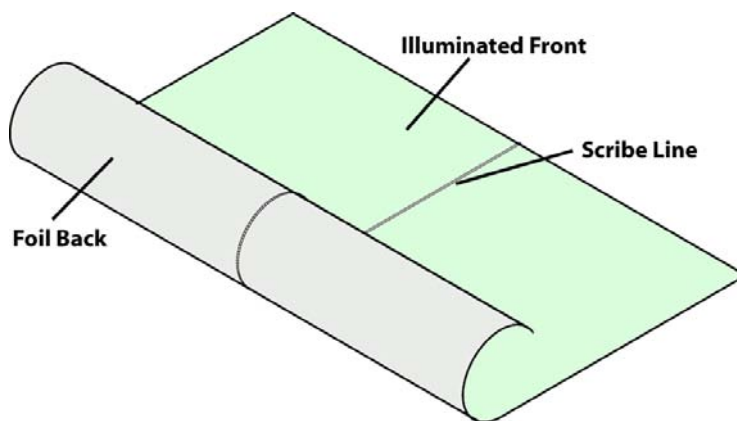


FLATLITE FABRICATION MANUAL

Fabricating Lamps from UFL (not pre-laminated) FLATLITE® Lamp Material

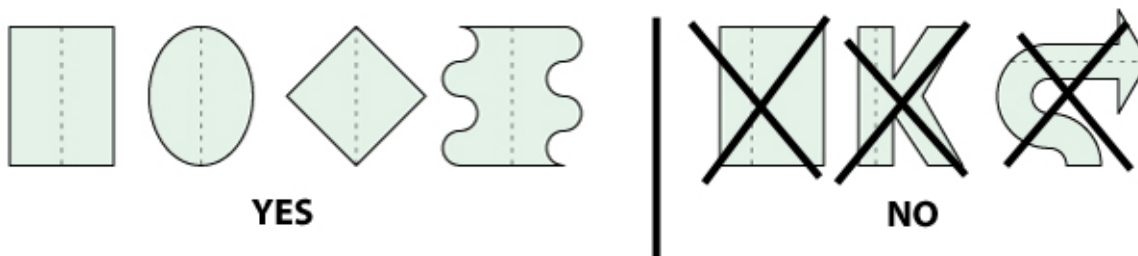
Understanding Lamp Construction

- The lamp is supplied with a center scribe line that divides the material into two equal parts. Material without this line will not light!
- The top (lighted) surface of the lamp is either pink (white when on), or pale green (green/blue when on)
- The back surface of the lamp is silver foil
- All FLATLITE® lamps are printed on the back with a lot number (i.e.: 01-04-02-A). This is a unique identifier for each coil of FLATLITE® material produced, and may be used to track shipping and or fabrication dates.

