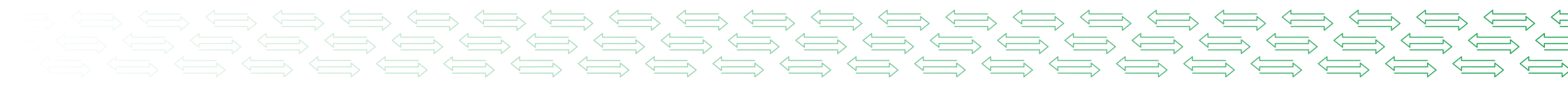
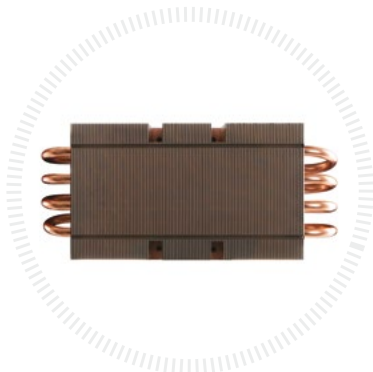
Transferable means a new engine at a lower cost, compared to a replacement engine at a far higher price. With no warranty or reduced LED lifetime issues, they carry a four-year 20.000-hour warranty.

Another benefit of the self-referencing engines is their ability, via our unique software, to give you a visual performance reference. Being able to quickly set the outputs to a consistent level, even while the fixtures are up in the rig will save you a lot of time in the pressurised world of touring.

Robe fixtures utilising the **TRANSFERABLE ENGINES** technology have been deliberately designed with built in capacity to take advantage of possible future LED engine development. This forethought, combined with their ease of transfer, will give you an even greater luminaire longevity.

In line with our stringent Green Policy, when the engines have reached the end of their life, we have the Robe **TRANSFERABLE ENGINES** free return for recycling offer, making them very Eco-friendly.

The **TRANSFERABLE ENGINES** concept pioneers a new era in luminaires using white source LED engines. It gives you the ability to cost-effectively maintain a high level of quality light consistency across your inventory while ensuring the highest level of return on your investment.



FORTE means Excellence, Speciality, Strength. Our FORTE™ certainly lives up to its name! Producing a blistering 50.000 lumens of high quality performance light, combined with the ability to maintain light quality from the revolutionary TRANSFERABLE ENGINE, and packed full of specialist innovation, you have the fixture ready to lead you into the future.

Harnessing the strength of the self-referencing, data capturing TE™ 1.000W White LED engine, FORTE™ has wide ranging 5-55 degree zoom capability to fulfil all your spot, wash and beam applications, contained within its class-leading sub 40 kg frame. Usual output loss at the narrow zoom setting is taken care of via our ingenious Robe Patent pending narrow zoom output boost, improving performance by over 15 %, giving you a dramatically increased output, perfect for sabre like beams.

Robe's new, cutting-edge, CMY colour mixing system provides beautifully smooth colour transitions. Combined with two colour wheels, CRI 80 and 90 filters, and a variable CTO from 3.000 - 6.700K gives FORTE™ total colour finesse.

The comprehensive, dynamic effects package includes; two fully indexable, rotatable gobo wheels each with 6 gobos using the fast change Robe slot and lock system; two stackable 6-facet prisms, one linear, one round; animation wheel and an ultra-fast motorized iris. The two rapid insert interchangeable frosts, a soft 1° and a medium 5° for silky smooth washes cover the entire zoom range of 5-55 degrees with no restricted range cut off.

FORTE™ gives you total control via our ultra-precise patented framing shutter system, with separate blade control and the entire assembly capable of +- 60° rotation; Cpulse™ PWM control and direct Plus/Minus Green control for broadcast precision; EMS™ (Electronic Motion Stabiliser) technology, for instant stop and hysteresis elimination, making FORTE™ the ideal fixture for RoboSpot™; L3™ (Low Light Linearity) dimming producing imperceptible fades to black.

FORTE™ possesses a comprehensive protocol suite; USITT DMX 512, RDM, ArtNet, MA Net, MA Net 2, and sACN. REAP™ (Robe Ethernet Access Portal) is included for direct communication over Ethernet networks. DMX Wireless control is available on request. All this allows seamless integration into all control networks.

Excellence, Speciality, Strength. This is our FORTE™!

Source

- Light source type: TE™ 1.000 W White LED Engine
- LED life expectancy: min. 50.000 hours
- CRI: 70 / 80 / 90, remotely selectable
- Colour temperature: 6.700 K
- Typical lumen maintenance: L70/B50 @ 50.000 hours
- Light source warranty: 4 years or 20.000 hours

Optical System

- Robe's proprietary optical design
- High-efficiency zoom optical system, ratio 11:1
- Zoom range: 5° - 55°
- Output lens diameter: 180 mm
- Highly efficient component optics
- Fixture total lumen output: 50.000 lm (in integrated sphere)
40.000 lm (on the wall)
- Illuminance: 105.000 lx @ 5 m, 1.050 lx @ 50 m

Dynamic Effects

- Cyan: 0-100 %
- Magenta: 0-100 %
- Yellow: 0-100 %
- Variable CTO: 3.000 K-6.700 K
- Colour Wheel 1: 5 fixed dichroic colours + white
- Colour Wheel 2: 5 replaceable dichroic colours + white
- Framing shutters : Patented framing shutters module with 4 individually positionable blades plus rotation of the complete framing system +-60°
- Rotating gobo wheel 1: 6 rotating, indexable and replaceable breakup and aerial gobos + open, patented slot & lock system
- Rotating gobo wheel 2: 6 rotating, indexable and replaceable breakup and aerial gobos + open, patented slot & lock system

