SOFTlab

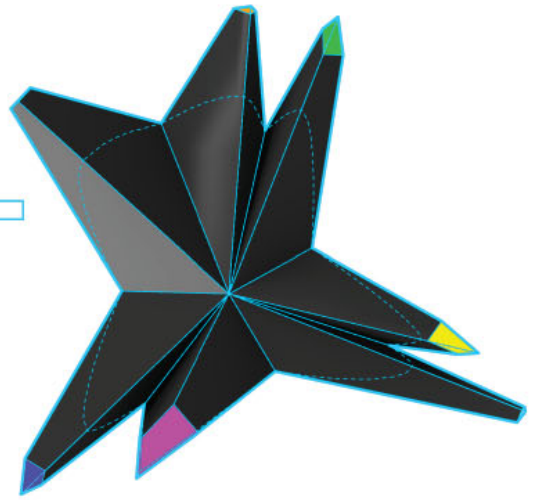
hello@softlabnyc.com
212-481-5759

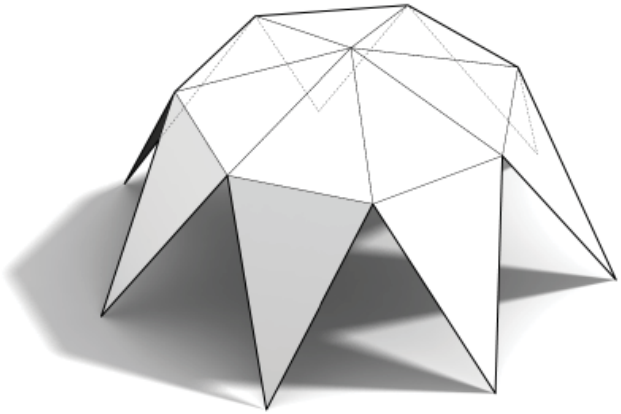
www.softlabnyc.com

Star Light | Flatiron Plaza Holiday Installation

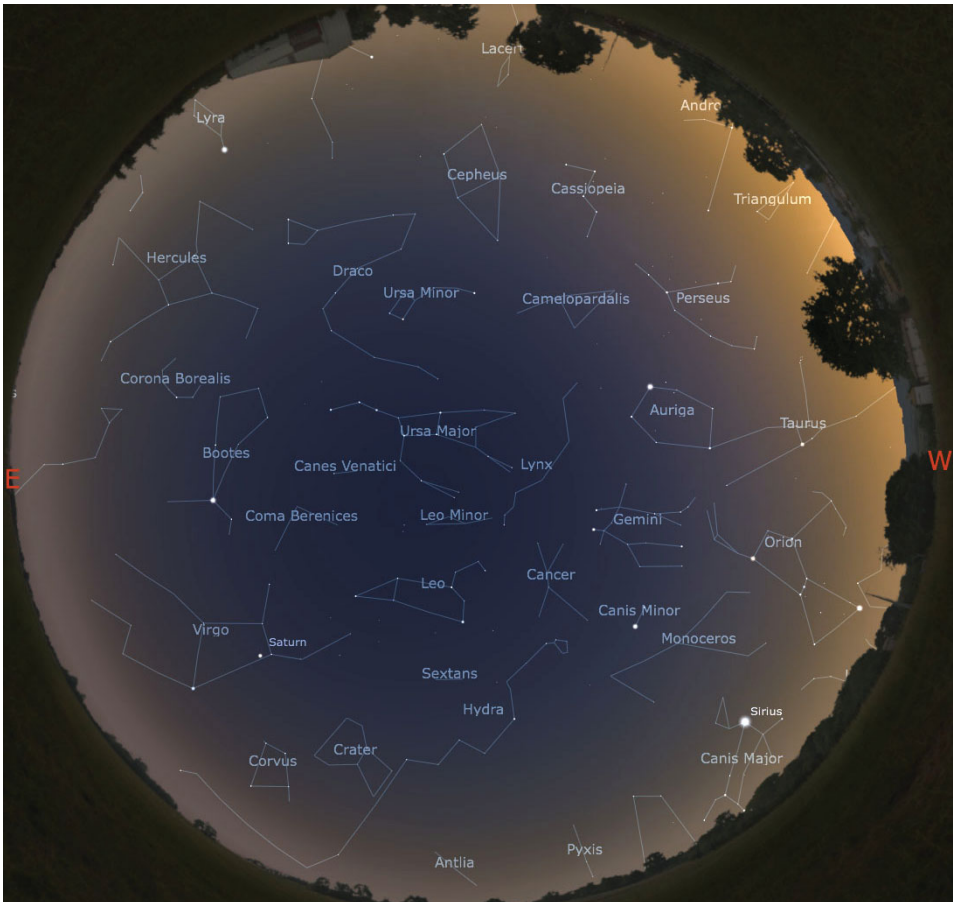
presented 07-28-15

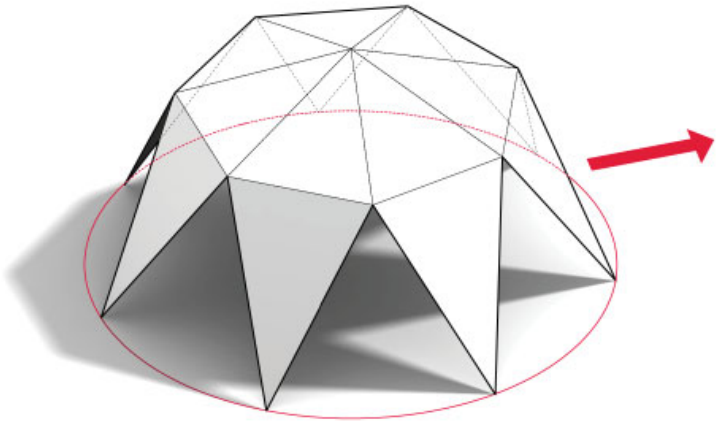
STAR LIGHT



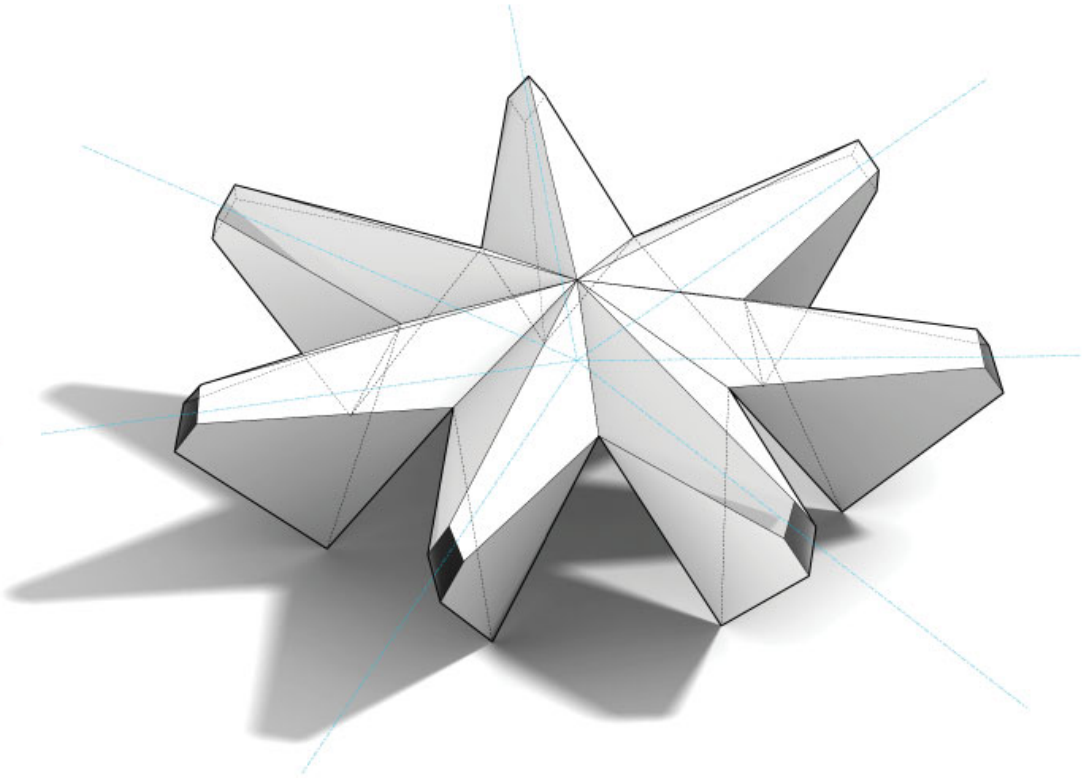


The gazebo is a typical pavilion that acts as an object or figure within a park. It serves as both an ornament within a landscape and as a place to rest, entertain and view the surrounding vista. The origin of the word gazebo is unknown and has no standard etymology, but is suggested to be from Macaronic Latin gazebo ("I shall gaze"). Flatiron Plaza is the ideal location to view and observe the many landmarks and activities surrounding Madison Square.