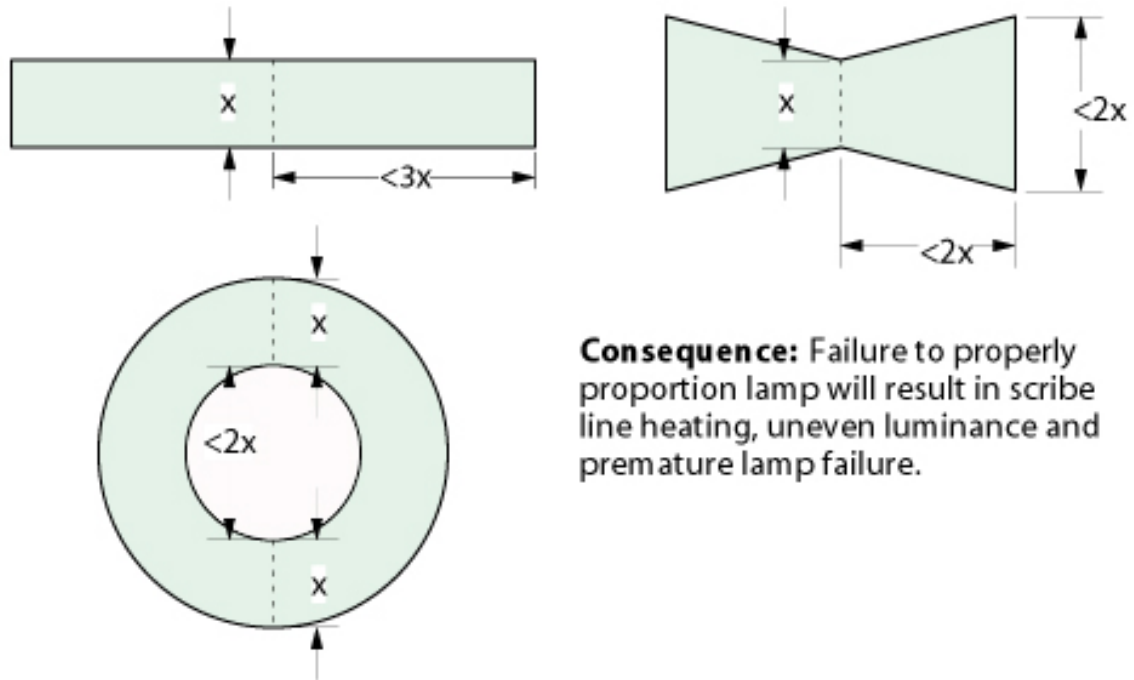


Planning Lamp Fabrication

- FLATLITE® lamps may be cut into many regular and irregular shapes with the following restrictions:
- The shape and area must be symmetrical to the scribe line for uniform luminance

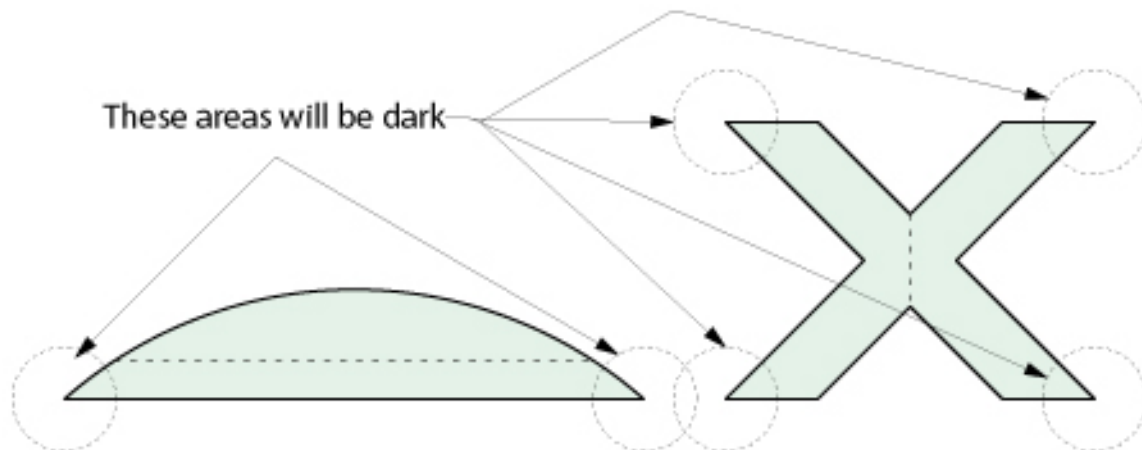


- The proportion of the lamp area to the scribe length must be close enough to allow adequate electrical conduction.

