

F1000 Fresnel, Z1000 Zoom Profile Spotlights



F1000 Fresnel



Z1000 Zoom Profile 15° - 30°

The F1000 Fresnel and Z1000 Zoom Profile luminaires are LED spotlights suitable for lighting in theatres, TV and film studios, theme parks, and exhibitions. All models are fitted with colour runners to hold colour or diffusing filters.

Both the F1000 and Z1000 are available in single colour temperature LED options of 3200K or 5600K, two colour tuneable white 3200/5600K, and four colour RGBW models. They may be specified at time of order with either 3 or 5 pin XLR connectors. Both can also be ordered fitted with an internal wireless DMX card by Lumen Radio (WDMX compatible), with either an internal or external antenna.

The major benefits over an equivalent spotlight using an incandescent bulb are the marked savings in power and maintenance costs. The light output is similar to a standard 1000 watt incandescent luminaire, but at less than 20% of the power costs. In addition, whereas most Theatre or TV rated incandescent bulbs are expensive and have a lifetime of under 750 hours, these LED versions have an expected lifetime in excess of 20,000 hours, resulting in much reduced lamp replacement and maintenance costs. Additionally the very low Infra-Red and UV output of LED luminaires makes them ideal for Museum or Art Gallery lighting. All F1000/Z1000 LED modules are manufactured to Theatrelight specifications using Osram LED chips with PMMA Fresnel lenses for maximum optical efficiency in conjunction with a high reliability pulse width modulated power supply.

Specifications

Models	F1000/2C/4C: Fresnel model with optional barn doors Z1000/2C/4C: Zoom Profile model (2:1 zoom range)
Housing	Anodised aluminium extrusion sides, molded front and back
Colour	Non-reflective black. Custom colours can be supplied for larger orders
Yoke	Anodised aluminium, with easy adjusting tilt lock
Input Power	90-250 vac, 50/60 Hz, 200 watts max

Specifications (continued)

Working temperature	-30 to +35°C ambient air temperature
Working position	Any
Humidity/IP rating	95% max, non-condensing, IP20 (indoor use only)
Expected lifetime	>20,000 hours (~10 years at 6 hours per day, 6 days a week)
Safety Standards	AS/NZS 3760
Dimensions/Weight	F1000: 295mm long x 210 mm wide x 205 mm high, weight 3.9 kg Z1000: 580mm long x 210 mm wide x 380 mm high, weight 5 kg

Back panel features

Power connector	IEC male (supplied with cable, IEC to Aust/NZ 3 pin plug, others to order)
DMX input	/X5: XLR 5 pin (standard); /X3: XLR 3 pin, 1/10th standard DMX load DMX isolated to 1Kv DC, 1/10th standard DMX load
DMX through	XLR 5 or 3 pin female to match input XLR
Addressing	4 digit thumbwheel sets Mode and DMX start address
Level control	Potentiometer sets minimum level (final intensity/rate is the higher of Level or DMX 1)
DMX chns used	Standalone mode: No DMX required 1, 2, or 4 colour models: 2, 4 or 6 DMX channels
DMX Fail behaviour	10 minutes hold, then 5 min fade out for Modes 1-5, off for Modes 6-9
Pushbutton	Test Fan/LED at Full / Cancel DMX held chns / Un-link in Wireless versions
Indicators	Green/Red Status LED- Green for DMX, Red for temperature indication Blue pushbutton LED- mimics LED level (or shows linked mode in Wireless DMX versions). All indicators except over-temperature are set off 5 minutes after power up

Dimming control

Intensity control	By DMX-512 with DMX address set by LED display or potentiometer Level
PWM Resolutions	1 colour models: 16 bit/240Hz; 15 bit/480Hz; 14 bit/960Hz (for Theatre); 13 bit/1920Hz; 12 bit/3840Hz (for Film/TV) 2 and 4 colour models: 16 bit/274Hz; 16 bit/549Hz; 16 bit/1098Hz (for Theatre); 11 bit/2197Hz; 11 bit/4384Hz (for Film/TV)
Target resolution	8 bits (256 discrete steps) on 8 bit non-fading DMX signal

Control Modes

Single colour models: Standalone, or by 1 or 2 DMX channels:
DMX control: 1= Master, 2=Mode

Two colour models: Standalone, or by 1 or 4 DMX channels
DMX control: 1= Master, 2=Warm, 3=Cool, 4=Mode

Four colour models: Standalone, or by 1 or 6 DMX channels
DMX control: 1= Master, 2=Red, 3=Green, 4=Blue, 5=White, 6=Mode

In both Standalone and One Channel DMX mode, the fade or effects function is selected by setting the Mode to 1-9. If the Mode is set at 0, the last DMX channel selects the fade or effects mode.