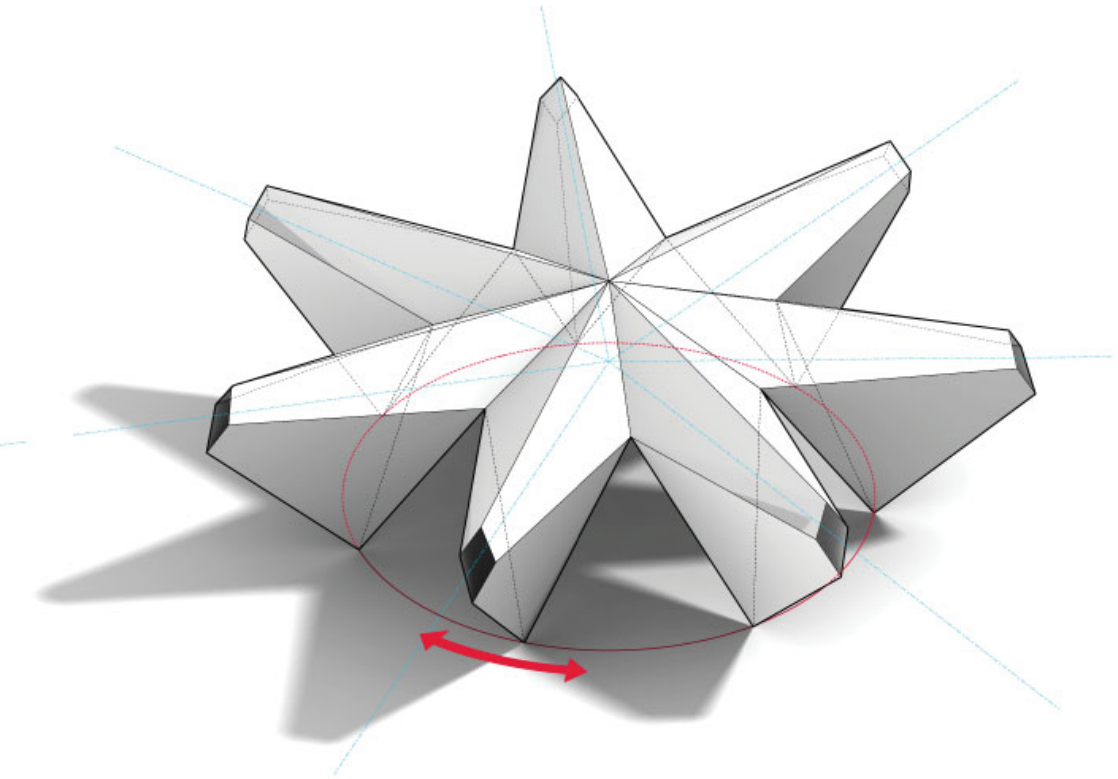




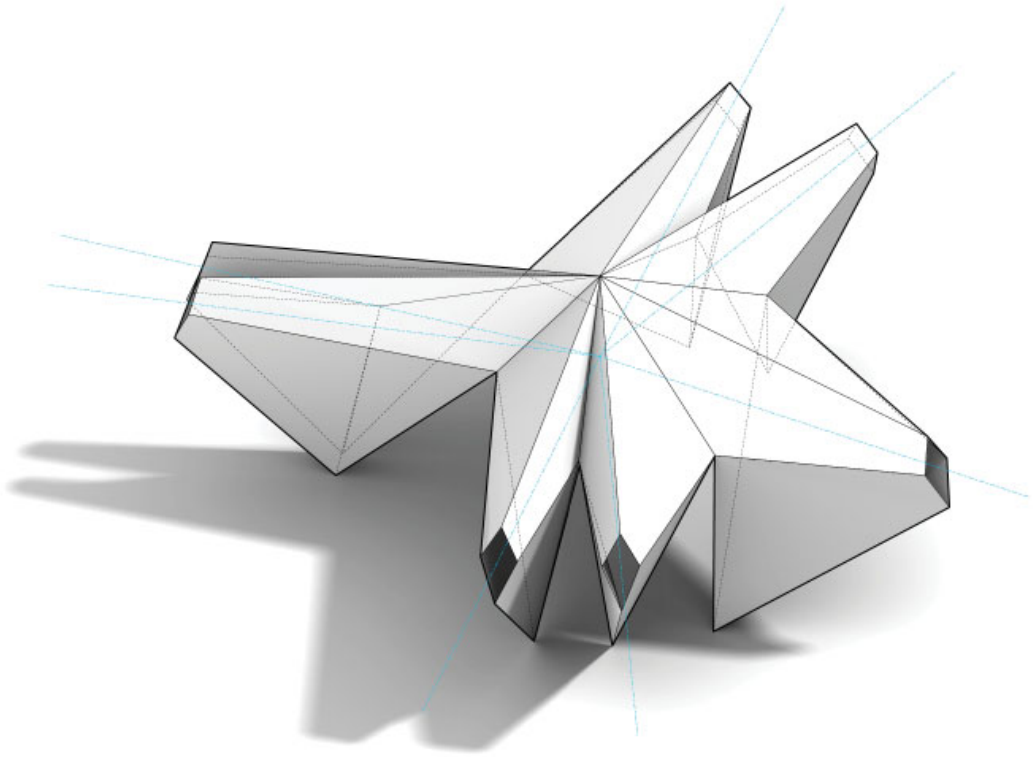
By pulling out the sides of this seven sided gazebo, “scopes” are created to frame specific landmarks and activities within the area. These landmarks can be seen as celestial bodies that make up an urban constellation.