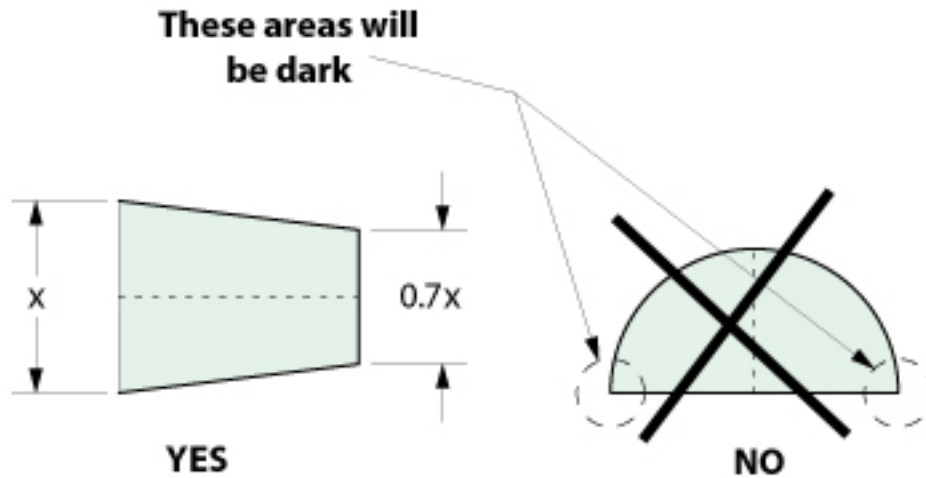


Consequence: Failure to properly proportion lamp will result in scribe line heating, uneven luminance and premature lamp failure.

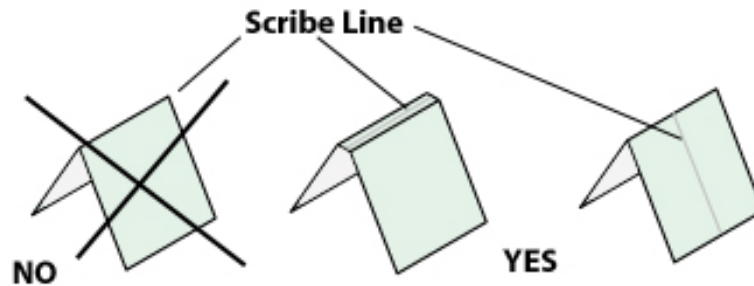
- The distance from the scribe line to any point that is both asymmetric and beyond the plane of the end of the line must be minimal to avoid uneven luminance:



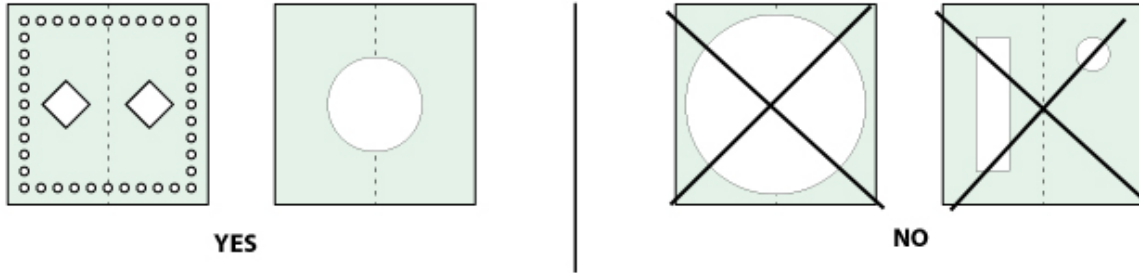
- Any shape that is symmetrical, but varies more than 30% in area along the length of the scribe line will result in uneven luminance.



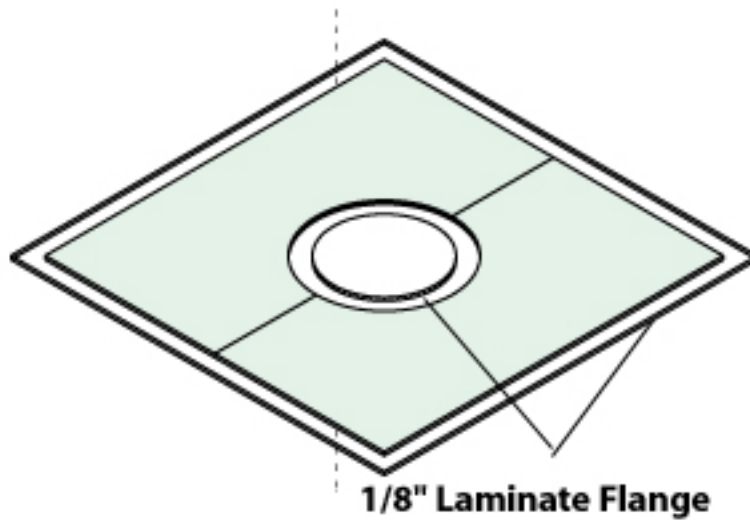
- In planning lamp fabrication it is also important to consider any necessary folds in relation to the scribe line. The lamp may be safely folded anywhere except along the scribe line.



