

# ICLights™

## STAR CEILING INSTALLATION GUIDE



INSTALLATION WITH NO CRAWL SPACE...the hardest star ceiling installation there is.....	2
PLANNING TO MOUNT STAR BUNDLES IN DRYWALL .....	3
MOUNTING THE STAR BUNDLES .....	5
ROUTING THE HARNESS LEGS.....	6
Twinkling effect.....	7
APPLY THE DRYWALL TAPE AND MUD .....	8
DROP CEILINGS; THE EASY APPROACH .....	8
DROP CEILING HARNESS LENGTHS .....	11
JOIST CEILING HARNESS LENGTHS.....	11

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## Star Ceiling Installation tips

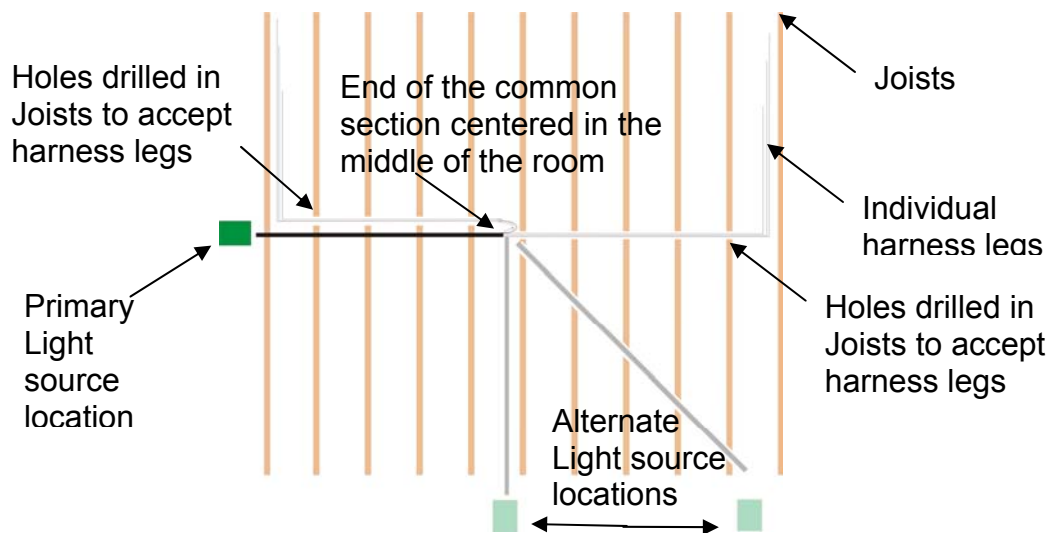
*The following information is provided as a guide. While every attempt was made to be complete and practical, individual installers may depart from these guidelines and have very successful results. Conversely, an installer might follow every step, and still have installation problems. FTI assumes no responsibility for the product's application or fitness for use .*

INSTALLATION WITH NO CRAWL SPACE...the hardest star ceiling installation there is....

*NOTE: It is assumed the drywall has not been installed. Typical drywall sequence starts with the ceiling, then moves to the walls. IF drywall is already installed, it should be removed, which may necessitate destruction of the existing ceiling or removal of the drywall covering the walls. An alternative to removal, is application of furring strips to the joists, and addition of another layer of drywall or panels.*

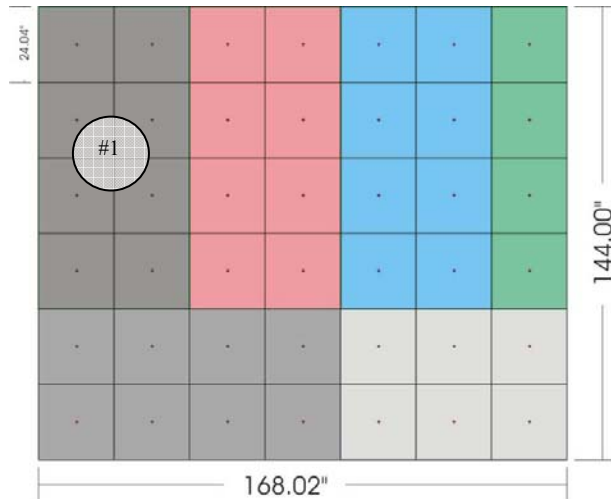
When installing a star ceiling in a new home, (or a remodel), on a level other than the top floor (no attic or crawl space access) first locate the light source storage area, making sure it is open or ventilated to keep the light source cool. Then install the wiring for the light source outlet.