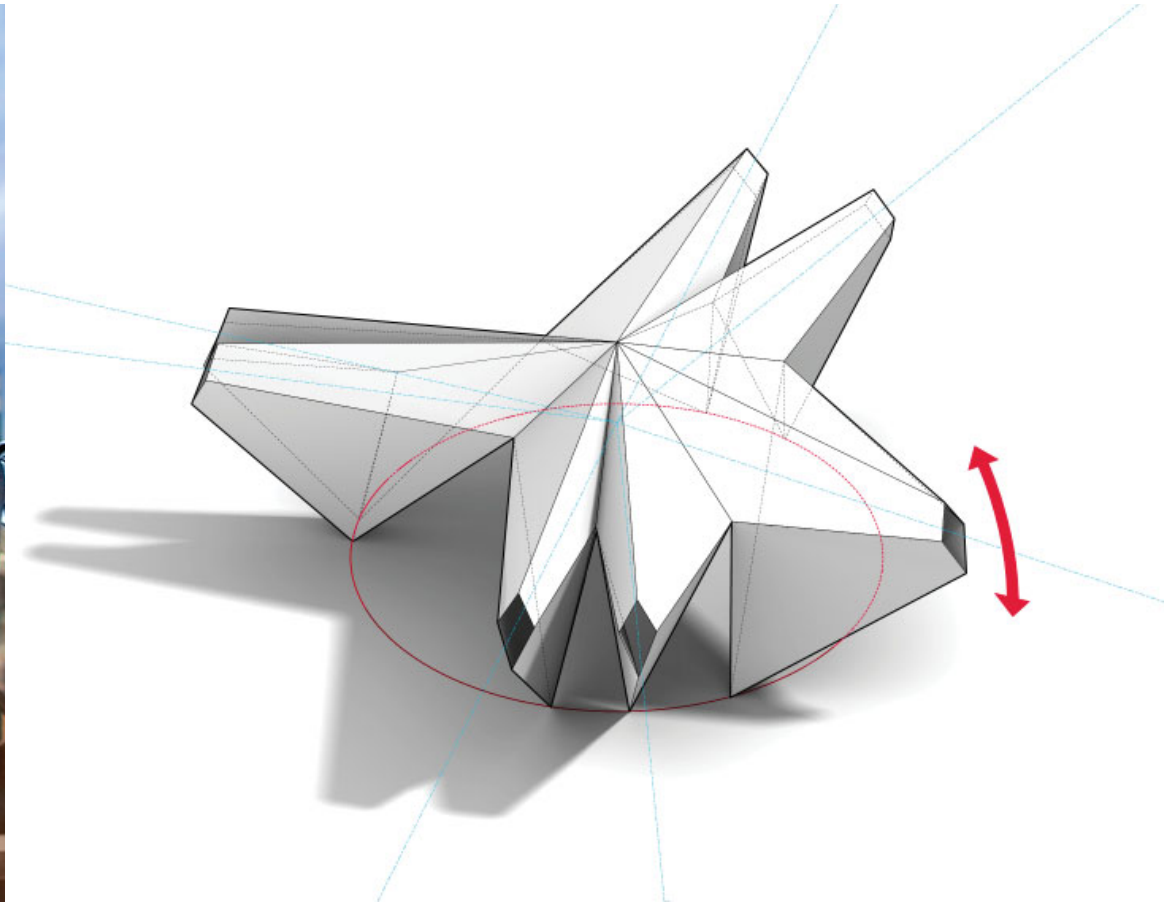
By adding these view cones the figure of the pavilion takes on the iconic form of a star. Stars were perhaps the first landmarks, used as constants to navigate both on land and see. Often used as a symbol of the holidays, reminiscent of pilgrimages made to holy sites.



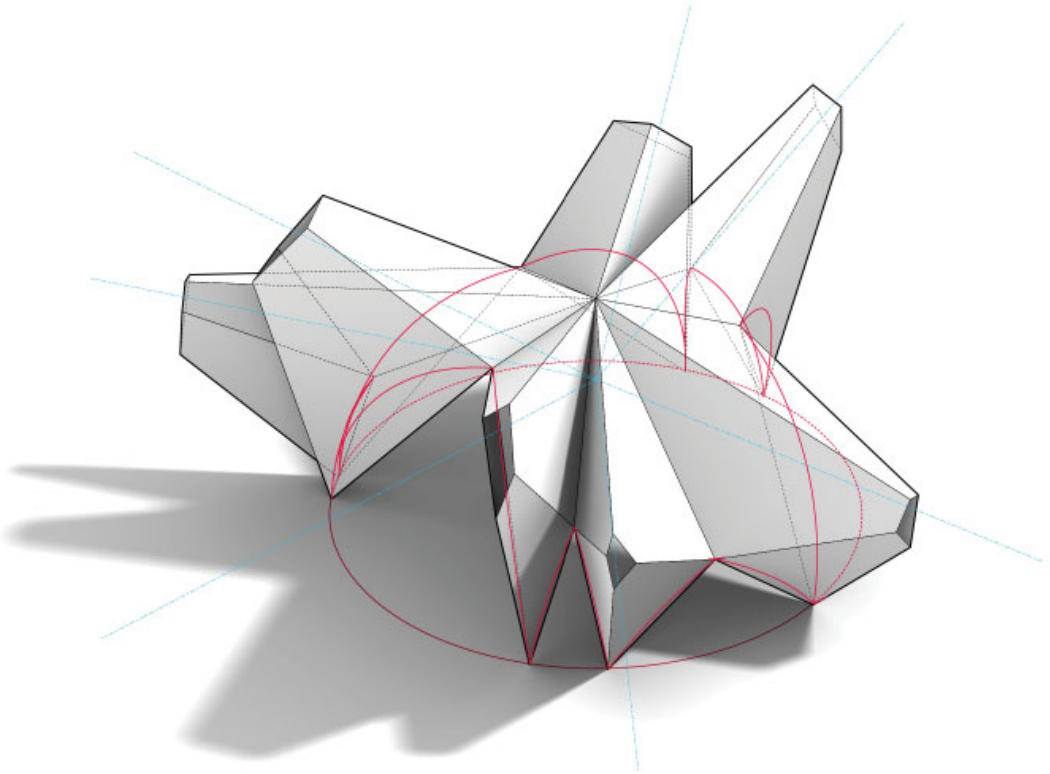
The viewing cones are rotated in plan to align with particular landmarks and add playful pedestrian encounters. The cones will be treated with mirrored surfaces to multiply and fragment the constellations, remixing them in unexpected ways.



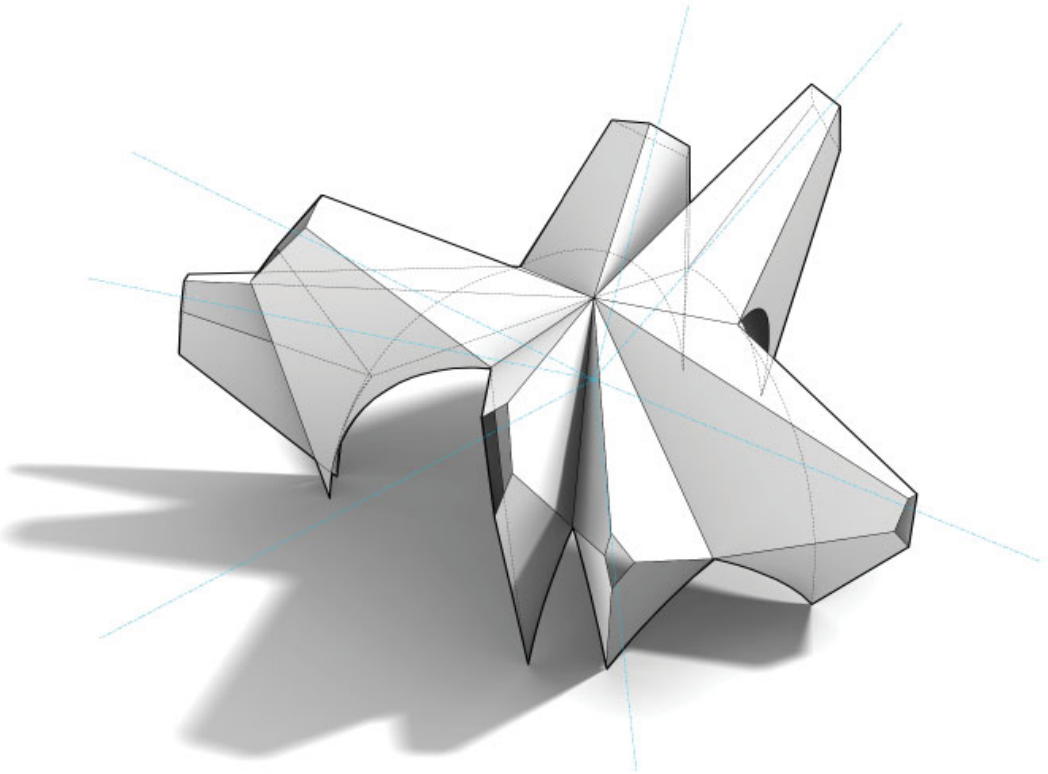
This configuration will act as a centralized landmark similar to the north star. A pole star that aligns with the earth's rotation, making it appear that all other stars rotate around it. This pavilion will act as a centralized location to view the urban constellation of Madison Square.



