

FLD EN68 UST

Brightness and lens shift limitations

Rev A, 08 December 2017



Figure 1 – FLD EN68 UST

This document describes considerations and limitations when using the **FLD EN68 UST** (Figure 1) lens in combination with the Barco F35, FL35, F70 and F90 series projectors.

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A	Initial release	December 8 th , 2017	AJ

Revision history

Rev	Section	Revisions
A	All	Initial release

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FLD EN68 UST

Brightness and lens shift limitations

1. Scope

This document describes considerations and limitations when using the FLD EN68 UST (from here on referred to as EN68) lens in combination with the Barco F32, F35, FL35, F70 and F90 series projectors. *The EN68 is not compatible with the F80 series projectors.*

This document is valid for:

- F3x firmware version: all
- Pulse™ firmware versions: 1.4.x

For additional support, please contact support.fre@barco.com.

2. Background

The EN68 is an Ultra Short Throw lens which can be used with a selected range of the Barco F-series products. Due to the variation in DMD chip size on the different products, throw ratio, shift range and brightness limitation will vary depending on which platform the EN68 is combined with.

3. Brightness, lens shift and throw ratio matrix

To avoid overheating and possible damage to the lens components, there are limitations to the brightness (laser power) setting on certain products. Likewise, shifting the lens too far down in the vertical direction can cause damage, and a limit is necessary.

F3x and EN68

- No brightness limitation
- **The user is cautioned not to exceed the lens shift limits and need to manually apply values inside the allowed range (see Table 1, Lens shift and brightness limitation matrix).**

F70 and EN68

- No brightness limitation
- The brightness (laser power) is automatically reduced to 20% effect if the lens shift limits are exceeded (see Table 1, Lens shift and brightness limitation matrix).

F80 and EN68

- **The EN68 is not compatible with the F80 series projectors.**

F90 and EN68

- Brightness limitation 8000 lumens. The brightness (laser power) will automatically be dimmed down when the EN68 is mounted (see Table 1, Lens shift and brightness limitation matrix)
- The brightness (laser power) is automatically reduced to 20% effect if the lens shift limits are exceeded (see Table 1, Lens shift and brightness limitation matrix)

The lens shift and brightness limitation matrix shows the boundaries of shift values on the different products.

CW: Color wheel type. High Brightness (HC) or High Color (HC)
T/R: Throw ratio
Brightness: Maximum laser/lamp power setting with the EN68 mounted
Lens shift/step: Area of operating at maximum laser power, and full image frame

Product	CW	T/R	Brightness	V lens shift % / step	H lens shift % / step	Comment
F3x 1080/WUXGA	Any	0.28:1	100%	116-130% / NA	+ - 4% / NA	
F3x WQXGA	Any	0.30:1	100%	116-132% / NA	+ - 4% / NA	
F70 WUXGA	Any	0.28:1	100%	116-130% / 300-450	+ - 4% / 1948-2148	
F70 4K UHD	Any	0.30:1	100%	116-132% / 300-600	+ - 4% / 1948-2148	
F80 Q7/4K7	EN68 is not available for use with F80					
F80 Q9/4K9	EN68 is not available for use with F80					
F90 WUXGA	HB	0.28:1	64%	116-130% / 300-450	+ - 4% / 1948-2148	Max 8000 lumens
F90 WUXGA	HC	0.28:1	86%	116-130% / 300-450	+ - 4% / 1948-2148	Max 8000 lumens
F90 4K UHD	HB	0.30:1	74%	116-132% / 300-600	+ - 4% / 1948-2148	Max 8000 lumens
F90 4K UHD	HC	0.30:1	99%	116-132% / 300-600	+ - 4% / 1948-2148	Max 8000 lumens

Table 1, Lens shift and brightness limitation matrix

4. Considerations

The lens shift can be operated from the projector OSD, the keypad, Projector Toolset or Prospector. When inserting the EN68 lens, the lens shift position can be outside of the required operating limits. If so, the laser power on the F70 and F90 will be automatically reduced to 20%. As the lens is shifted inside the required limits of operation, the brightness will go back to its original setting (see Table 1, Lens shift and brightness limitation matrix).

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