- Animation wheel: Aluminium animation wheel, used alone or in combination with gobos, rotating in both directions at variable speed
- Prism 1: Independent 6-facet linear prism rotating in both directions at variable speed
- Prism 2: Independent 6-facet circular prism rotating in both directions at variable speed
- Frost: Light 1° for instant softening of the projected gobo and framing shutters and medium 5° for even wash, both frosts replaceable via magnetic holder
- Hot-Spot: From flat field to 6:1 hot-spot (optional)
- Iris: Motorized, stepless, pulse effects up to 3 Hz
- Motorized zoom and focus
- Electronic strobe effect with variable speed up to 20 Hz, pre-programmed random strobe & pulse effects
- High resolution electronic dimming: 0 - 100%
- L3™ (Low Light Linearity) Imperceptible 18 bit dimming for ultra smooth fade to black
- Extremely quiet operation suitable for all types of production in Theatre and TV
- Cpulse™ special flicker-free management for HD and UHD cameras, ready for 8K and 16K
- AirLOC™ (Less Optical Cleaning) technology greatly reduces the level of airborne particles drawn over the optical elements. This increases the overall performance, light quality and time between routine cleaning and maintenance.

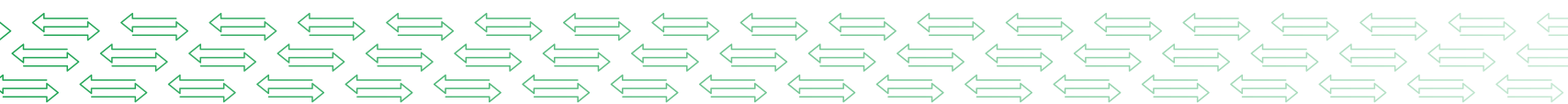
Control and Programming

- Setting & Addressing: ROBE Navigation System 2 (RNS2)
- Display: QVGA Robe touch screen with battery backup, gravitation sensor for auto screen positioning, operation memory service log with RTC, stand-alone operation with 3 editable programs (each up to 100 steps), built-in analyser for easy fault finding

- Protocols: USITT DMX-512, RDM, ArtNet, MA Net, MA Net2, sACN, Webnet
- REAP™ - Robe Ethernet Access Portal
- Wireless CRMX™ technology from Lumen Radio: On request
- 3 editable programs, each up to 100 steps
- DMX Protocol modes: 1
- Control channels: 54
- Pan/Tilt resolution: 16 bit
- CMY & CTO: 8 bit
- Colour wheel positioning: 16 bit
- Framing shutters module movement & rotation: 8 bit
- Rotating gobo wheel positioning: 8 bit
- Gobo indexing & rotation: 16 bit
- Animation wheel: 8 bit
- Animation wheel rotation: 8 bit
- Iris: 16 bit
- Frost: 8 bit
- Zoom: 16 bit
- Focus: 16 bit
- Dimmer: 16 bit (internal 18 bit)

Movement

- Pan movement: 540°
- Tilt movement: 270°
- Movement control: Standard and Speed
- Controllable speed of Pan/Tilt movement
- EMS™: Electronic Motion Stabilizer system for Pan & Tilt reducing beam deviation caused by truss movement or vibration (Patent pending)
- Automatic Pan/Tilt position correction



Rotating Gobos

- 12 x Fully rotating, indexable glass gobos on two wheels
- Outside diameter: 30.8 mm
- Image diameter: 25.0 mm
- Thickness: 1.1 mm
- Max. thickness: 3.5 mm
- High temperature borofloat or better glass
- Slot & lock system for easy replacement of gobos

Effect Wheel

- Single animation wheel
- Material: Aluminium
- Diameter: 112 mm
- Can be used alone or in combination with rotating gobos
- Rotating in both directions at variable speed

Framing Shutters System

- Shutters: 4 Blades, each with separate movement and rotation control
- Movement: Smooth with variable speed, ultra-fast blade movements for creating mid-air effects
- Rotation: +- 60° of the complete framing system

Thermal Specification

- Maximum ambient temperature: 45 °C (113 °F)
- Maximum surface temperature: 100 °C (212 °F)
- Minimum operating temperature: -5 °C (23 °F)

Electrical Specification and Connections

- Power supply: Electronic auto-ranging
- Input voltage range: 100-240 V, 50/60 Hz
- Power consumption: max. 1200 W
- Power in connector: Neutrik powerCON TRUE1
- DMX and RDM data in/out: Locking 3-pin & 5-pin XLR
- Ethernet port in: RJ45

Approvals

- CE Compliant
- cETLus Compliant

Mechanical specification

- Height: 843 mm (33.2") - head in vertical position
- Width: 483.5 mm (19")
- Depth: 288.5 mm (11.6") - head in vertical position
- Weight: 39.5 kg (87.1 lbs)

Rigging

- Mounting positions: 0°, 32°, 90°
- Universal operating position
- Mounting points: 5 pairs of 1/4-turn locking points
- 2 x Omega adaptors with 1/4-turn quick locks
- Safety cable attachment point
- Pan and Tilt transport locks

Included Items

- User Manual
- Omega Adaptor CL-regular 2 pcs
- Power cord including powerCON TRUE1 In connector

Optional Accessories

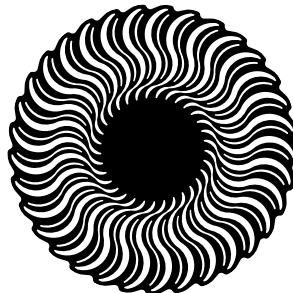
- Frost 10° (exchange) assembled: 10980556
- Hot-Spot lens in gobo holder: 10980557
- Doughty Trigger Clamp: 17030386
- Safety wire 50 kg: 99011957
- Single Top Loader Case: 10120267
- Dual Top Loader Case: 10120268
- Foam Shell: 20020395

Legal

- FORTE™ is a Trademark of Robe lighting s. r. o.
- FORTE™ is patented by Robe lighting s. r. o. and is protected by one or more pending or issued patents

Animation Wheel

The new aluminium animation wheel (Ø 112 mm) can be used alone or in combination with gobos. The animation wheel is rotating in both directions at variable speed.