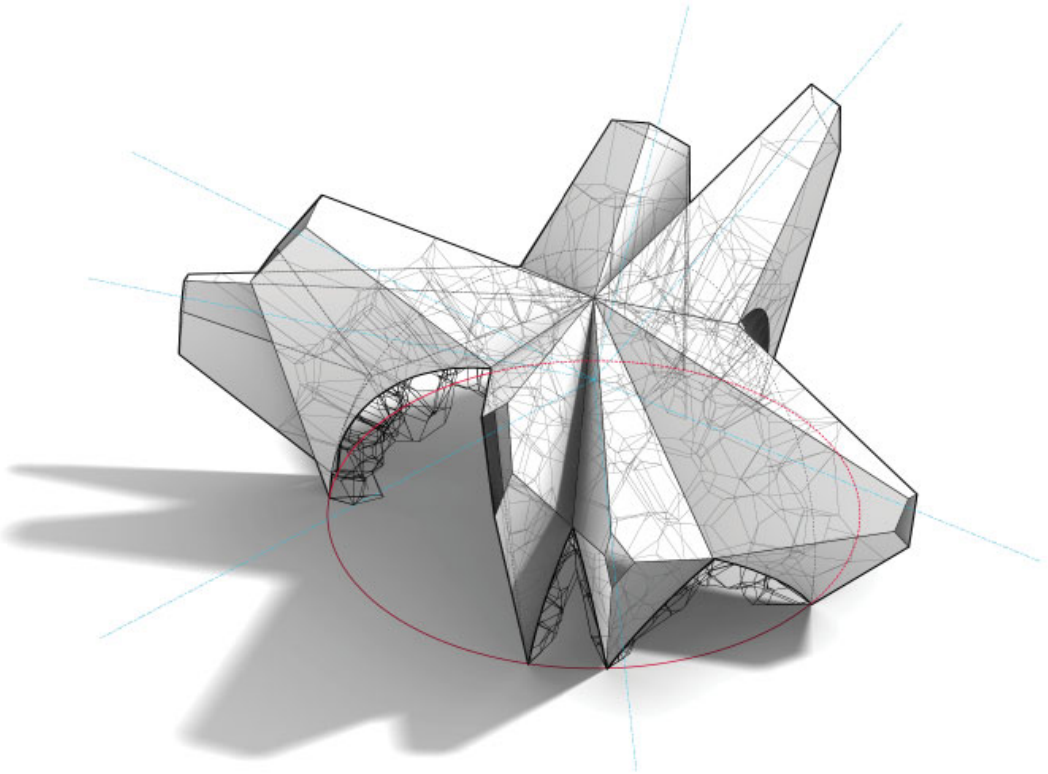
These cones will be rotated in plan and on the vertical access to more precisely orient the viewing axes to the various landmarks and activity. By orienting the cones in both axes the pavilion will take on a figure that is much more elusive. Appearing different from all sides while retaining a star like form from above.



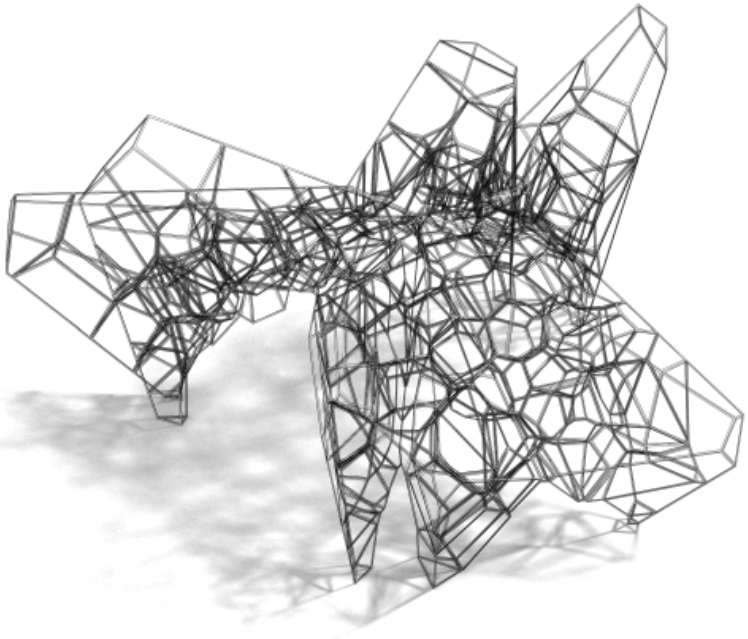
Although the overall shape is irregular, by rotating the cones along a constant radius we are able to use the legs to produce a dome of vaulted arches. These rotated vaults will make the structural shape of the pavilion extremely stable.



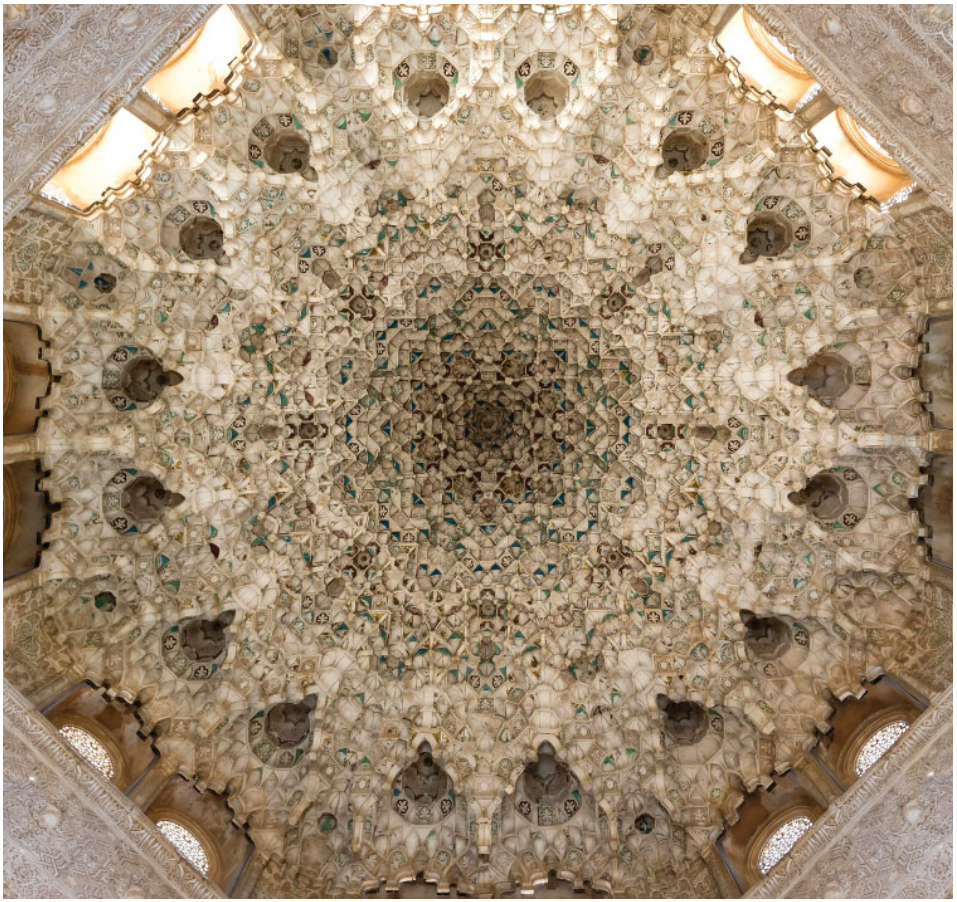
The cones are simply a shell, but we can create series of complex cells within this shell that will act as stones to provide a simple compression arch.



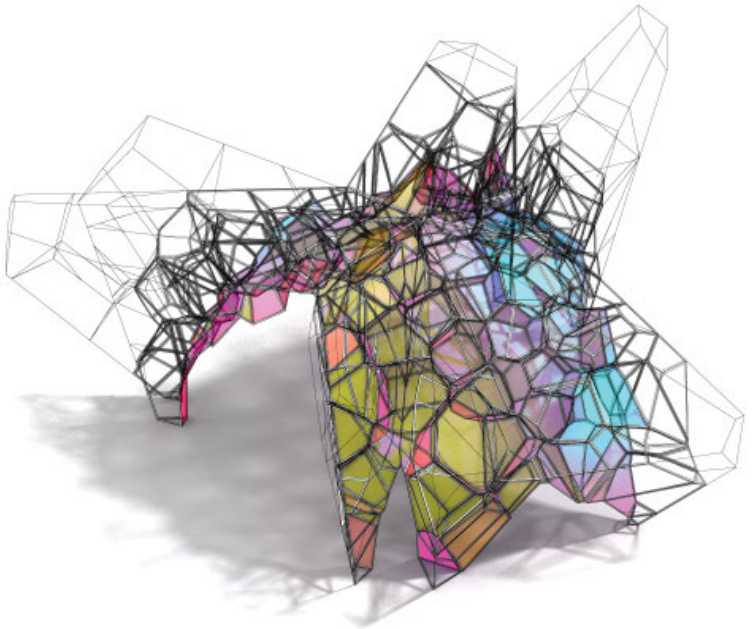
These stones or cells will be made of an open aluminum frame system. Not only will this provide an extremely lightweight structure, but it will also give the inside of the pavilion a much more articulated character. Much like a geode, the exterior of the pavilion will be smooth while the interior will appear to be made of crystalline like clusters.