One of the truly unique features of FLATLITE® lamp material is the ability to fabricate shapes with internal voids. There are no restrictions on the shapes of these holes; however, when the holes are actually through the scribe line, refer to part ii to ensure an adequate conductive area is maintained. In addition, a 1/8" flange of laminate will be around the inner perimeter of the hole when the lamp is encapsulated. Finally, the total area of the void must be less than the overall panel area, and symmetry of area must be maintained.

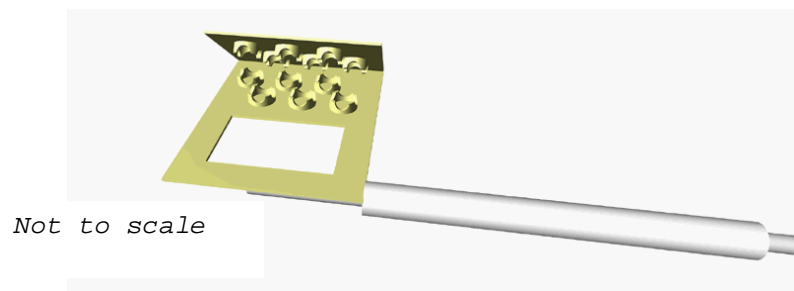


Finally, in determining the cut size of the lamp material, account for the 1/8" laminate border that is required around the entire perimeter of the lamp. This is a critical accommodation for instances where the lamp must fit within a confined frame or area.



Connection Planning

Electrical connections are made to the lamp material after it has been encapsulated with laminate by way of brass press on terminals supplies with 12" #18AWG wire leads.



The connectors are then insulated with a white sealing tape.



One pair of connectors is required for every 5000 sq. inches of lamp material. For multiple connectors, join the leads from each side of the lamp together and then route to the power supply.

The ultimate result is at least two 3/4" square un-illuminated pads on the face of each lamp.

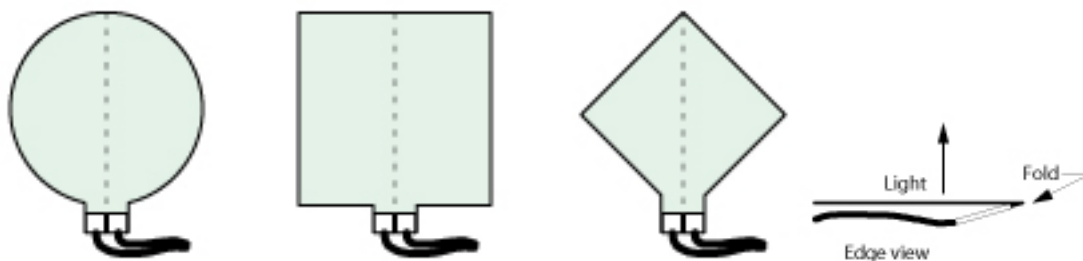
Determining the location of these connection points prior to the cutting of the lamp will greatly benefit the appearance of the finished panel.

Connections can be made anywhere on the panel as long as:

There is one connector on either side of the scribe line

Neither connector crosses the scribe line resulting in a short circuit

It is often not desirable for connections to be visible when the lamp is installed. To hide the connection area, a tab may be cut at the end of the scribe line on which the connectors can be placed, and the tab folded behind the panel during installation.



Cutting FLATLITE® Lamp Material

FLATLITE® Lamps may be cut to size and shape using:

- Scissors
- Razor Knives
- Guillotine Cutters
- Rotary Trimmers
- Flatbed Plotters with draw knife tooling

The lamp cannot be cut effectively with:

- Platen plotters
- Lasers