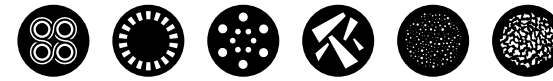
Colour Wheel 1



Colour Wheel 2



Rotating Gobo Wheel 1



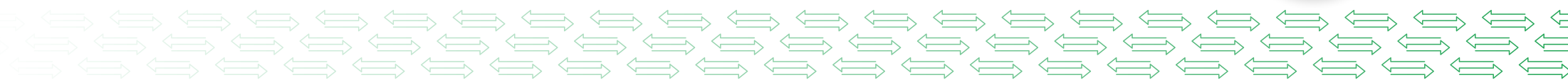
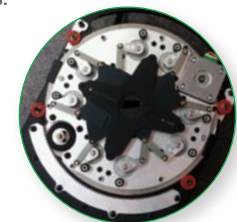
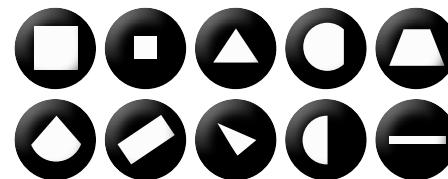
Rotating Gobo Wheel 2



Framing Shutters Module

FORTE™ uses Robe's patented system of four, fast, smooth moving, shutter blades, which can be individually angled and positioned. The whole module assembly can further rotate +- 60 degrees. Thanks to the unique design, all four blades can be focused at the same time and can be further softened by applying a light 1° frost giving the edges soft diffusion essential in TV and Theatres.

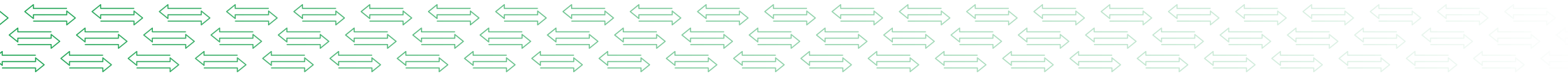
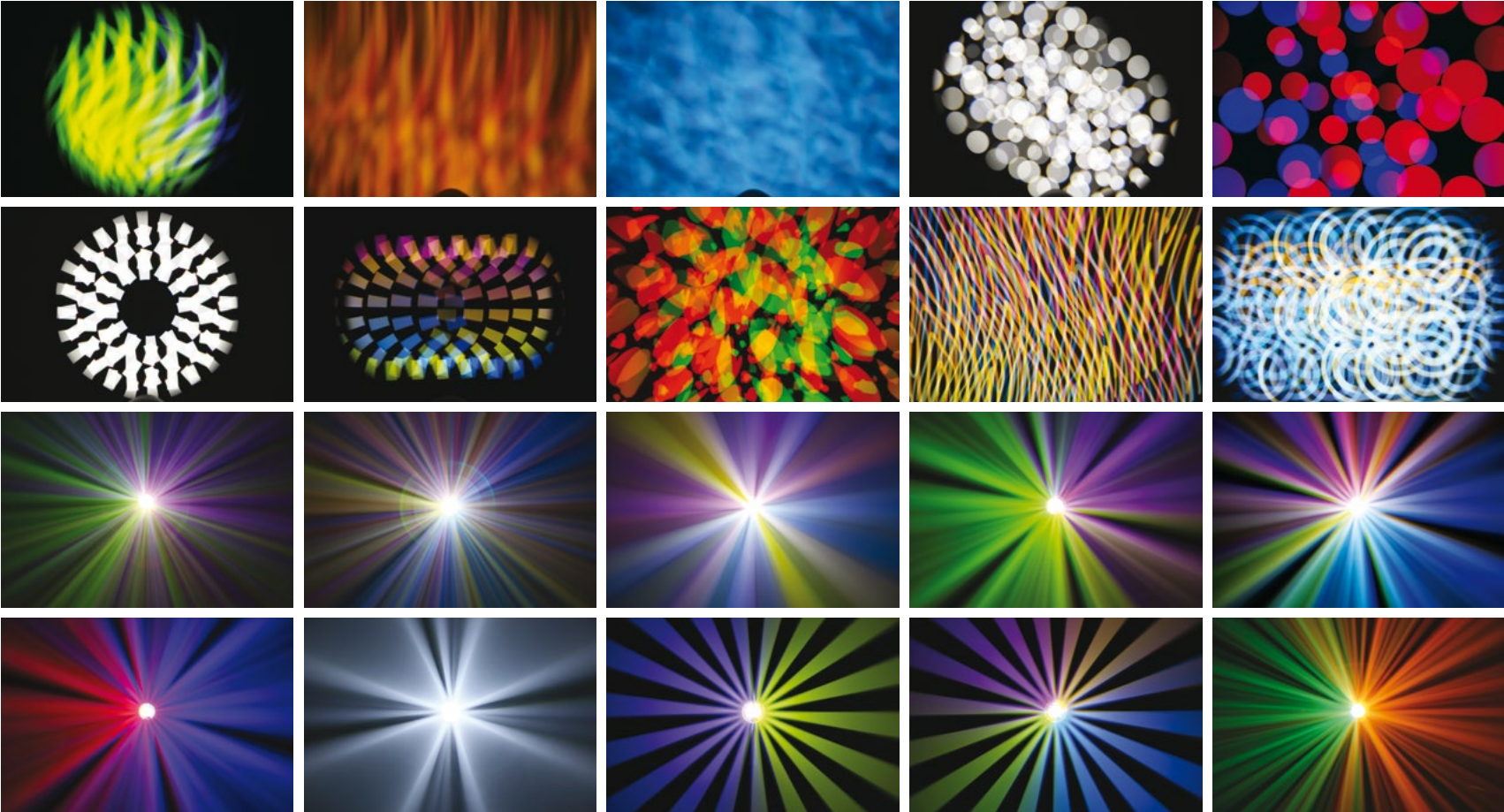
Shutters are precisely calibrated in the factory to ensure maximum accuracy and repeatability of programmed framing shapes.