Locate the end of the common section of harness in the center of the room, and drill appropriate sized holes through the joists to route the common end of the harness back to the light source location. The harness is designed to provide ample length to locate the lightsource in a convenient, easy to reach area of a closet or custom storage space.



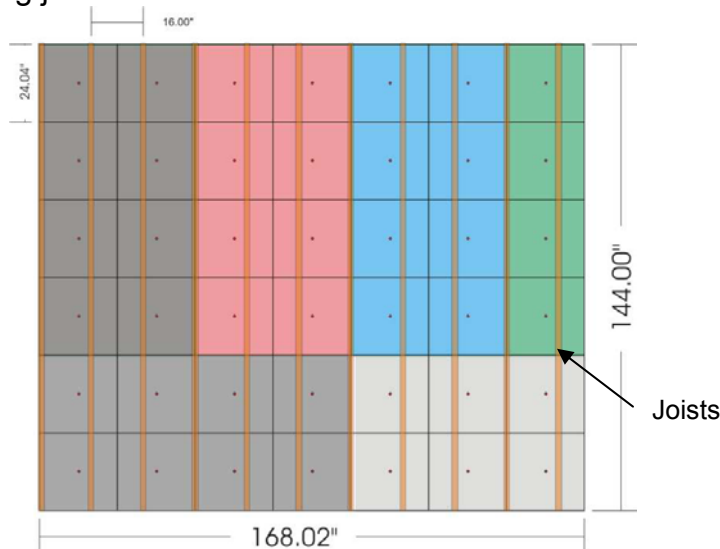
As an alternative, you may also choose to install 1x2 furring strips perpendicular to the joists...doing so eliminates the need for drilling, but reduces the ceiling height a minimum of 1.25" (.75" furring thickness and /375" drywall thickness)





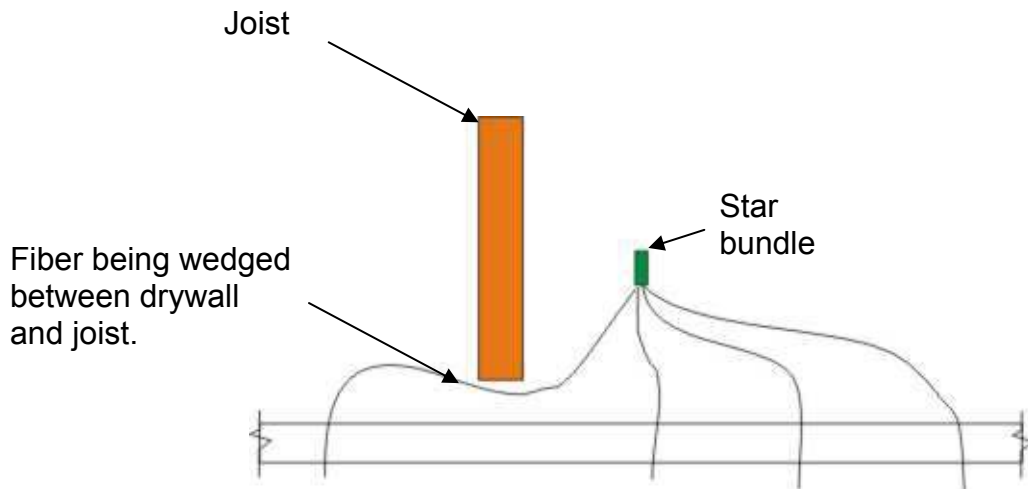
In the above illustration, we assume the drywall size is 4'x8'. We'll use 4 full sheets (indicated by different colors), and two partial sheets (Light gray and green)

Next, draw in the ceiling joists:



This is the minimum required plan. At this time, you may also decide to lay out the star pattern. If you do so, remember to resist being symmetrical or balanced... be random and abstract for the most realistic result, but stay within the pre-selected star density (i.e. 2,3,4, or 5 stars per sq foot)

In the example above, the joist spacing is 16" on center. As you can see, no red dots are covered by joists, (which is good) but every 2x2 square is bisected by a joist at some location (this is bad). Some fibers (depending on star density and placement) will end up being wedged between the joist and drywall (see next illustration)