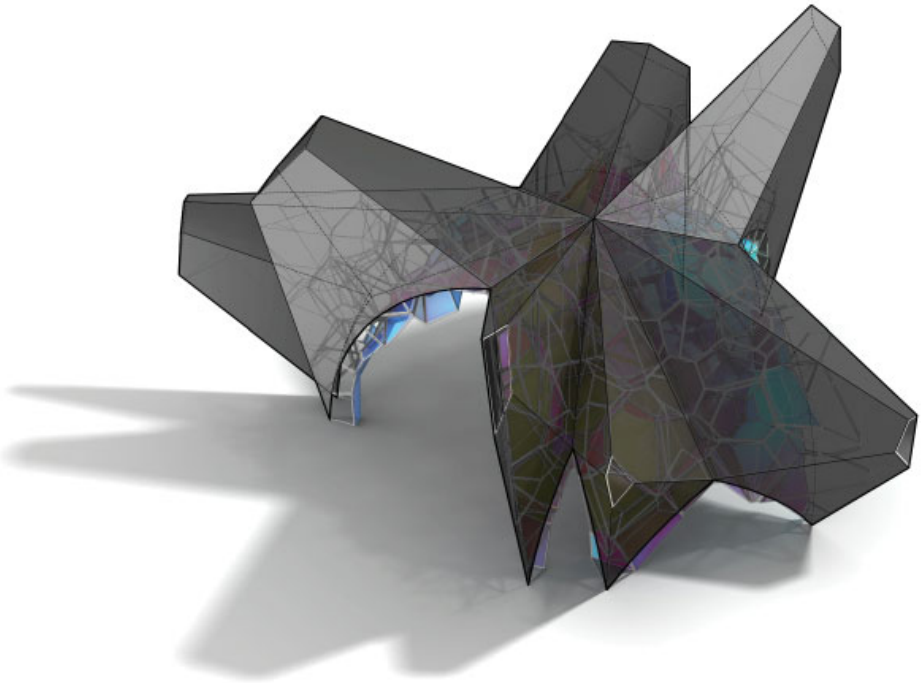
The cones are simply a shell, but we can create series of hollow cells within this shell that will act similar to stones in a simple compression arch. This lattice like structure will act like a complex space frame. Optimized through analysis, it will act as a sponge like structure. Similar to soap bubbles it will rely on the available pressures to generate its form. The overall structure will be both lightweight and optimized for the particular shape of the pavilion.



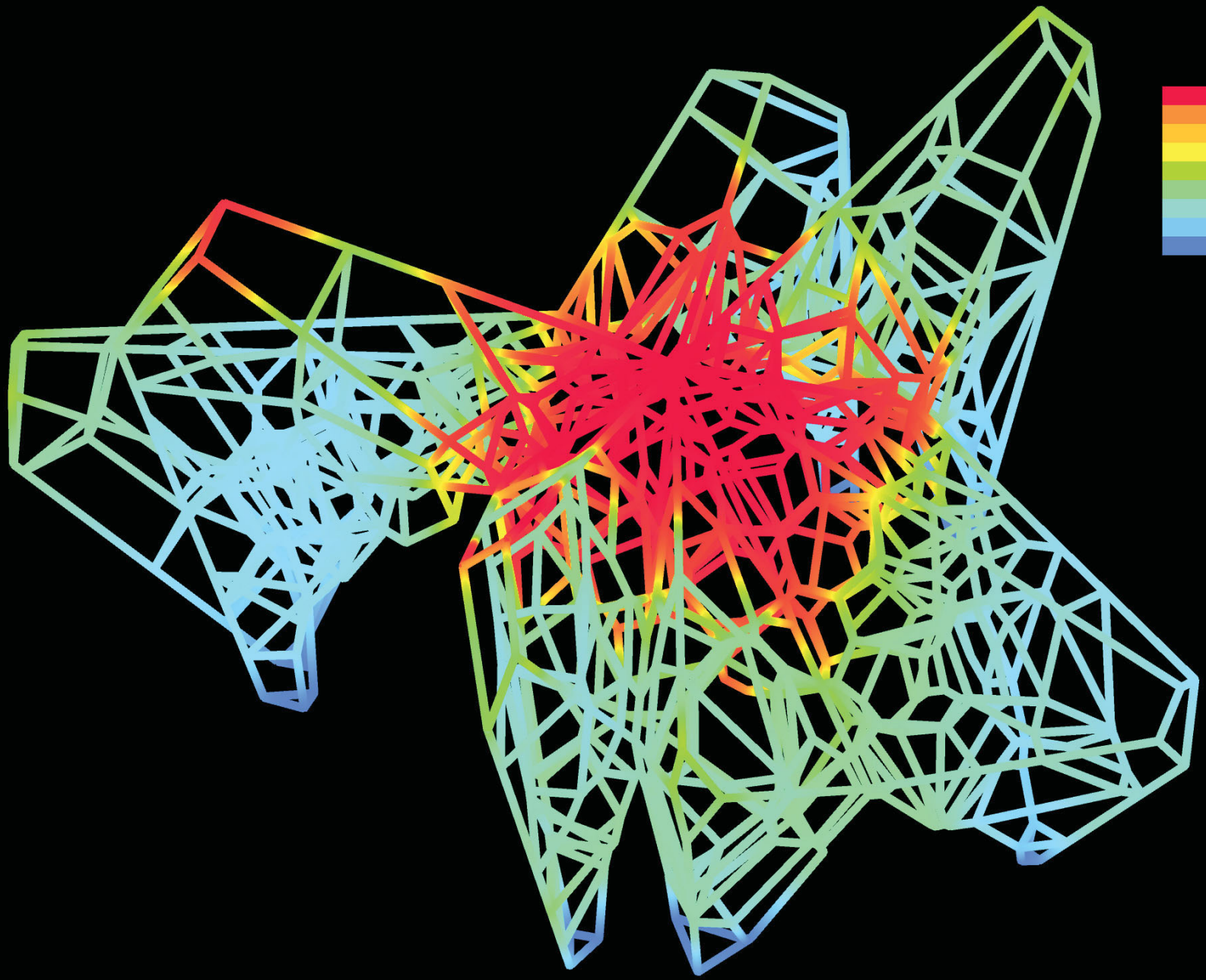
The cells forming the done will be smaller and tighter to create the main structural shell, while the outer cells holding the surface of the cones will be larger as the forces here are less.



The underside of this cell-like dome will be clad with dichroic panels, acting as a lens to both see the framed views, look into the pavilion, and filter light during the day as the sun moves around the pavilion. Dichroic film changes both its reflectivity and color as the angle of view is changed, giving the crystalline underside of the dome an other-worldly quality.



The outside panels of each of the view cones will be clad in Alucobond, a light weight composite aluminum panel. The panels will have a mirrored interior. The outside will be clad with 3M Scotchlite, a retroreflective film. When pedestrians take photos with a flash in front of the cones the film reflect the light as if it is a light source, dramatically changing the background.



Each view cone will be constructed separately. They will all be attached as a series of supporting arches on site and clad using prefabricated panels. The structural analysis diagram above show the main force at the top of the dome being distributed to the base of each arch. The cones will act as lightweight armatures cantilevered off the arches helping to push the feet back as a counterweight.