Impressive Aerial and Graphic Effects

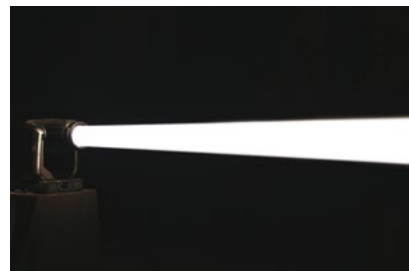
FORTE™ will excite you with unlimited possibilities for animations and mid-air effects thanks to two gobo wheels with carefully selected break-up and aerial gobos which can be further combined with a 6-facet circular or 6-facet linear rotating prism or with both, with animation wheel, split colours and a special multi-colour filter.

By using these features, you will achieve interesting animations and effects like clouds, rain, water, fire and more abstract morphing images.





5° Min. Zoom



25° Mid. Zoom



55° Max. Zoom



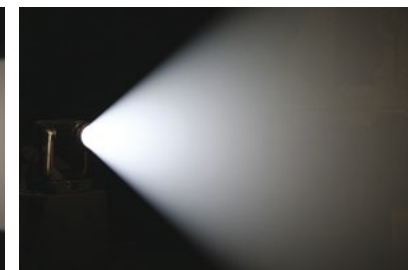
5° Min. Zoom with 5° Frost



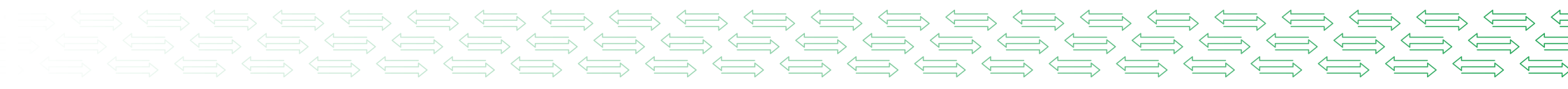
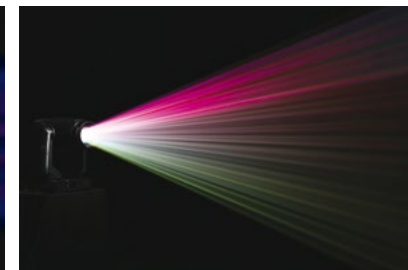
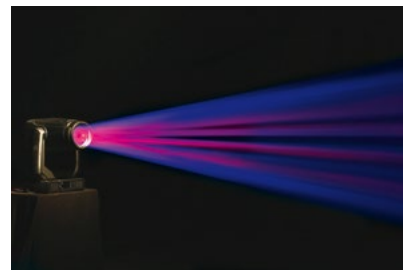
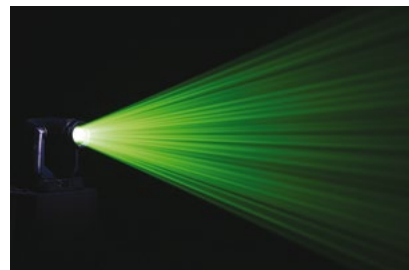
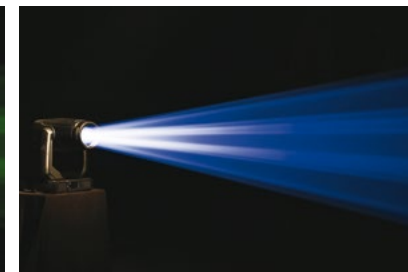
25° Mid. Zoom with 5° Frost



55° Max. Zoom with 5° Frost



6-facet circular and linear rotating prisms

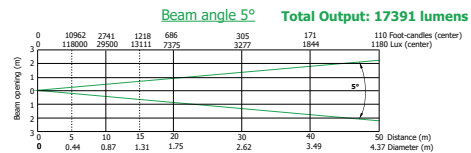




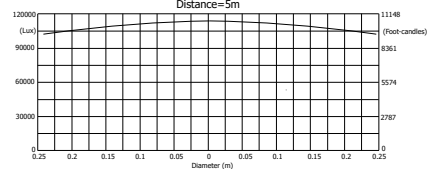
FORTE™

High-Power Mode – Min. Zoom

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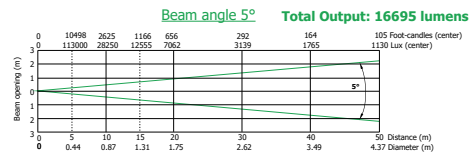