Standalone Modes

	If DMX is not connected, the Level potentiometer controls the intensity/rate of the fade/effects function set by the Mode switch:
Mode Switch set at 0:	The last DMX channel sets the mode 1-9
Mode Switch set at 1:	Fade time matches 250 watt tungsten bulbs
Mode Switch set at 2:	Fade time matches 500 watt tungsten bulbs
Mode Switch set at 3:	Fade time matches 1 Kw tungsten bulbs
Mode Switch set at 4:	Fade time matches 2 Kw tungsten bulbs
Mode Switch set at 5:	Fade time matches 5 Kw tungsten bulbs
Mode Switch set at 6:	Fire fade/flicker effect: Off, slow/dim to fast/bright
Mode Switch set at 7:	Ramp cycle up/dn 0-100%: Off, 10 minutes to 0.5 sec fade cycle
Mode Switch set at 8:	Random flash effect: Off, slow/dim to fast/bright
Mode Switch set at 9:	Strobe flash effect: Off, 1 to 25 flashes per sec

One Channel Modes

If DMX is connected, and Mode selection is set in the range 1-9, the highest of the DMX Start Channel (DMX 1) and the Level potentiometer controls the intensity/rate of the fade/effects function set by the Mode selection.

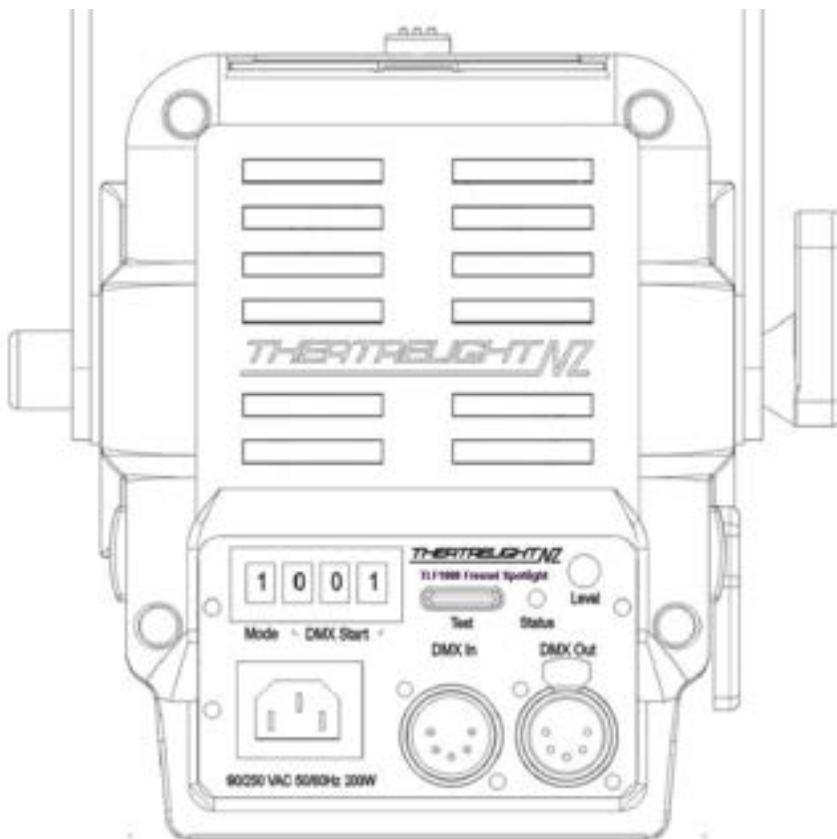
Remote Modes

	If DMX is connected and the Mode Switch set to 0, the highest of the DMX Start Channel (DMX 1) and the Level setting controls the intensity/rate of the fade/effects function set by the <i>last DMX fader</i> :
DMX level set at 10%:	Fade time matches 250 watt tungsten bulbs
DMX level set at 20%:	Fade time matches 500 watt tungsten bulbs
DMX level set at 30%:	Fade time matches 1 Kw tungsten bulbs
DMX level set at 40%:	Fade time matches 2 Kw tungsten bulbs
DMX level set at 50%:	Fade time matches 5 Kw tungsten bulbs
DMX level set at 60%:	Fire fade/flicker effect: Off, slow/dim to fast/bright
DMX level set at 70%:	Ramp cycle up/dn 0-100+%: Off, 1 hour to 0.5 sec fade up/dn
DMX level set at 80%:	Random flash effect: Off, slow/dim to fast/bright
DMX level set at 90%:	Strobe flash effect: Off, 1 to 25 flashes per sec

The 4 colour RGBW models also have a wide range of fixed and variable colour effects for use in standalone mode ie without DMX control.