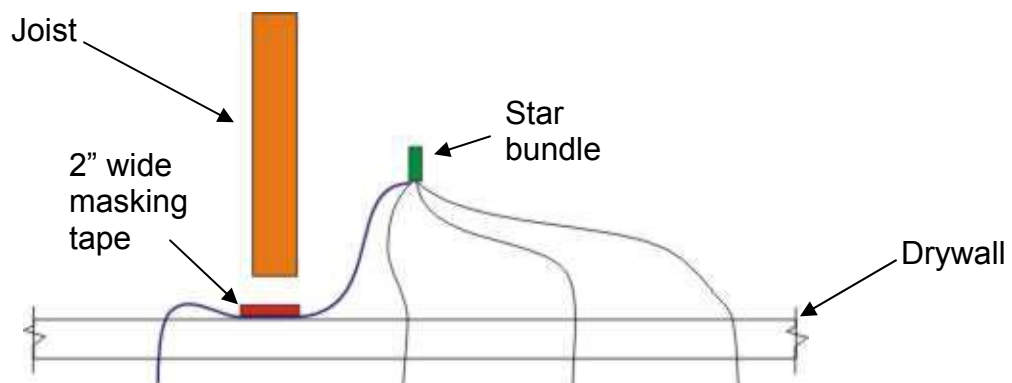


If a fiber is wedged, it can withstand the pressure (it's plastic) when squeezed flat between the drywall and joist, but it will not survive a drywall screw or nail. The following steps help prevent this problem..

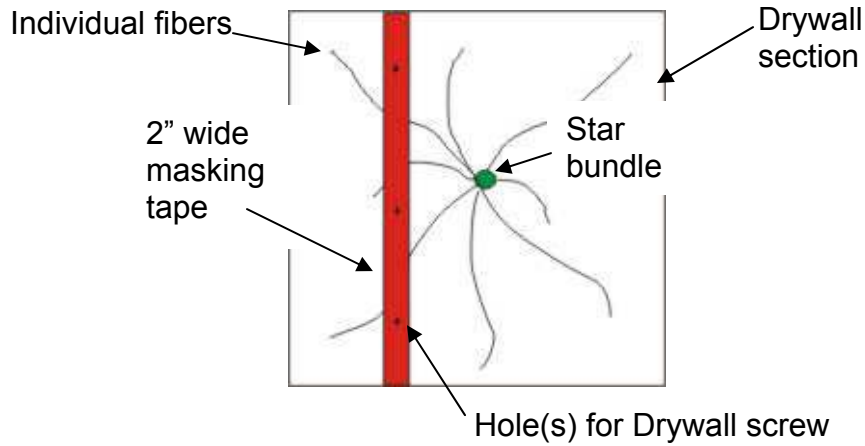
### MOUNTING THE STAR BUNDLES

Start with a drywall section located on the perimeter of the room. (let's use the dark gray full sheet, labeled with a circled #1 in the previous illustration). While the drywall is on saw horses at ground level, use the layout grid to mark the location of joists on the drywall. Using the developed star location plan (If you took the extra time to create one) pre-drill, and load the star bundles (8 star bundles to a 4x8 sheet, 10 star bundles to a 4x10 sheet).