Illuminance distribution

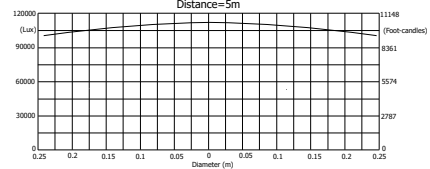


Auto Mode – Min. Zoom

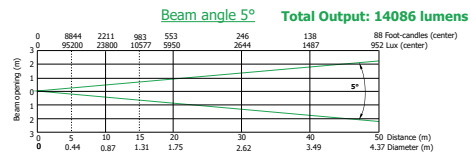
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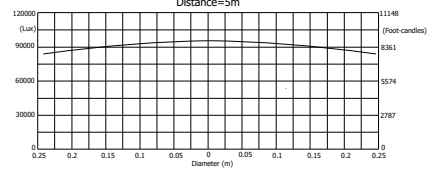
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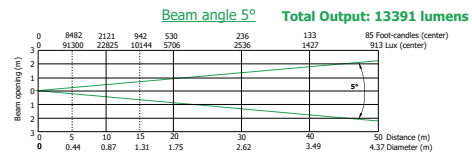
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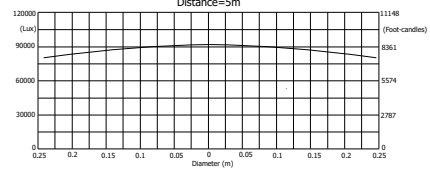
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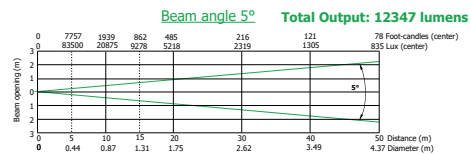
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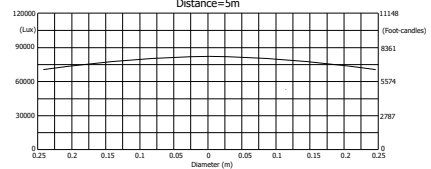
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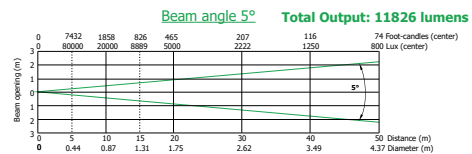
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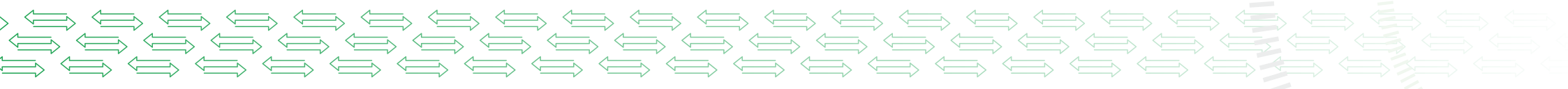
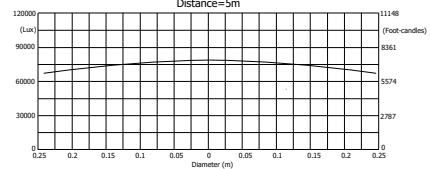
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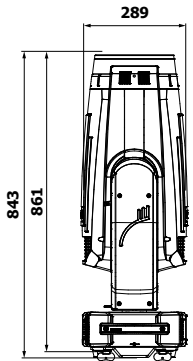


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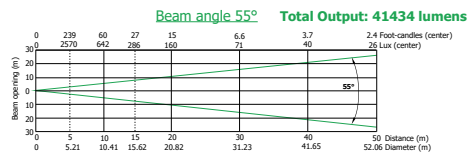
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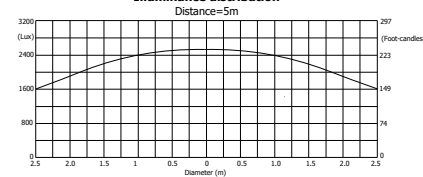


High-Power Mode – Max. Zoom

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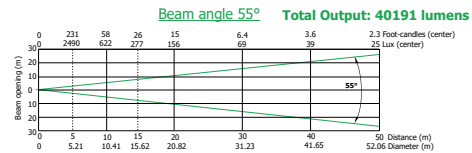


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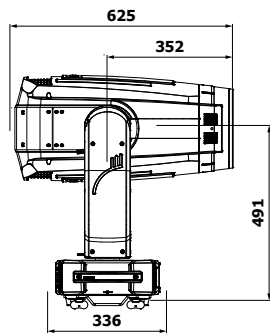
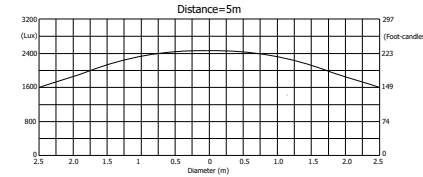


Auto Mode – Max. Zoom

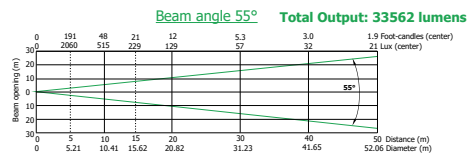
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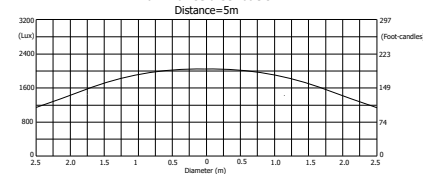
Illuminance distribution