Back Panel View

Connectors	IEC for power supply cable (supplied) DMX In- Male XLR 5 pin / male XLR 3 pin DMX out- Female XLR 5 pin / female XLR 3 pin
Thumbwheel	Digit 1 sets fade/effects mode, digits 2-4 set DMX Start address
Potentiometer	Sets intensity for modes 1-5, effects speed/level for effects modes 6-9
Pushbutton	Flashes the intensity/rate to 100%, cancels DMX held channels, unlinks Wireless in DMX versions
Status LED:	Green/Red LED for DMX, Temperature, and Wireless Link indication



Extras

Colour Frame	Anodised aluminium, for colour gels, filters, diffusers etc 157mm square (1 supplied with each luminaire)
Barndoors	(F1000 models) Optional anodised aluminium, fully rotating, fitted with safety wire and clip 110 mm square
Gobo	(Z1000 models) slot for standard "B" sized gobo holder (not supplied)

Wireless DMX Option

Lumen Radio	/W: Fitted internally with Lumen Radio CRMX card and external antenna The Lumen Radio card receives all Wireless Solutions (WDMX) signals
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Optical

Lens	F1000, 1 lens, optical grade PMMA. Z1000, 3 lenses: one adjustable condensor lens, and two zoom lenses, all optical grade PMMA
Focus adjustment	Slide action with quick locking cam

LED

LED Modules	Made to Theatrelight specifications using Osram chips with integral collimating optical glass lens
LED cooling	Fan cooled finned heat pipe heat sink
LED colour options	Single colour LED modules: /32K: 3200K or /56: 5600k, CRI >95 Two colour LED module: 3200K and 5600k, CRI >95 Four colour LED module: Red, Green, Blue, and White (5600K CRI >90) Other colour and CRI choices to customer specification for larger orders
Fan control	Variable fan speed depending on LED temperature
Fan noise	LED at 100% at 25°C ambient: < 42 dbA at 1 meter The fan is off when the LED module temperature is below 40°C

Maintenance and Warranty

Maintenance	For best light output, schedule a regular dust clean of the lenses, LED collimating lens, heatsink fins, and fan blades
Warranty	2 years limited warranty
Usage record	To assist our reliability program, all luminaires record the following data: Power on hours, LED hours, fan hours, maximum air temperature, maximum LED temperature, maximum fan level.

Photometric Data

Beam angle	F1000: 7.5° - 45° F1000/2C and /4C: 15° - 50° Z1000/2C/4C: 15° - 30°
Typical throw	2m to 10m
UV A/B/C content	Less than 0.001 watts/sq meter (< 0.1 µwatt/sq cm)
Infra Red content	Less than 0.1 watts/sq meter (< 10 µwatt/sq cm)

Beam Angles and Lux Table

Figures are for F1000 and Z1000 15° - 30°, 3200°K incandescent white phosphor models, spot focus.
For 5600°K daylight white phosphor models increase Lux by 25%. For 2 and 4 colour F1000 models derate Lux by 50%. Lux measured at beam centre, beam width measured at 50% Lux, Lux tolerance +/- 20%..

TL-F1000 models, Spot focus, 3200°K

Distance (m)	2	3	4	5	6	8	10
Beam Diam (m)	0.25	0.38	0.5	0.63	0.75	1.0	1.25
Lux	60,000	26,600	15,000	9,600	6,600	3,750	2,400

TL-Z1000 models, Spot focus, 3200°K

Distance (m)	2	3	4	5	6	8	10
Beam Diam (m)	0.5	0.75	1.0	1.25	1.5	2.0	2.5
Lux	40,000	17,700	10,000	6,400	4,400	2,600	1,600

Ordering information

Model	LED Type/Colour	Connector	Wireless
F1000: Fresnel	/32K: 3200K; /56K: 5600K	Blank: XLR-5	Blank: No wireless
Z1000: Profile	/2C: 2 col (3200K+5600K) /4C: 4 col RGBW	/X3: XLR-3	/W: Wireless fitted

Model examples:

F1000/32K has 3,200K single colour LED, XLR 5 connectors, no wireless card

Z1000/4C/X3/W has RGBW LED, XLR 3 connectors, and fitted wireless card

- Due to the continual improvement in LED and phosphor research, Theatrelight reserves the right to make changes to this specification at any time.

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