

## How To Use A Beam Bender

We developed our Beam Bender™ for Jules Fisher on his show *A Christmas Carol*. Designers use them for a number of purposes and they are a great addition to the designer's tool kit. Careful observers can see them in theatres, studios, and architectural installations nearly everywhere.

### What It Is:

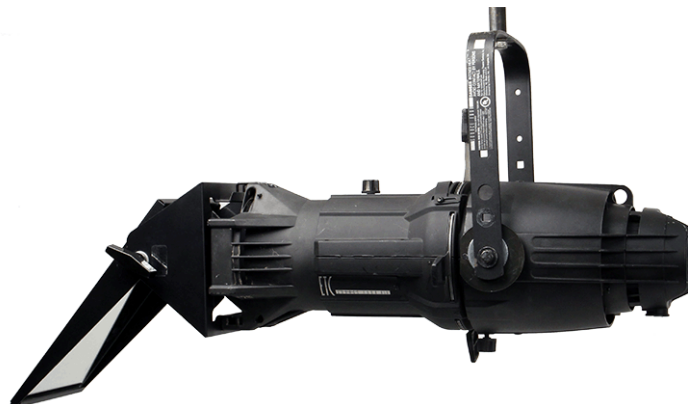
A Beam Bender is a diverter mirror that can be positioned in front of a lighting fixture. The mirror can be focused to position the beam independently of the lighting fixture.



### How It Is Used:

There are a number of ways for designers to use Beam Benders:

-In spaces where height is at a premium, the lighting fixture can be pointed horizontally and the beam diverted straight down with the Beam Bender. This can prevent the lighting fixture from being in view of the audience. This is often found in studios or theatres with low grids. In a theatre with a very low grid, it may be the only way to use a standard lighting fixture without the fixture being in full view of the audience near the actors' heads.



-Beam Benders can also be used for projecting a beam of light over or around scenery without the entire lighting fixture being seen, almost like a

periscope. It is much less obtrusive to see the mirror poking above scenery than it is to see the entire lighting fixture.



-Dance designers sometime use Beam Benders on sidelight booms. Without a Beam Bender, it is difficult to light the entire leg of the dancer without lighting the floor too, and sometimes designers want to keep the floor dark so the dancers seem to float above it. With the lighting fixture pointed straight down, and the edge of the mirror of the Beam Bender touching the floor and the light carefully shuttered just off the floor, 100% of the body of the dancer can be lit without lighting the floor. There is no other way to accomplish this since it is impossible to get a lighting fixture close enough to the floor and at the correct angle to do this.



Not all Beam Benders are built with diverting mirrors. We recently created one for designer Rob Schoenbohm of Lighttime Design that utilized a prism as a diverter. Here's what Rob told us about how he has used Beam Benders in the past, and how he used them on this particular project:

"My introduction to the Beam Bender was years ago on a re-focus of an architectural project, a tall and narrow atrium entry to a hotel, where a series of beam benders were peaking over the edge of a ceiling cove projecting templates from ceiling mounted ellipsoidals along the two sides of the atrium. The fixtures were accessible from a pair of catwalks above the ceiling and the benders provided several important functions: 1) access for re-lamping was much easier as the fixture were horizontal with the lamps very near the catwalk, 2) the fixtures were axials and if they had been mounted vertically the heat would have distributed directly into the lamp-holder, 3) the beam benders were almost imperceptible from below. The template circuit was used at night for a lovely 'moonlight' effect and as I recall it was a Leslie Wheel design.

For our project, also architectural, we needed small LED framing projectors for 'prism' templates to be focused through twenty actual glass prisms attached to the walls of a long narrow corridor. Limited ceiling clearance required a horizontally mounted fixture, so a bender was the obvious solution. The selected fixture had no such option so we went to the bender experts.

The project will be completed in late May 2014 and if all goes well we hope to trick the eye of the casual observer, convincing them that the color dispersion of the light coming thru the wall mounted prisms is being created by the prism rather than a custom color template in a hidden LED fixture. The bender built for us by City uses a 1" by 1" optical prism rather than a mirror and is very small and easily hidden in an architectural cove above the glass prisms. The bender in this application is fixed at 90° eliminating the need for locking hardware. This all contributes to a very lightweight bender, helpful as there will occasionally be some vibration in the area and adding as little weight to the barrel of the fixture as possible makes the mounting more stable. In addition, the prism captures virtually all of the fixture's light beam eliminating stray light that might give away the source and tip our hand."

