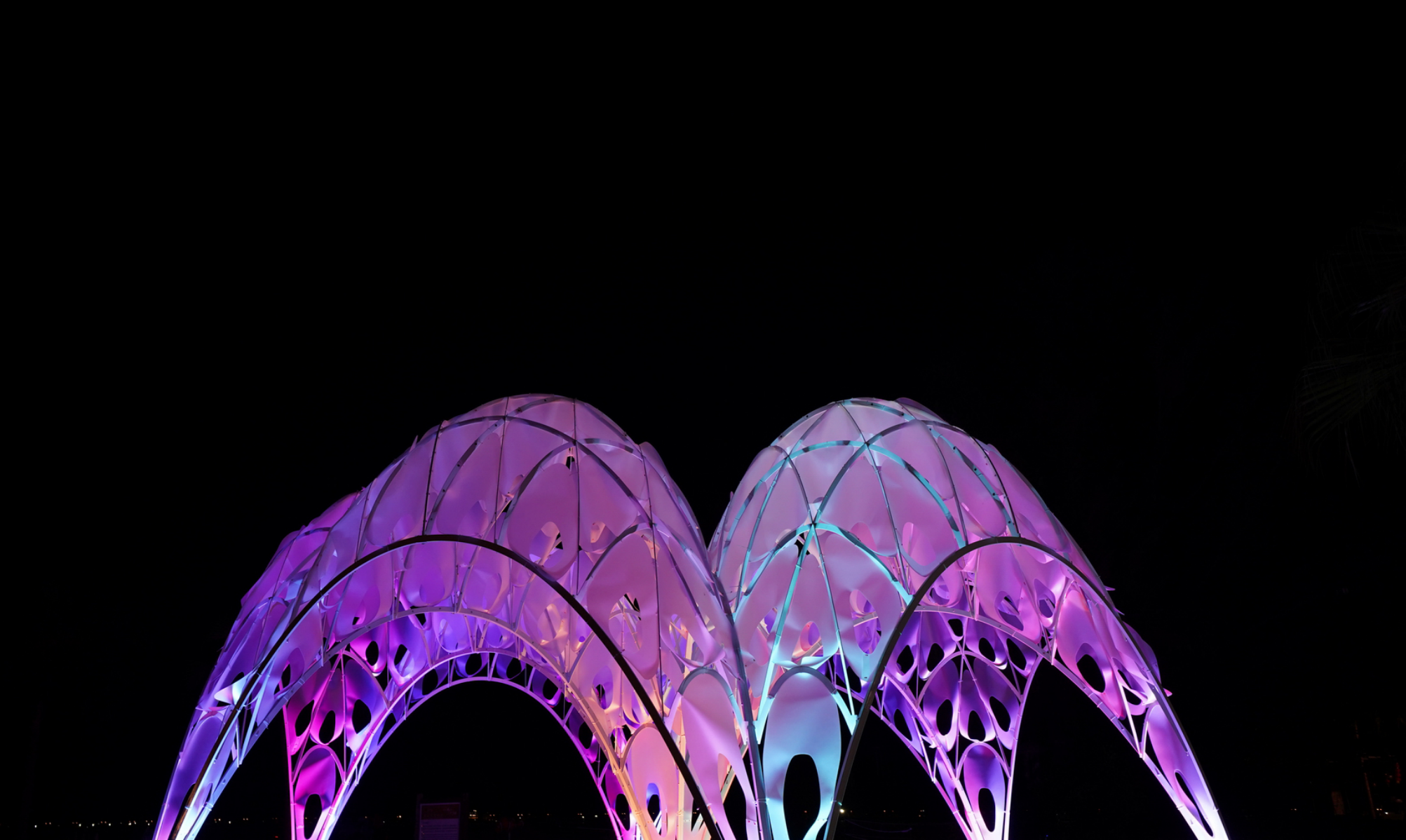

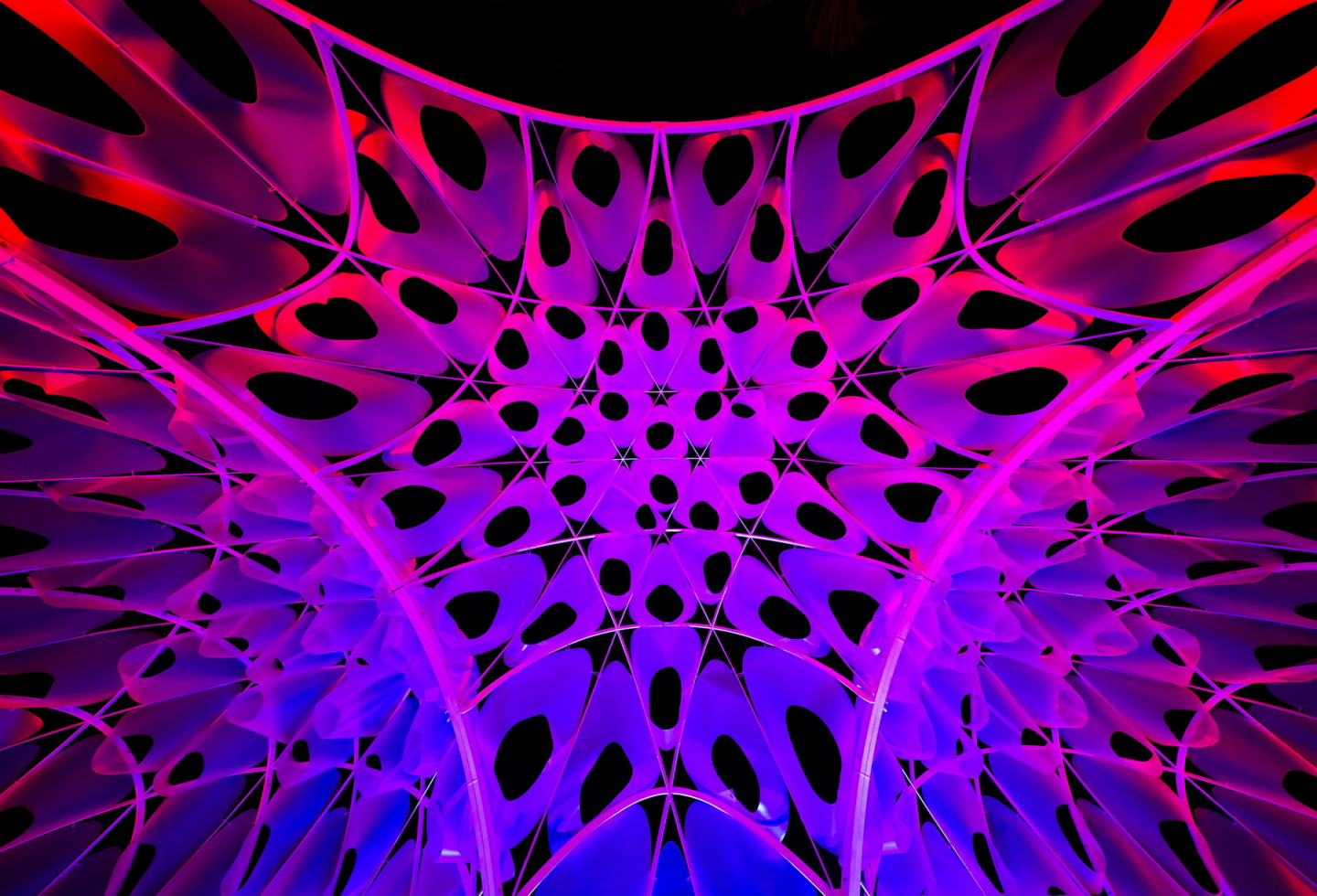