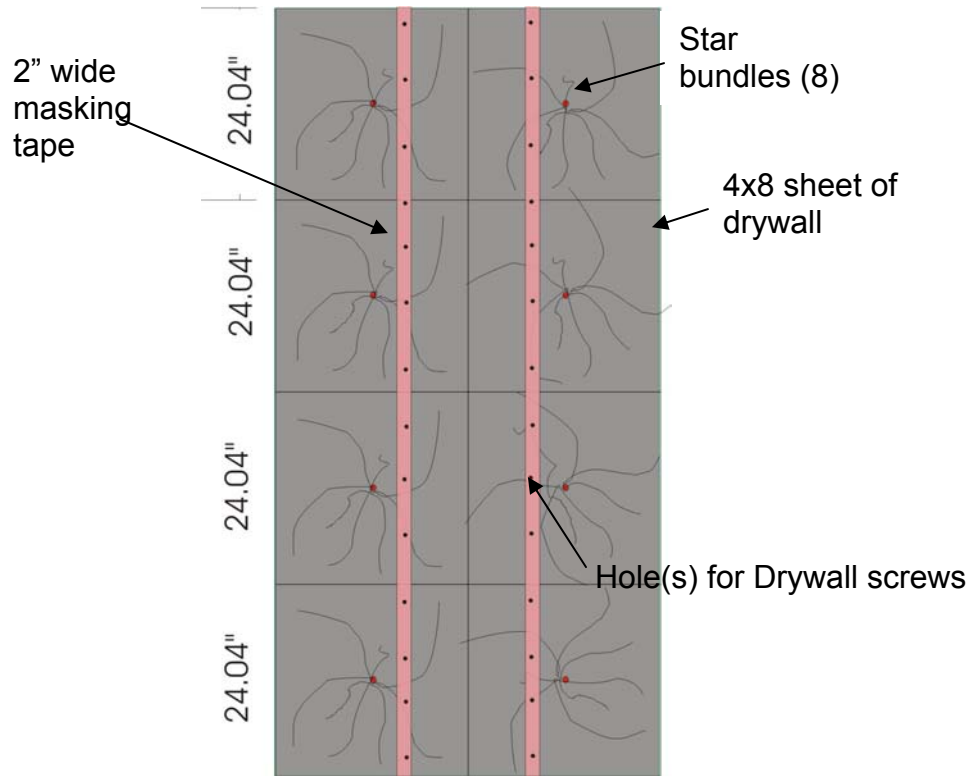
Be sure not to install a star where the drywall contacts the joist, and remember to use two different drill bits (.020 and .030) for each of the fiber diameters in a star bundle {50/50 split} Make sure at least 6" of fiber sticks through the drywall. After the holes are drilled and star bundles are installed, use 2" wide masking tape to hold the fibers secure to the drywall where they cross over joist location(s). See illustration below:



After the fibers are secured with tape, pre-drill location holes for drywall screws, taking care not to drill into the fibers, which can be seen through the tape. (see the next illustration)



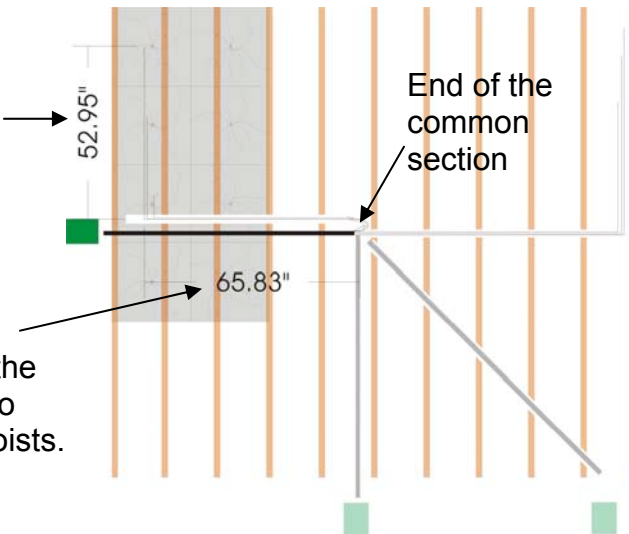
When completed, there will be 8 star bundles loaded in a sheet of 4' x 8' drywall. The fibers crossing joist locations will be taped down, and predrilled holes for drywall screws will be in place (see below).



### ROUTING THE HARNESS LEGS

Route the first 8 individual harness legs through the joists. Measure the distance from the end of the common to the furthest star bundle by first measuring the distance to the appropriate joist space, then "up" to the star bundle. (see below)

Then measure “up” to the center of the 2x2 grid which locates the center of the star bundle.



First, measure from the end of the common to the space between joists.

Add two feet to this measurement, then select a harness leg closest to this measurement. In the above illustration, the measurement total is  $53'' + 66'' + 24'' = 143''$ . Each harness leg is marked to help define its length. Use the chart in the back of this guide to help make your selection. As you might notice, harness legs are provided in two foot increments, so the appropriate selection for this example is 12' (144"). Be sure to use the chart designed for joist installations.

Now, raise the drywall within 24-36" of the ceiling, resting it on scaffolding or dead man supports.

There is sufficient extra harness length (2-3 feet) to connect the star bundles to the individual harness legs. Push the input into the harness boot about half way... there is no need to force the connection.... As a matter of fact, pushing the input too far into the boot may cause some of the stars to be dim. If this occurs, just pull the connection apart and reinsert.

#### Twinkling effect

Not all installations will have a twinkling or shooting star effect. For those that do, here are some guidelines:

For drywall or joist installations, where there is no access to the ceiling, The twinkle controller (smaller ceilings) and the twinkle light source (larger ceilings) should be located within 2 feet of the light source. (Drop ceilings will use a twinkle controller, and mount at the center of the room. The twinkle controller or light source requires 110V power, so plan the electrical according to the type of ceiling installation.)