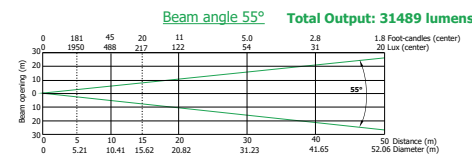
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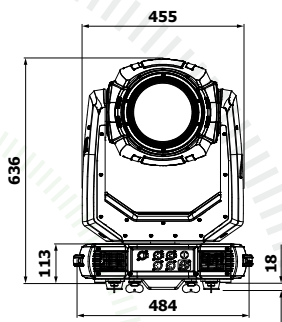
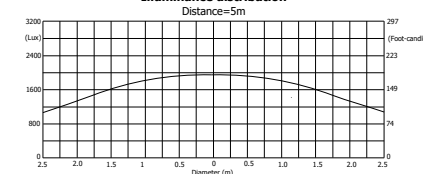
Illuminance distribution



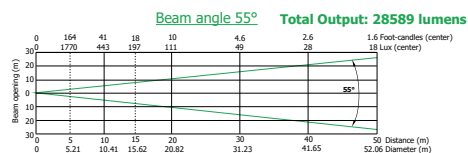
CRI 80



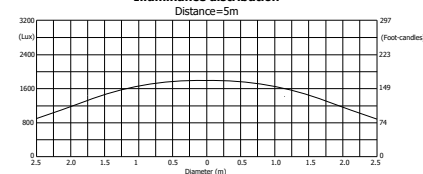
Illuminance distribution



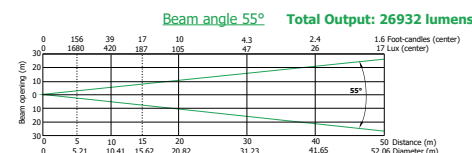
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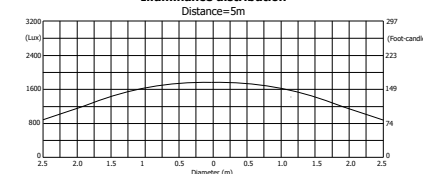
Illuminance distribution



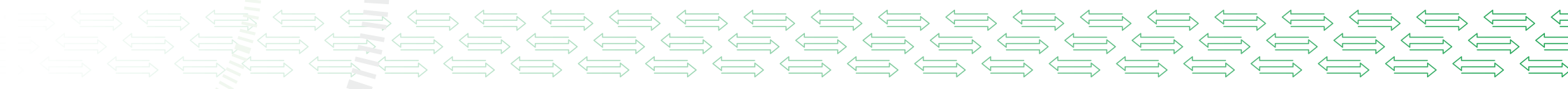
CRI 90



Illuminance distribution



FORTE™

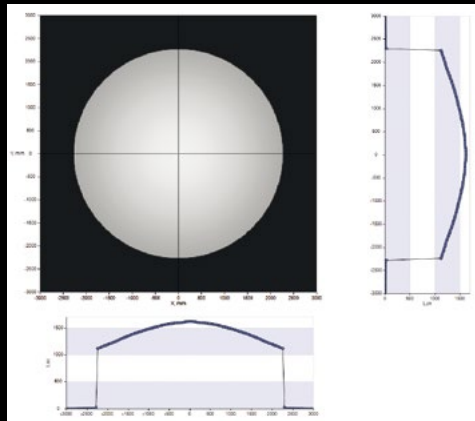




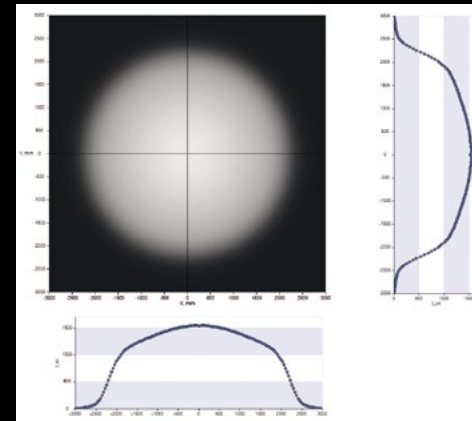
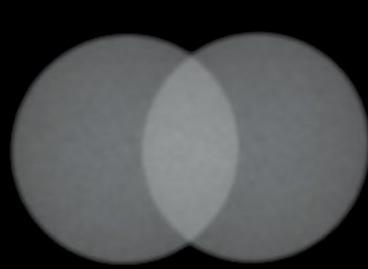
Hot-Spot

FORTE™ produces a beautifully even, flat field of light. Whilst ideal for most applications, the perfect field makes it difficult to achieve smooth, continuous washes of light when the beam edges of multiple fixtures are overlapped.

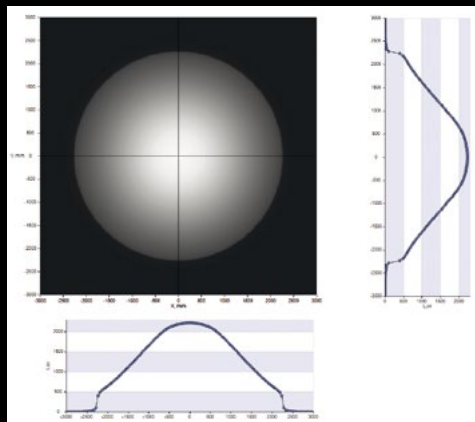
By introducing our unique, patented, 6:1 ratio Hot-Spot lens, we can alter the field characteristics creating a centre weighted, peaked beam. With the addition of the frost filter, you can now effortlessly achieve silky smooth washes. This exclusive lens further enhances the feature rich FORTE™, making it the most versatile fixture available.