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1. Concept
2. Design
3. Past Work
3. Appendix

presented 07-28-15

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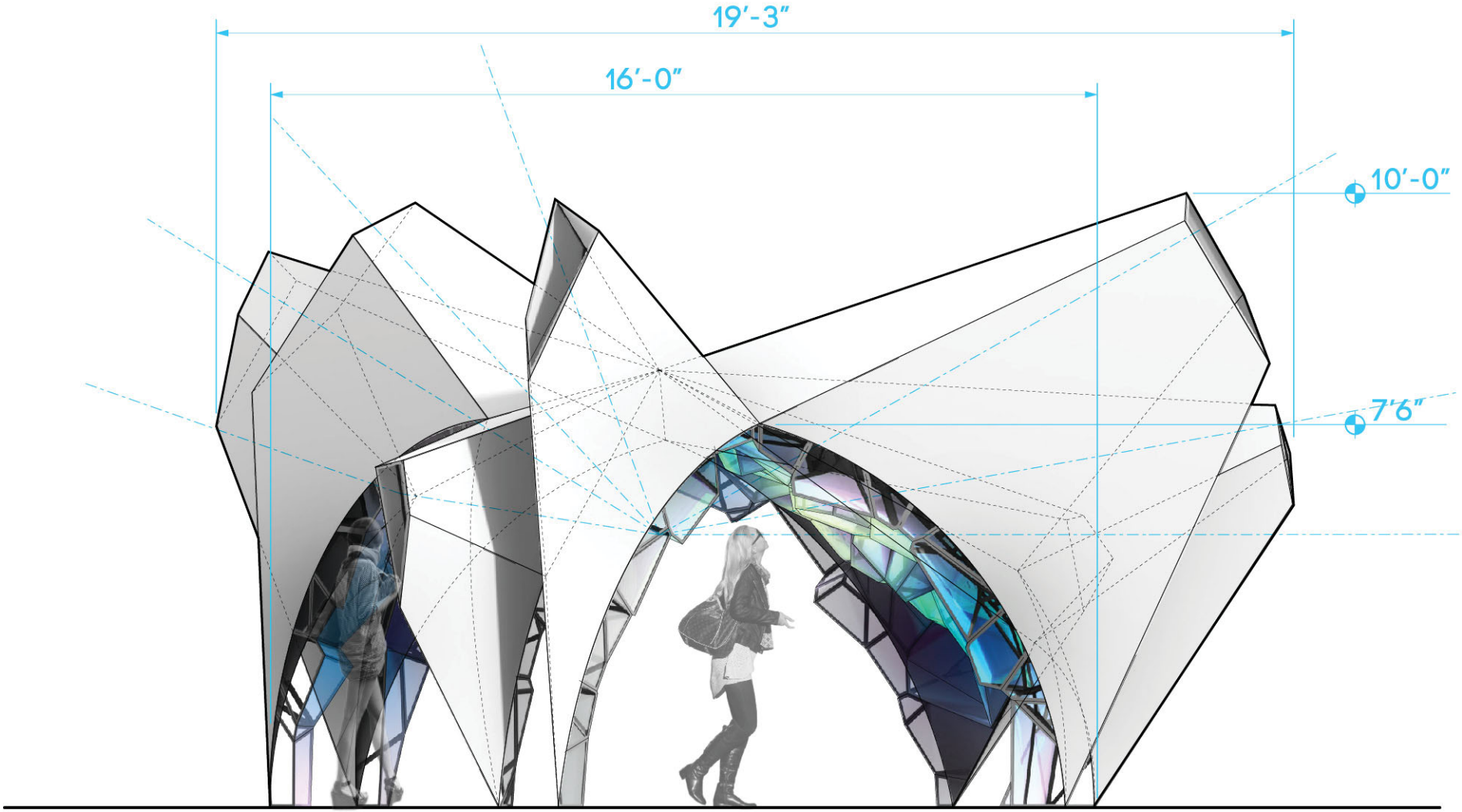
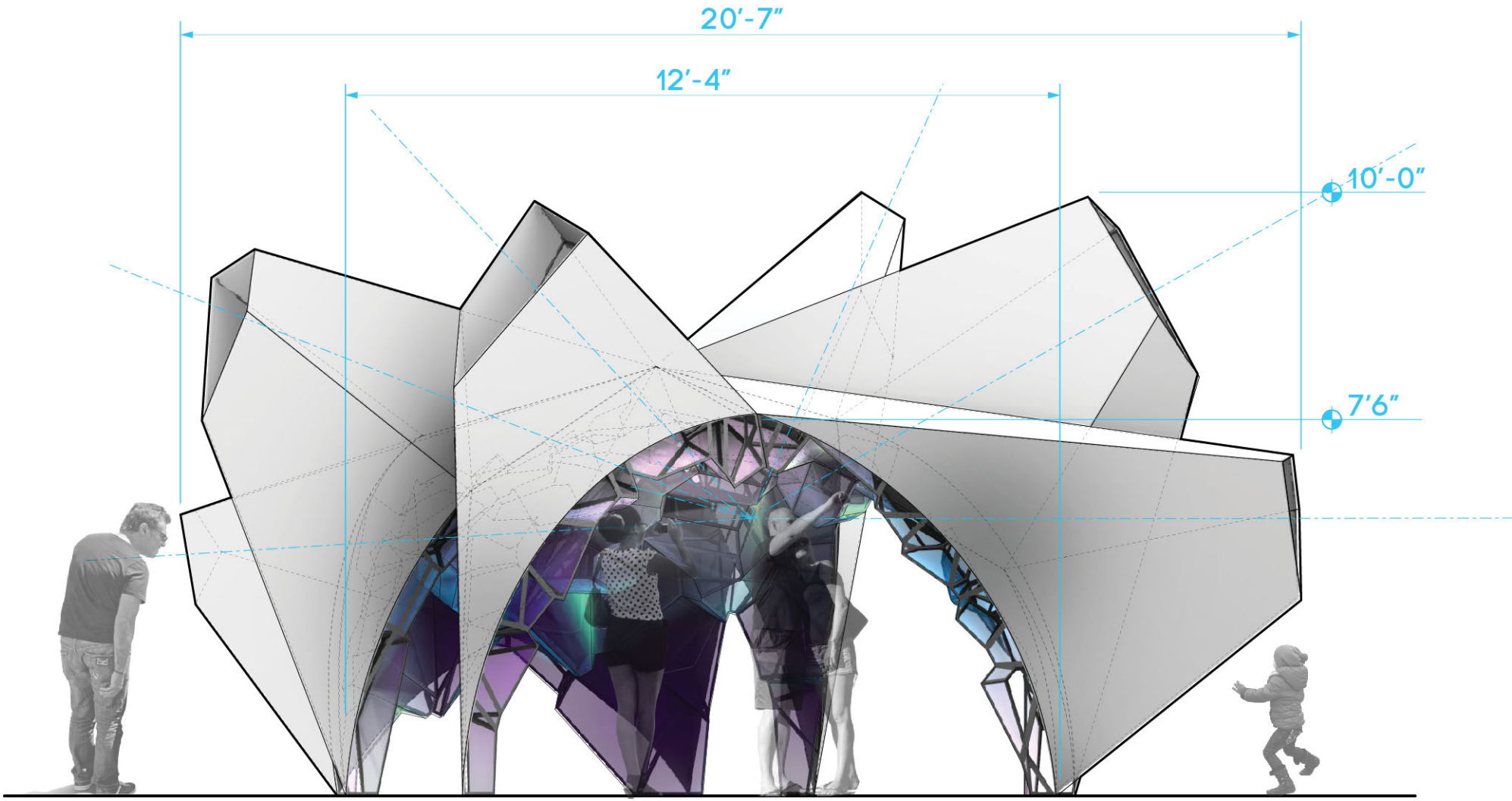
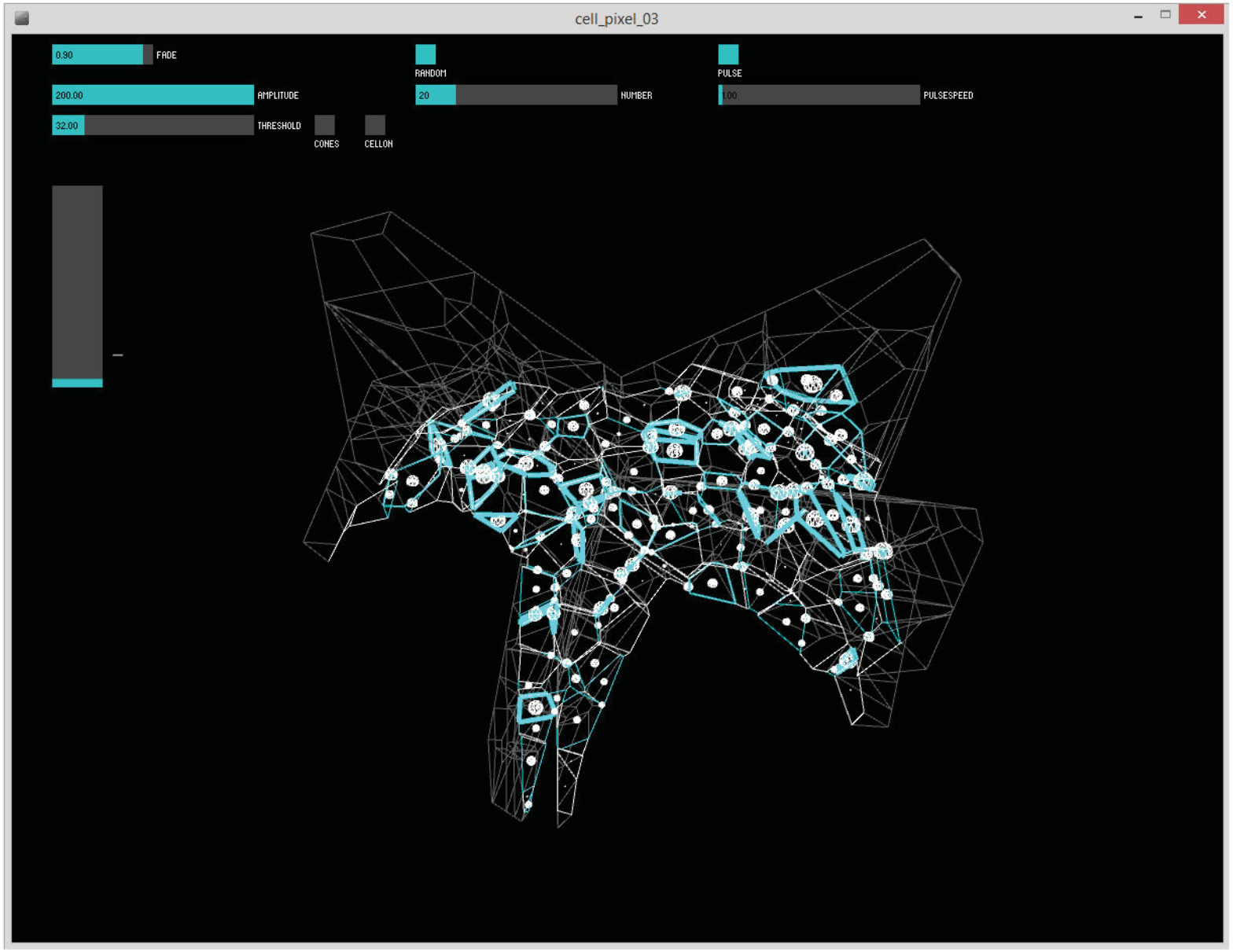
8'-0" Radius of inner supports
12'-4" Maximum outside radius

