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Why use The Sky Factory Custom Designed Luminous SkyTile T-5 Light-Box™ or Luminous SkyTile RF-free LED Light-Box™ (Patents Pending) ?

1. The **Luminous SkyTile T-5 Light-Box™** is specifically designed for proper illumination of Luminous SkyTiles™. Other standard types of troffers cannot be expected to produce the same aesthetic result. For example:
  - a. TSF light-boxes have a specially designed reflector that distributes the light uniformly over the entire 2x4 (or 2x2) surface. No other troffer we know of does this and other systems result in problems that greatly reduce the appeal of the images.
    - i. Uneven light distribution creates shadows or fall-off at the edges.
    - ii. Shallow troffers create severe hot spots from the lamps
    - iii. Deeper troffers create uneven distribution of light that causes fall-off at the edges, which in turn creates large scale banding when used in multiple troffer installations.
    - iv. Both shallow and deep can create spurious reflections from shiny interior surfaces.
  - b. Other light-boxes generally require doors, which reduce the visible size of each image/panel and disproportionately increase the width of the "grid" between panels. This is especially important in multiple panel installations.
  - c. Other troffers cannot accommodate our "elevator" system. Elevators are extruded aluminum frames (2x2) that rest on the grid where a conventional acoustic tile normally would rest. They accomplish two very important functions:
    - i. They prevent any shadows or spurious reflections from falling on the Luminous SkyTile and thereby protect the illusion of a deep space sky rather than a image on a panel
    - ii. They combine with the 15/16<sup>th</sup>" grid to create the appearance of a solid extrusion, the kind that is normally used to

- support the glass of a true skylight. This greatly enhances the illusion of "skylight" that is created by our SkyCeilings.
- d. The 6500K lamps that are supplied in the Sky Factory light-boxes are optimal for illuminating the pigments used in our printing. (Our printing is calibrated to 6500K) If lower temperature lamps such as 3200K or 3400K warm or cool fluorescent or 5000K fluorescent are used the image color is significantly shifted, becomes muddy and loses its vivid realism. Note: There are other sources for 6500K lamps beside our T-5 system.
2. Practical considerations:
    - a. PRICE: Using other fixtures and light boxes may be cheaper or in some cases more expensive. If shallow commodity troffers are used with fields of blue sky the look will be so bad that the client should not invest in Luminous SkyTiles and should consider opaque SkyTiles™ that are lit by up-lighting or ambient light.
    - b. TSF light-boxes are designed to allow easy insertion and removal of the Luminous SkyTile for servicing of the lamps or other ceiling engineering. The standard ceiling grid (15/16<sup>th</sup>" ) and our elevators is all that the observer sees. (Note cut-away on sides to allow diagonal insertion and rotation)
    - c. TSF light-boxes are driven by T-5 energy efficient 6500K "daylight" technology. This means the wattage (7.5 watts per sq. ft.) and heat will be significantly less (reduced energy costs). Or, from another perspective, the lumens per watt are about 50% greater. The life of the lamps we supply is 20,000 hours - superior to "standard" T-8 or T-12. This reduces maintenance costs.
    - d. The light level of a SkyCeiling has been carefully balanced and calibrated to support the illusion of a real sky in an interior environment. With very rare exceptions (ultra sound), no dimmer system is required.
3. The **Luminous SkyTile RF-free LED Light-Box™** is specifically designed for proper illumination of Luminous SkyTiles™ in a RFI (Radio Frequency Interference) free environment such as shielded MRI facilities. Apart from the RF issues there are important aesthetic issues – the same as expressed above.
    - a. Luminous SkyTile LED Light-Boxes have an LED array and reflector that distribute direct and bounce-back light uniformly over the entire 2x4 (or 2-2x2) surface.

- b. The 6000K LEDs that are supplied are optimal for illuminating the pigments used in our printing.
4. Practical considerations:
  - a. PRICE: Use of a DC incandescent system has the disadvantage of short-lived lamps, significant heat build-up that must be managed by air handling equipment and inappropriate color temperature. The LED system is more expensive than the T-5 system but the LEDs have a 100,000 hour projected life (approx 27 years), and the RFI factor makes them the most economical, practical and most realistic light source for MRI or other shielded environments. In addition the LED strips can be replaced with a "plug & play" system that requires no soldering.
  - b. All TSF light-boxes are designed to allow easy insertion and removal of the Luminous SkyTile. The standard ceiling grid (15/16") and elevators is all that the observer sees. (Note cut-away on sides to allow diagonal insertion and rotation)
  - c. TSF light-boxes are driven by energy efficient 6000K "daylight" LED technology. This means the energy use and heat build-up (15 VDC and 5.25 watts per sq. ft.) are significantly less than that of a DC incandescent supply.
5. Luminous SkyTile Elevators are standard with all multiple light-box installations. These extruded aluminum elevators lift the Luminous SkyTile 1.25' above the lay-in surface of the grid. This eliminates the possibility of internal reflections or shadows caused by the Tee bars of the grid system.

#### **IMPORTANT NOTES:**

Electronic fluorescent ballasts and lamps are not designed for frequent "on / off" switched applications. Manufacturer warranty is based on two (2) hours average running time between starts.

AC voltage range is from 108 VAC to 305 VAC at 50/60 hz.

The Sky Factory warranty on Luminous SkyTiles does not apply when Luminous SkyTiles are installed in fixtures other than those designed for display of backlit images.

The Sky Factory has a Renew & Recycle program that allows Luminous SkyTiles to be purchased for existing installations at discount when old SkyTiles are properly recycled. For more information please contact The Sky Factory.

NOTE: In cases where light-boxes are not deemed appropriate and a single "plenum light-box" is to be constructed covering many square feet, please contact The Sky Factory for support and guidance. We will be happy to help you design a plenum system that will support a SkyCeiling.