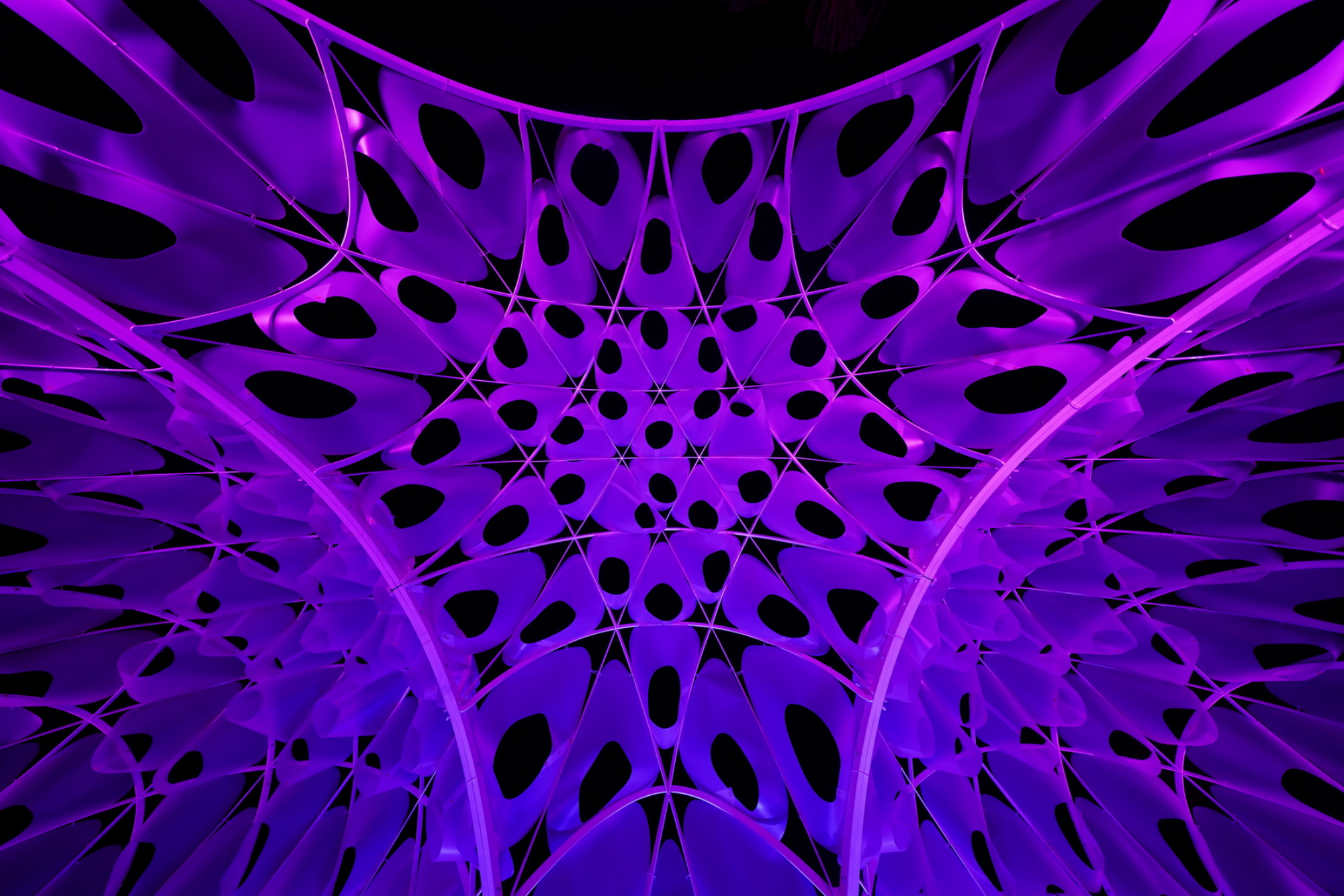

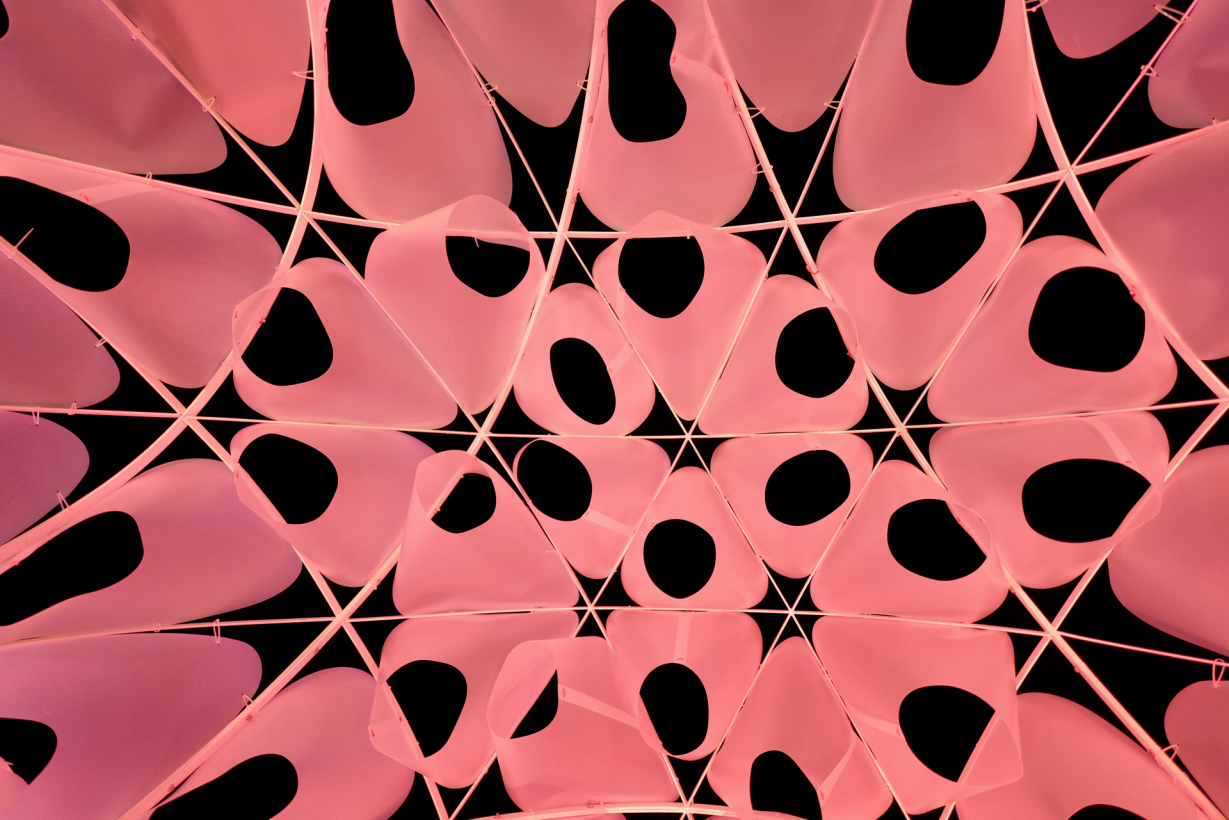