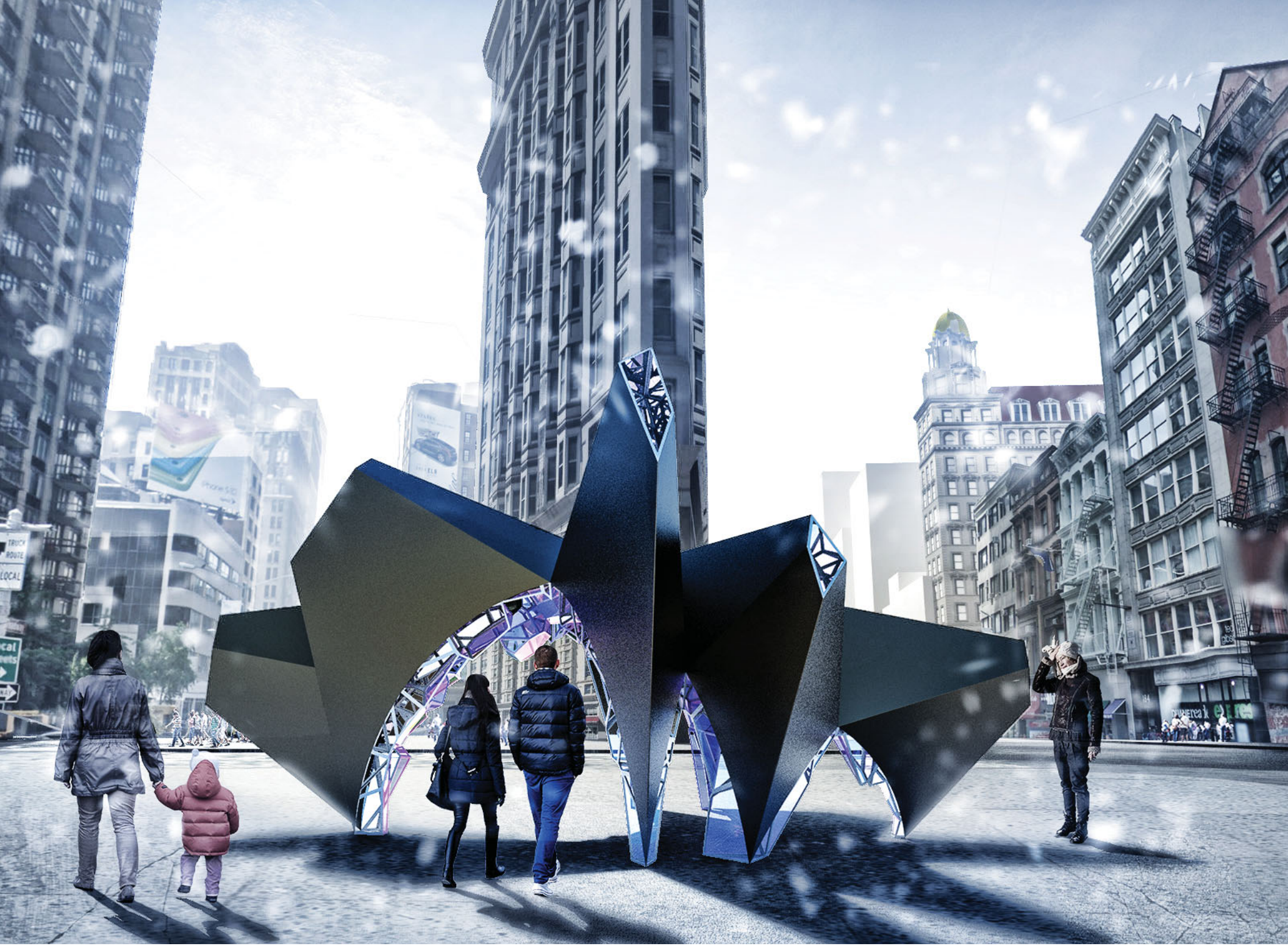

19'-3"
16'-0"
10'-0"
7'6"



East Elevation



There are 120 cells in the dome of the pavilion, each clad on the bottom with dichroic. Each of these cells will have a battery powered LED assembly that can be individually controlled. As these turn on they will also light up the interior of the cone which will be clad with reflective Alucobond, casting colored light throughout the cone. Various behaviors can be programmed to respond to movement and/or sound of pedestrians entering the structure. Here is a quick mock-up of a potential interface for controlling the piece: https://vimeo.com/134678539 password: FPI2015


