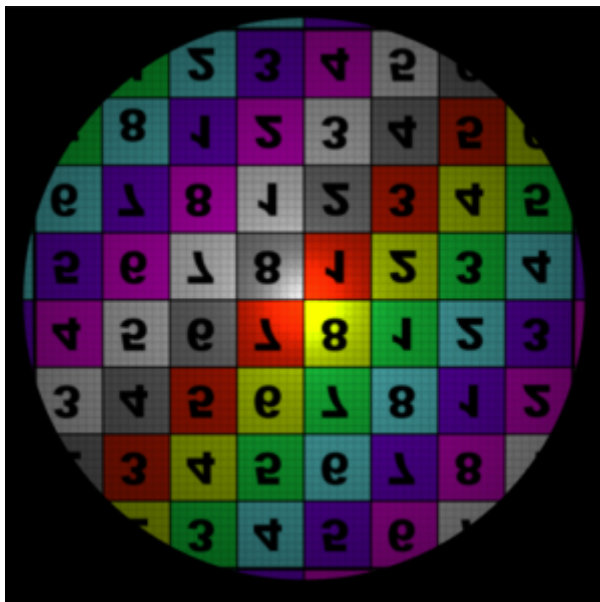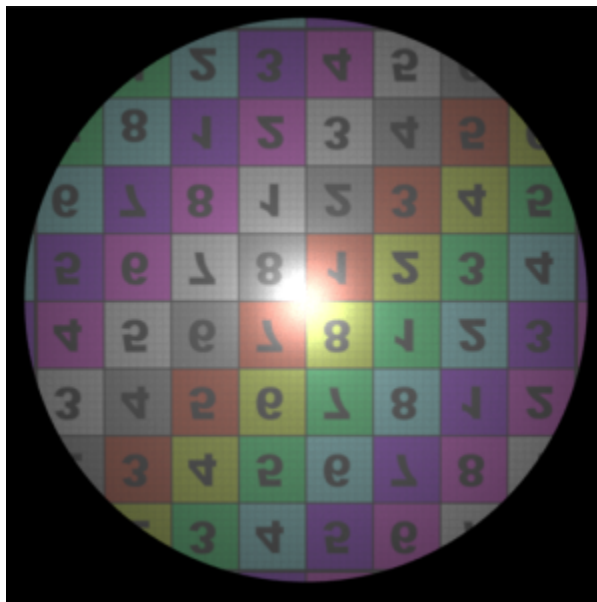# *Gobo Light Filter Controls

Map

An image file that is used as a filter. The image should have been processed beforehand by *tdlmake*.

Density

A map opacity multiplier. A *density* of 0 makes the map completely transparent.

Density = 1.0

Density = 0.4

Invert

Turning this parameter on will invert the map colors.

Use Filter Coordinate System

Defines if the translation, rotation and scale specified in the *Object Parameters* will be applied to the filter. When this parameter is disabled, the light transform is used for the filter. Note that if the filter is set as a child of the light, then the light transform will always affect the filter. To dissociate the light transform from the filter transform and use only the later, please refer to Positioning a Gobo Light Filter above.

Scale

The scale factors applied to the range of S and T values covered by the filter, respectively. Values between 0 and 1 will appear to enlarge the map since the whole filter will cover a smaller portion of the usual texture coordinate area (from 0 to 1).

Scale = 0.3   Scale = 1.0   Scale = 2.0.
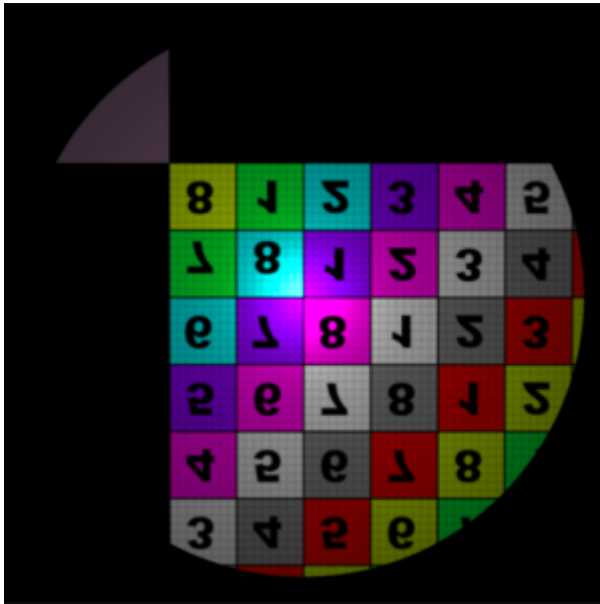
The wrap modes were set to 'periodic' for the scale illustrations.

Offset

Specify S and T offset values applied on the map, respectively.

No offset   Offsets of (0.25, -0.25)

The wrap modes were set to 'clamp' for the Offset illustrations.