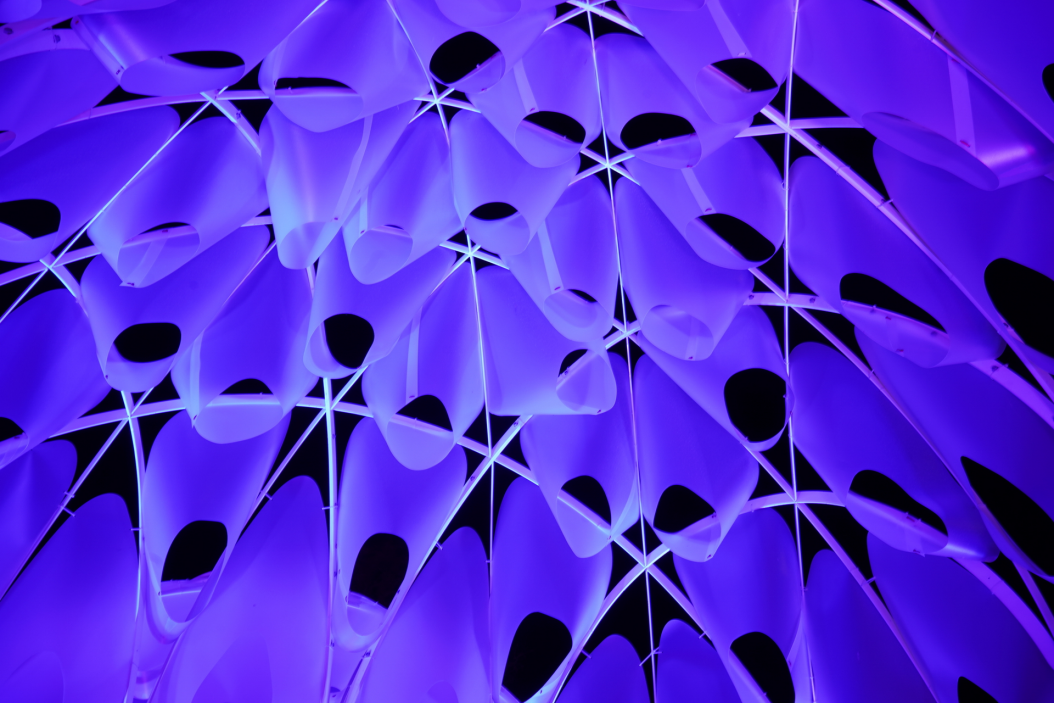