TRUCK
ROUTE
LOCAL

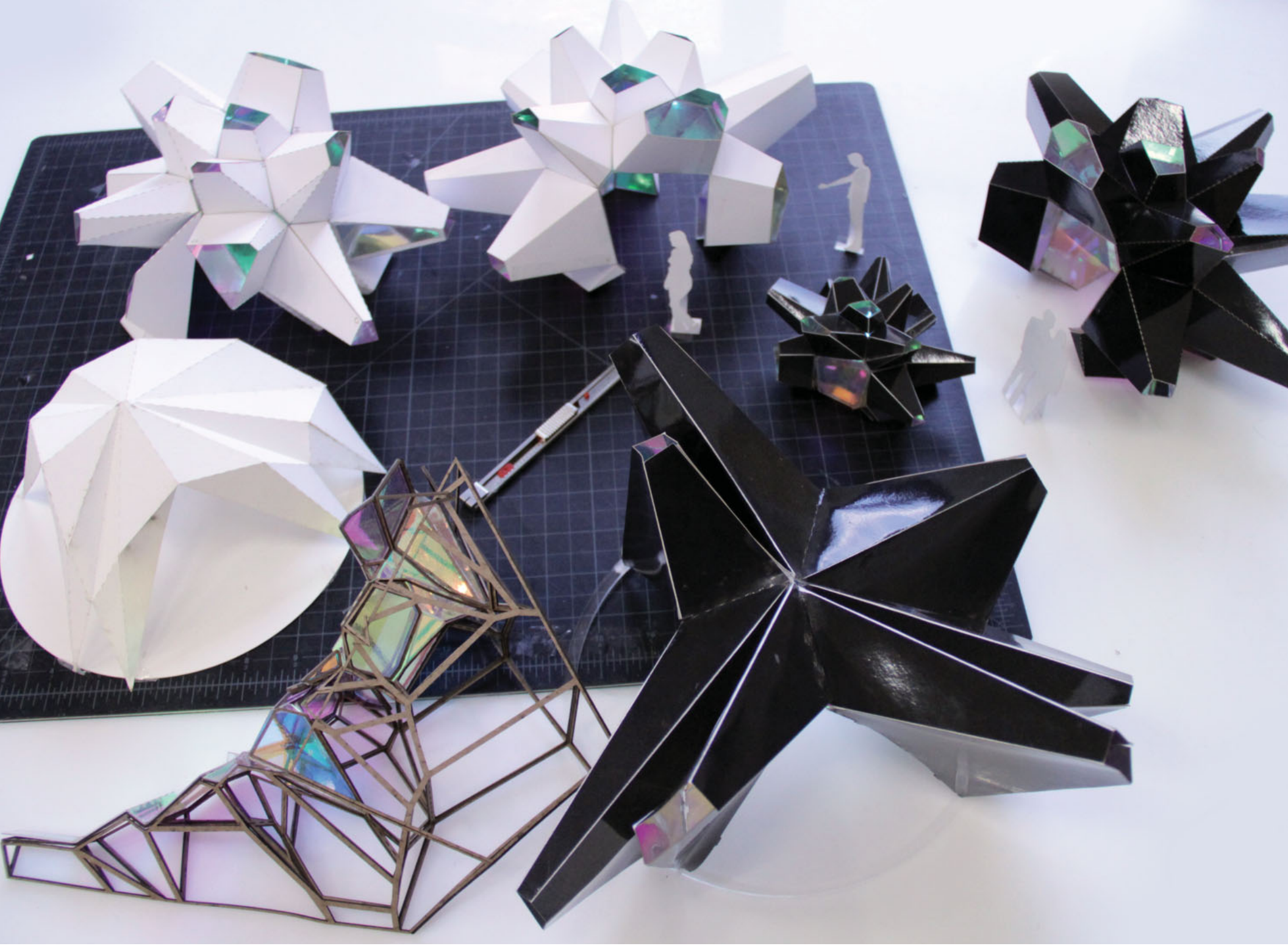
softlabnyc.com/sphere.html

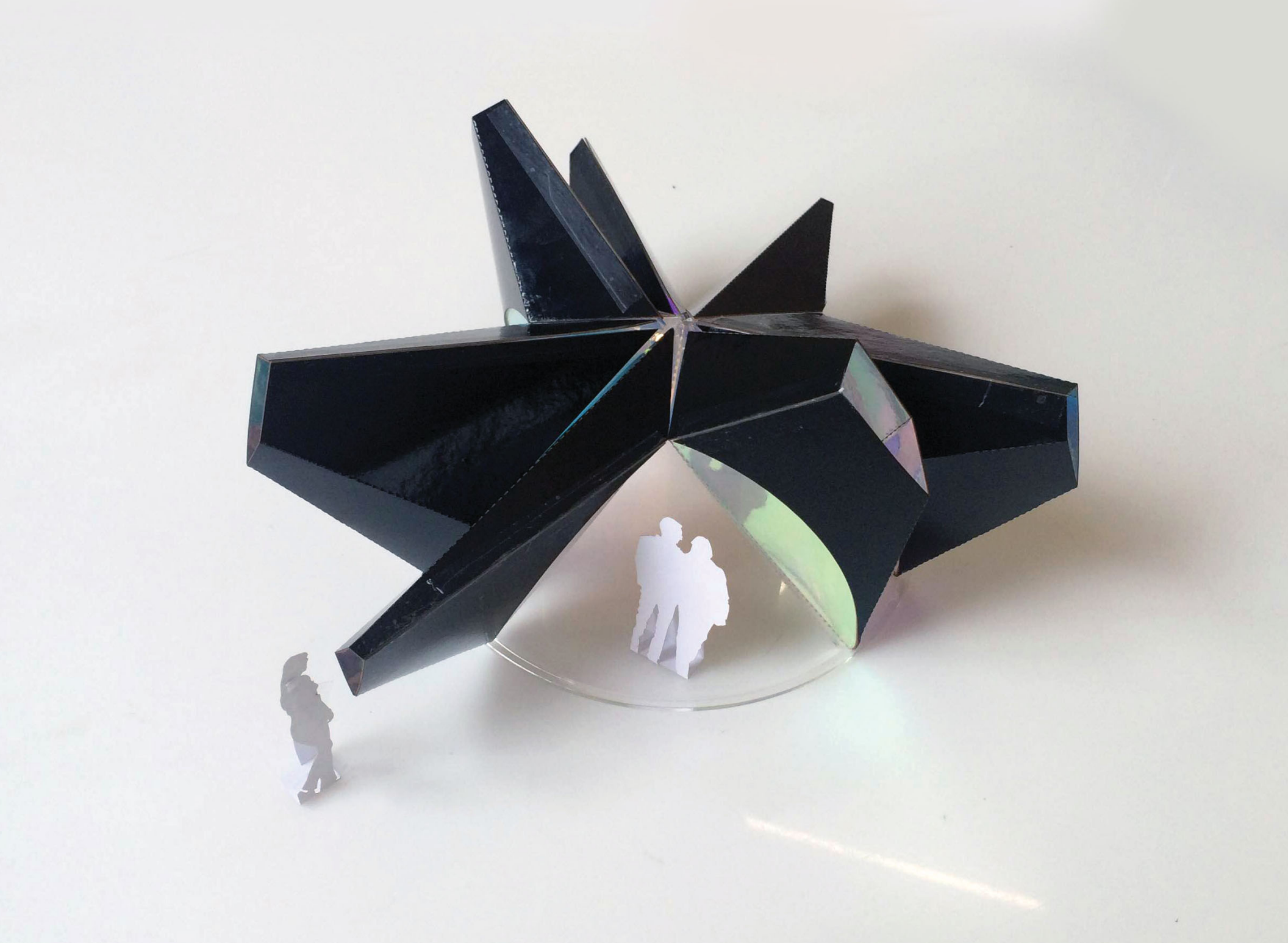
SOFTlab

t: (212)481-5759
hello@softlabnyc.com
34 West 27th Street
NYC, NY 10001

Rotate by holding down the left mouse button and zoom in/out with the scroll wheel

We created an interactive panorama of the interior of the structure using Google Photo Sphere on the site:
http://softlabnyc.com/FPI2015.html





The web like stucture will be very light weight

The exterior of the view cones will be clad in Scotchlite film or a fabric sleeve

A photo with a flash taken of the cone during daylight

At night interior LEDs will reflect through the dichroic producing a vibrant landscape oof color