S Wrap Mode
T Wrap Mode

Control how the area outside the filter coverage will appear. The available options are:

clamp	Coordinates below 0 are set to 0, and coordinates above 1 are set to 1. This will effectively repeat the map's border pixel.
black	Coordinates below 0 and above 1 are mapped to a black color.

mirror	The area outside the 0 to 1 range use coordinates that are repeated in a mirror fashion - from 0 to 1, then 1 to 0, and so on.
periodic	The area outside the 0 to 1 range use values from 0 to 1 repeated over again.
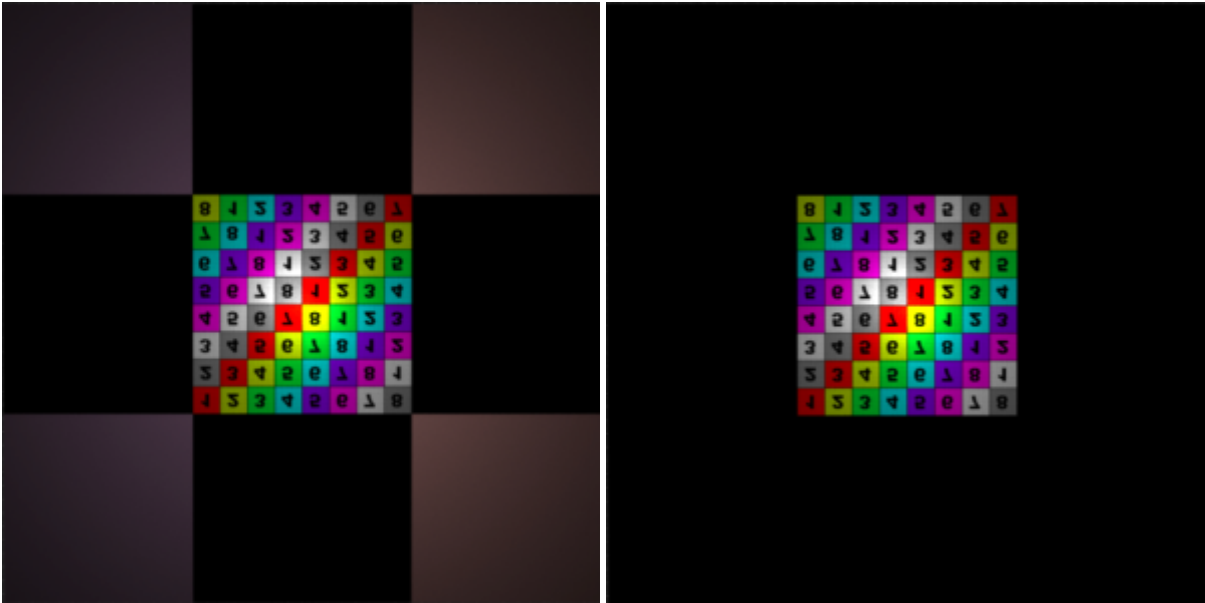
Clamp

Black
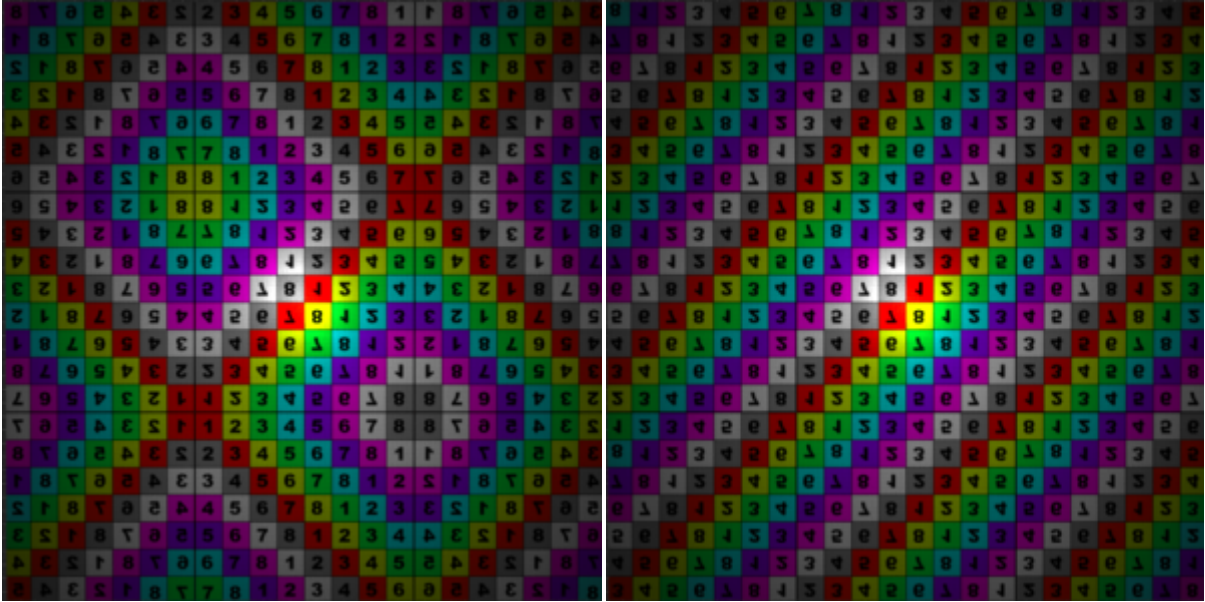
Mirror

Periodic

Note that the corner pixels of the map are not black, hence the checkerboard pattern on the Clamp image.