Route twinkle fibers from the controller or light source to the area of ceiling currently being installed. You should be able to use the same harness routing holes in the joists. With the drywall resting on scaffold or dead-man supports, drill .030 holes in the drywall, and thread the twinkle fibers through the drywall. Use a bit of tape to hold the fibers, keeping them from interfering with or obstructing the drywall screw holes. Pull the twinkle fibers through the holes about 12".

Once all connections have been made, raise the drywall to the joists, taking care to insure harness legs are not pinched between the joist and the drywall. Using the pre-drilled location holes, drive the screws through the drywall into the joists to secure the section. Continue in this manner, working from the perimeter inward, until the ceiling is installed. If there is power to the lightsource, you might consider turning it on to insure all connections are functioning.

## **APPLY THE DRYWALL TAPE AND MUD**

Take care and patch the screw heads as usual.

During the mud feathering process, if a hanging fiber interferes with feathering a joint, try avoiding it, or hold the fiber at right angles to the joint and try troweling right over the fiber... then allow the fibers to fall free from the mud. When the first coat is done, sand or sponge off the resulting bump, and patch the indent left by the fiber. Repeat until feathering is complete. Cover the final fiber marks as you would cover a screw or nail hole. This step could be very tedious, so plan your star layout carefully. Instead of sanding, you may consider sponging the joint to feather it.

Paint the ceiling; Spraying is preferred. If you are using a roller, roll right over the fibers, but minimize rolling, as repeated bends may fracture the fibers. Then trim the fiber end(s) with scissors or knife, and push back the extra length of fiber into the ceiling, leaving a bit (.125 - .250") extended. The job is complete.

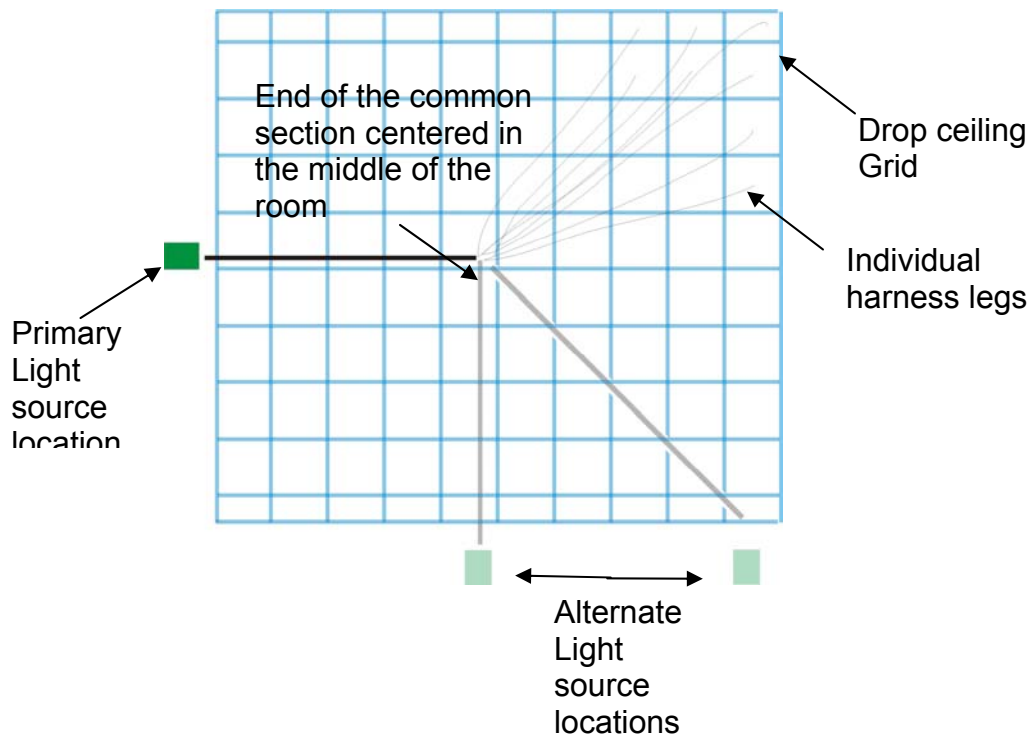
Of course, if you can hang the ceiling before the carpenters lay the sub floor for the room above (or the room has a crawl space above it), connecting the harness is much easier. You might also choose to eliminate all the prep work, hang the ceiling, then drill and install the star bundles from above...(but you'll deal with the fiber being pinched by the sub floor later). It might also help if you worked with smaller (4x4) sheets....but of course, doing so increases the number of joints...try to avoid this.