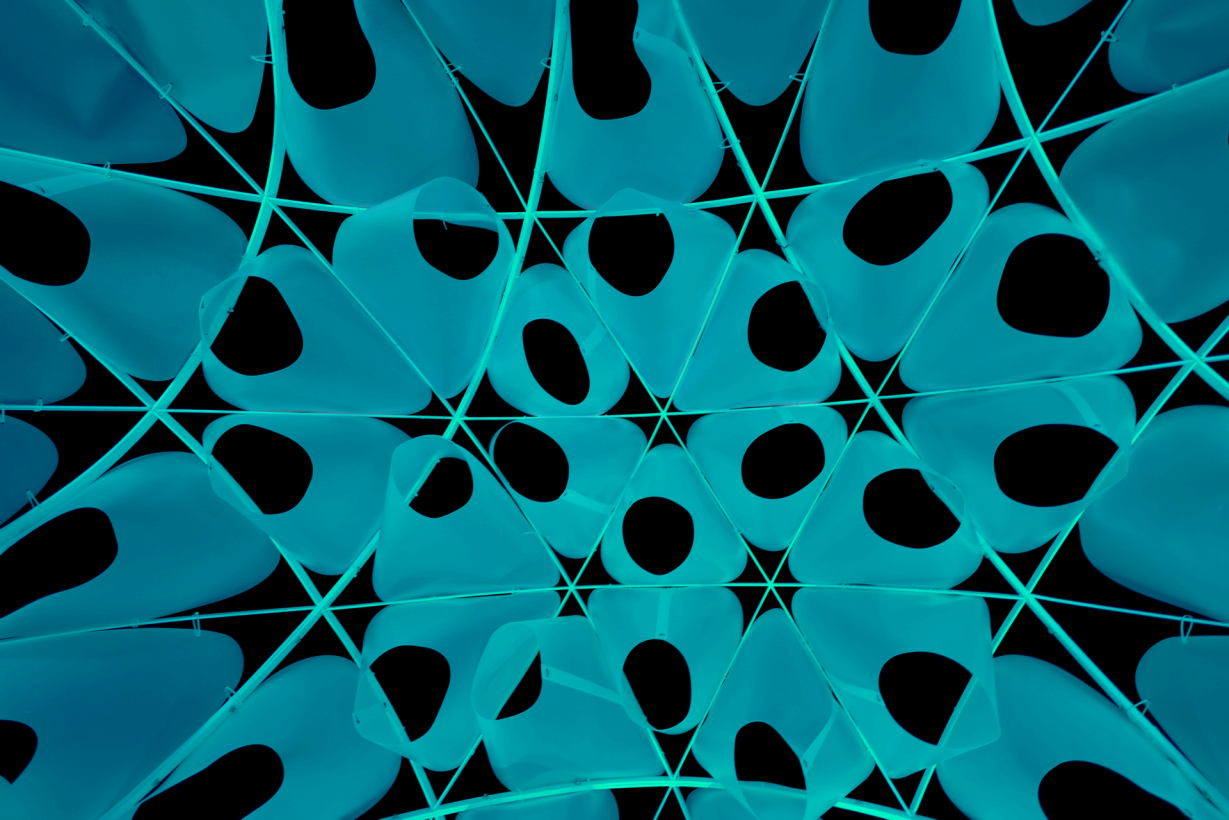

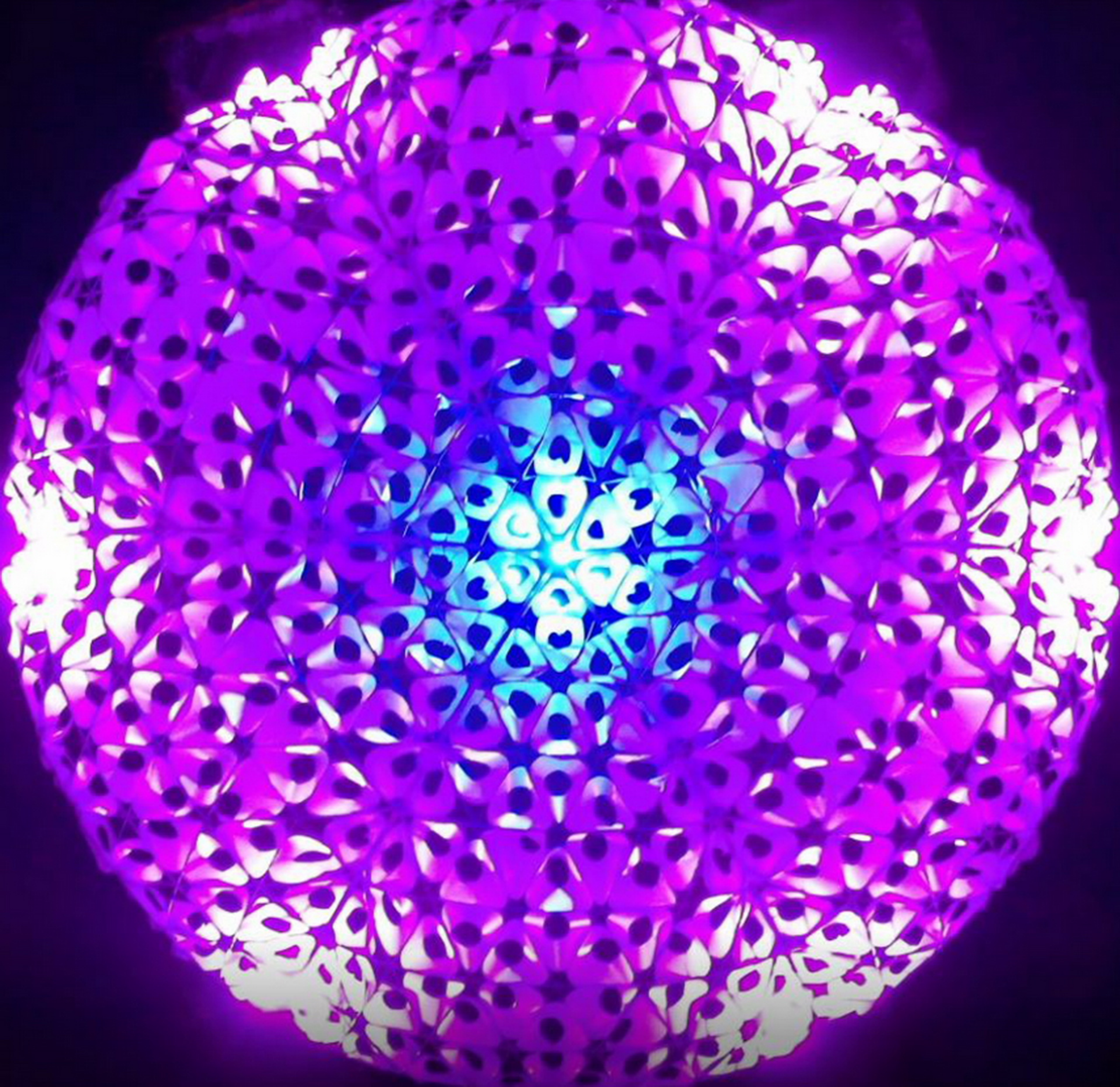

