

# LED Bulb Beam Spread Issue - Caution

Every booth is required to control the beam spread as to light up their own art without spilling offensive light into neighboring booths, aisles and/or ceiling. With the growing popularity of LED bulbs, we have noticed an increasing amount of spillage from uncontrolled beam spread. If you're going to switch bulbs, please capture that beam!

Your current lighting fixtures that worked well with a directional halogen bulb may not be effective in controlling beam spread with a LED bulb.

Directional halogen light bulbs, that's narrow flood lights (NFL) and spot lights, are highly effective at controlling beam spread with little or no cowling. These have a light emitting source deep within the bulb structure and a parabolic reflector to focus beam spread. The intense light has a hard cut-off edge.

LED bulbs generally have different characteristics in that the light emitting source is on or very near to the face of the bulb and parabolic reflectors are not used to control the beam. This design feature does not allow for hard cut-off edges.

Here is a link from VOLT Factory Direct Retail in the Beam Angle Section

<https://www.voltlighting.com/article-landscape-lighting-bulbs-getting-to-know-them/p/article-light-bulb-get-to-know>

*There are a few things to keep in mind about beam angles.*

- *Sometimes the beam angle sits near the edge of the visible beam (known as a hard cutoff). Other times, the edge of the beam is very diffused and spills past the beam angle. The preferred beam has a soft edge that extends a moderate distance from the beam angle and gradually blends into darkness – this is the type of beam found with VOLT® LED lamps. Excessive spill can lead to excessive glare.*

Uncontained spill from soft edges, or side bleed as we call it, is counter-productive in our Armadillo lighting ambiance. Hard edges make managing unwanted glare so much easier.

Solution:

LED bulb use requires much more efficient cowling than directional halogen use. Please be aware that due to the placement of the light emitting sources on the face of the LED bulb the cowling must catch the ray from the furthest emitter on the opposite side to control the beam.

Adding Cowling to Existing Fixtures? Keep these things in mind:

It must be aesthetically pleasing. Don't let your cowling be visually distracting. Be sure it is the same colors as your fixtures and tidy. The most effective lighting fixtures seem to disappear.

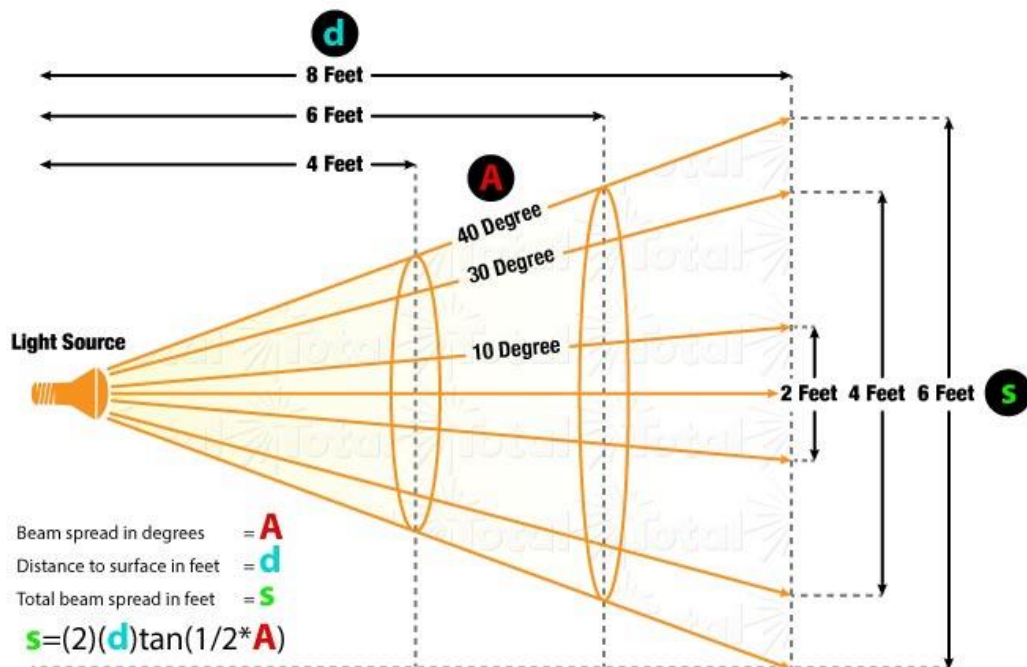
It must be safe. Cowling should not be flammable or loose. The last thing you want during a sale is a cowl falling on a customer.

It must be effective. Keep the beam where it needs to go, highlighting art without spill, eye-bite, or unwanted glare.

Here is the chart we used on the lighting tutorial.

<https://www.totaltracklighting.com/calculate-beam-spread-of-light.html>

# Beam Spread



This link will help you to compare beam spread.

<https://www.easy-lightbulbs.com/lighting-guides/beam-angle/>

Safety Considerations:

Even though LED bulbs generally run cool to the touch please avoid allowing any flammable materials in contact with any electrical fixtures.