## **DROP CEILINGS; THE EASY APPROACH**

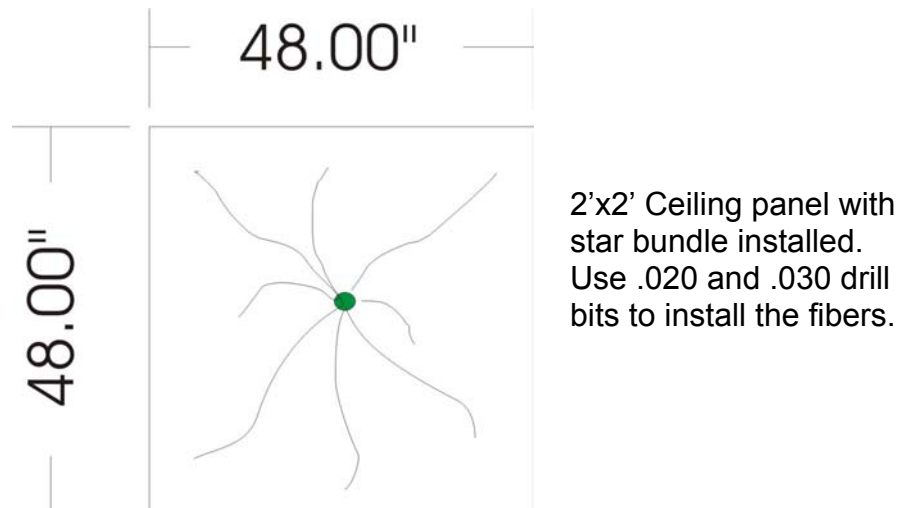
The simplest installation is in a drop ceiling... design the ceiling using a panel with a multiple of 4 sq ft... i.e. 2x2, 2x4 or 4x4

Locate the light source storage area, making sure it is open or ventilated to keep the lightsource cool. Then install the wiring for the light source outlet. The harness is designed to provide ample length to locate the lightsource in a convenient, easy to reach area of a closet or custom storage space.

Locate the end of the common section of harness in the center of the room, and route the common end of the harness back to the light source location. The harness will lay on the grid initially. As the installation progresses, panels will be installed, eventually supporting the harness.



For purposes of illustrating an example, the grid above is 2x2' squares. Working from the corners of the room first, then completing the perimeter, load the star bundles in the panels, working on a table. Remember to use two different drill bits; .020 and .030 for each of the fiber diameters in a star bundle {50/50 split}).



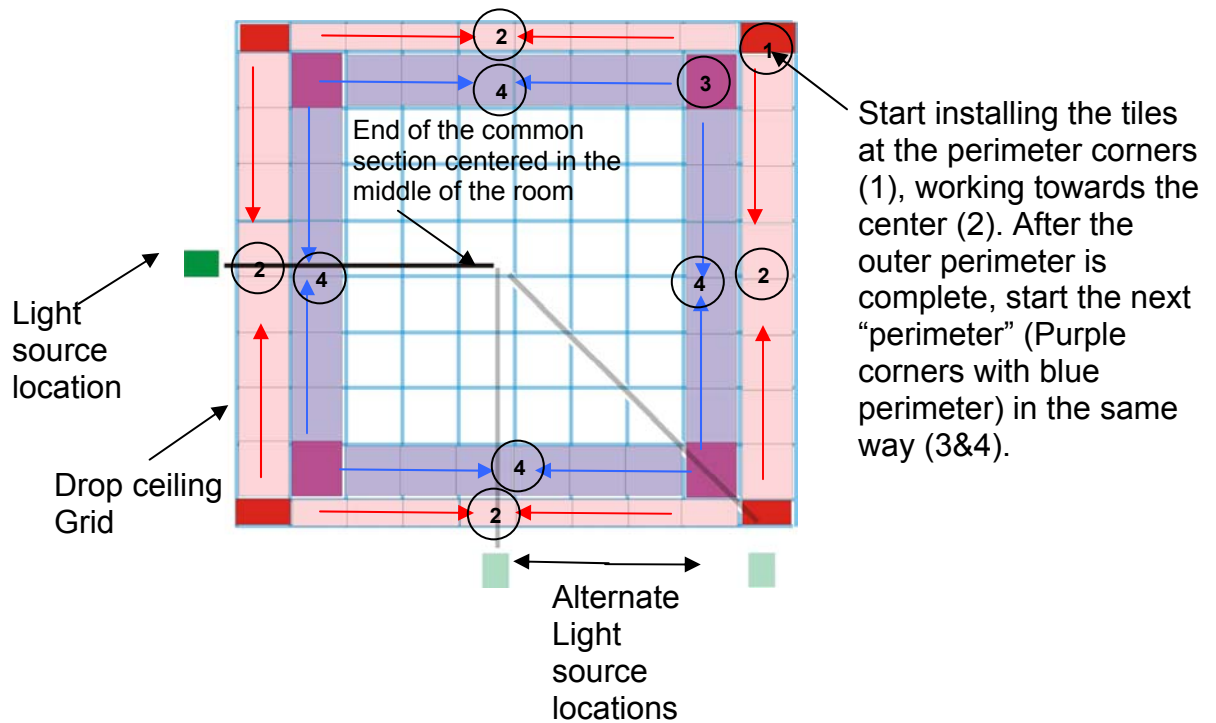
Slip the panel into the ceiling grid.