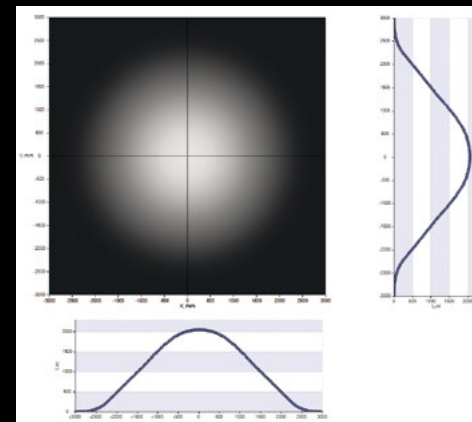
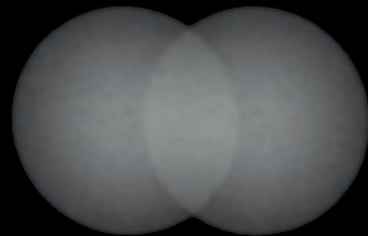
Flat field beams without Frost



Flat field beams with Frost

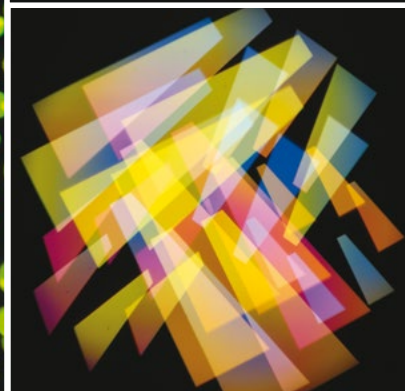
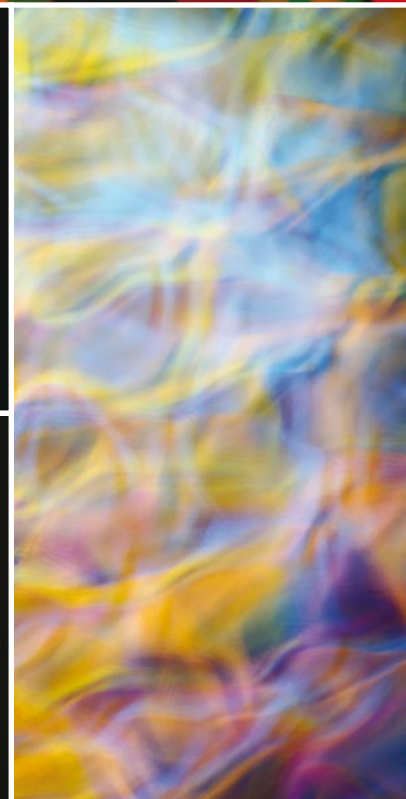
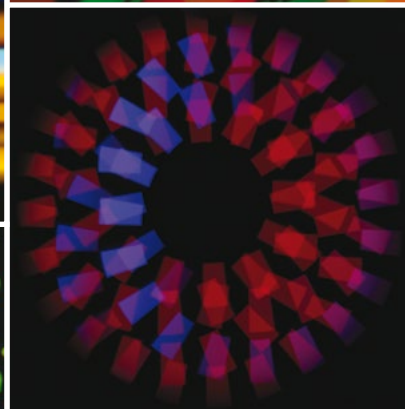
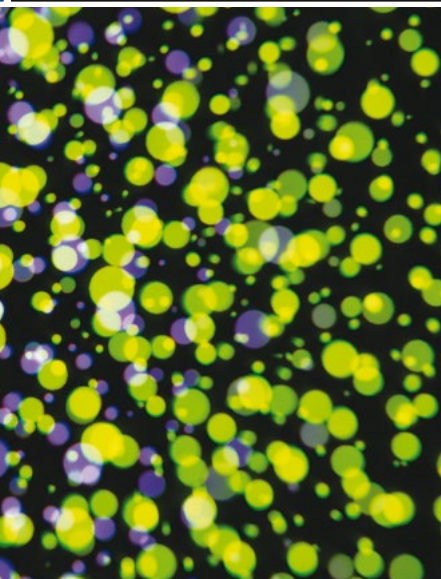