Measure the direct distance from the end of the common to the star bundle you just installed, then select a harness leg closest to this measurement. Each leg is color-coded to help define its length.

Use the chart in the back of this guide to help make your selection. Be sure to use the chart designed for drop ceiling installations.

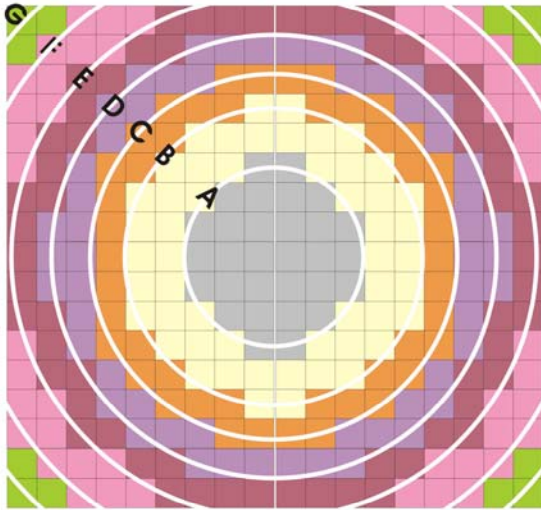
Uncoil the selected extension leg, thread it through the grid, raise the panel and attach the harness to the star bundle. Push the input into the harness boot about half way... there is no need to force the connection.... As a matter of fact, pushing the input too far into the boot may cause some of the stars to be dim. If this occurs, just pull the connection apart and reinsert.

Continue in this manner, installing the corners first, then the remainder of each "perimeter", working from the corners toward the center, until all tiles are installed.



If you plan to work with acoustical panels... we can load the star bundles for you, or you can do the work yourself as described above. If we're going to do it, you'd need to send us a room layout... the panels would be precut by you, or have them manufactured to size and shape. We do not manufacture the panels... we load the stars into panels you supply. These panels may sit in a track or are fixed with adhesive... tell us what you're planning, we'll work with the installation method.

# DROP CEILING HARNESS LENGTHS



- 24' Harness leg length
- 21' Harness leg length
- 18' Harness leg length
- 16' Harness leg length
- 13' Harness leg length
- 11' Harness leg length
- 7' Harness leg length

# JOIST CEILING HARNESS LENGTHS

34	-34' Harness leg length
32	-32' Harness leg length
30	-30' Harness leg length
28	-28' Harness leg length
26	-26' Harness leg length
24	-24' Harness leg length
22	-22' Harness leg length
20	-20' Harness leg length
18	-18' Harness leg length
16	-16' Harness leg length
14	-14' Harness leg length
12	-12' Harness leg length
10	-10' Harness leg length
8	- 8' Harness leg length
6	- 6' Harness leg length
4	- 4' Harness leg length

## Star bundle sp

P/N	Stars sq/ft	#of fibers in bundle	Tail length	.75mm		.5mm	
FTISC17182	0.5	2	24"	1		1	
FTISC17183	1	4	24"	2		2	
FTISC17184	2	8	24"	4		4	
FTISC17185	3	12	24"	6		6	
FTISC17186	4	16	24"	8		8	
FTISC17187	5	20	24"	10		10	