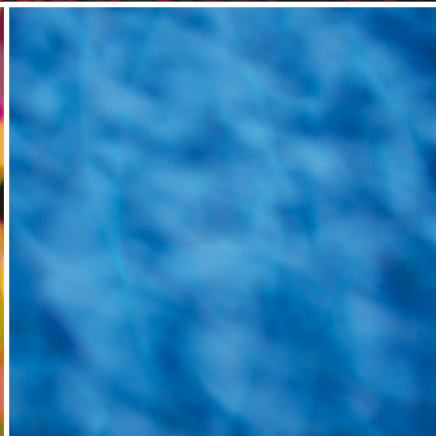
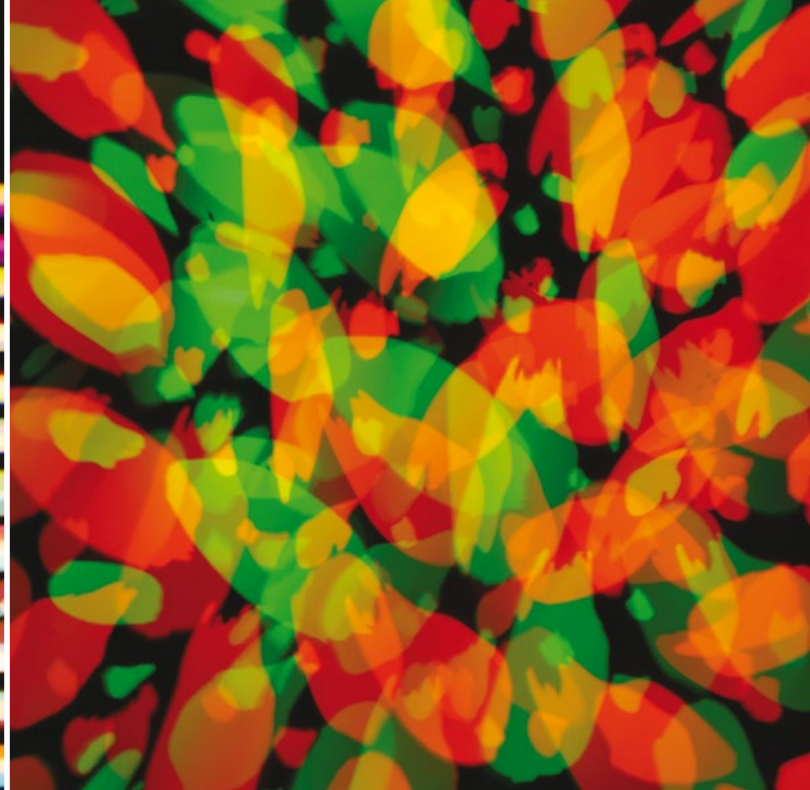
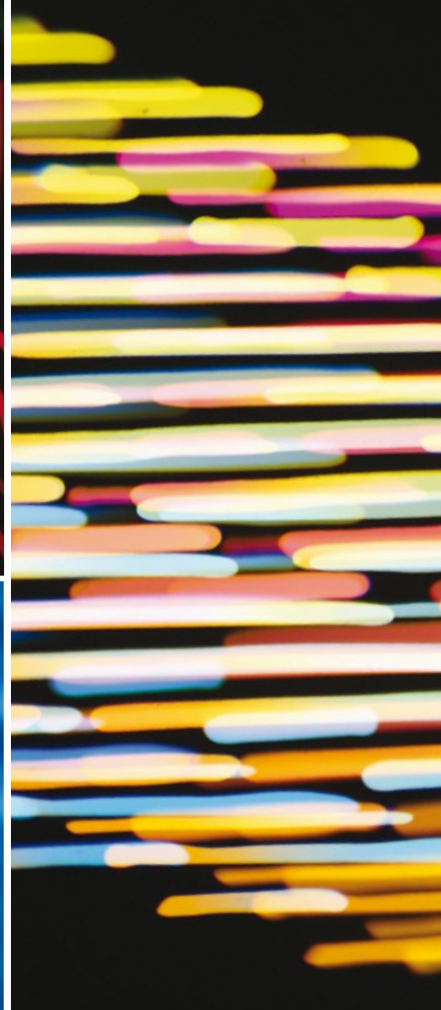
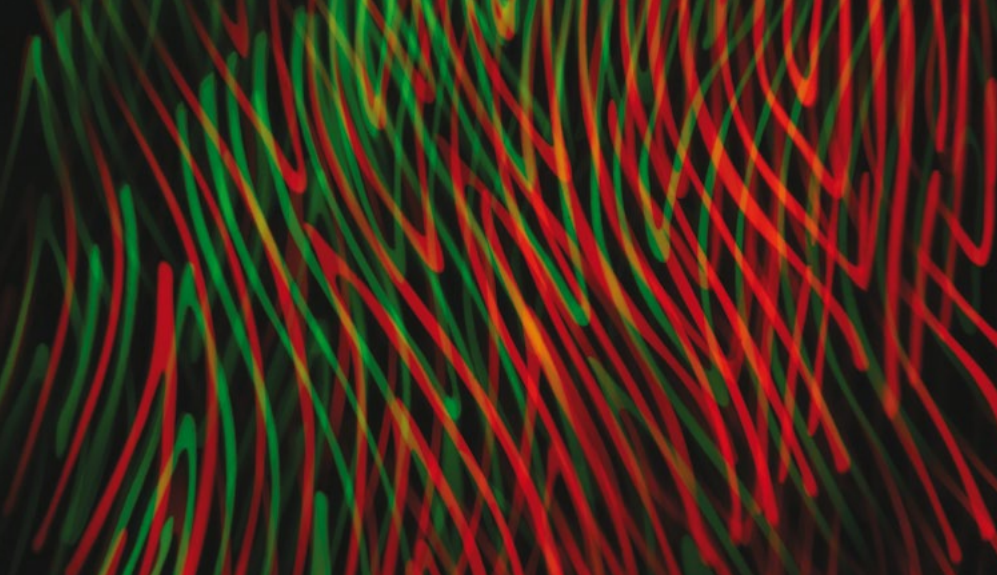


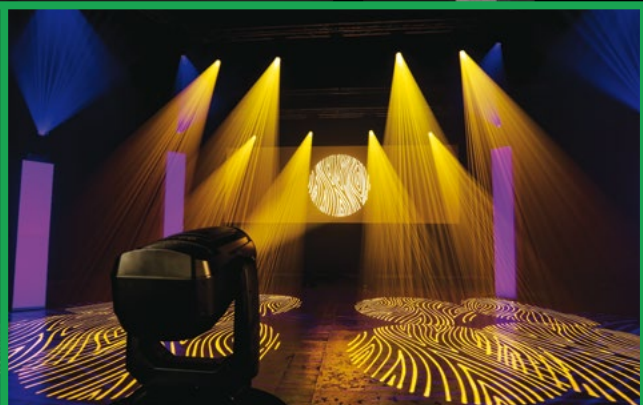
Hot-Spot beams without Frost



Hot-Spot beams with Frost







FORTE™

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