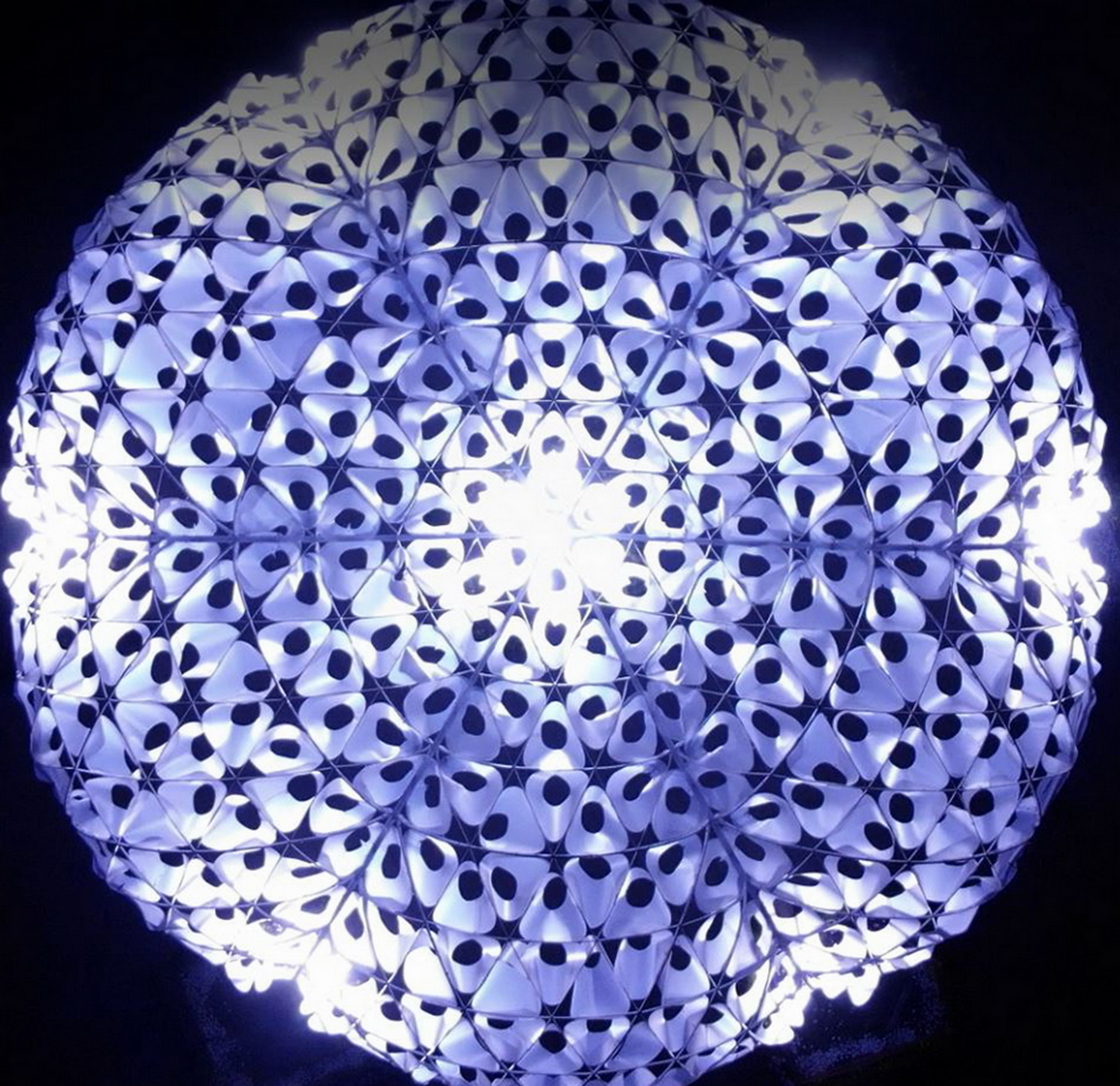

珊瑚海	Coralscape
珊瑚海是 LAAB 與台灣光影藝術家山米合作，為 2019 年台灣屏東燈會設計的藝術裝置。燈會位於大鵬灣國家風景區，附近的小琉球是台灣 14 個屬島中唯一的珊瑚島，LAAB 就用珊瑚為題，製造了一個大約 6 米高、在海邊的珊瑚，配合漸變的燈光，呈現海底綺麗的珊瑚景色。 我們用六組拱形的框架作珊瑚海的主結構, 每個拱架內再細分了網狀三角型的框架, 高效率的結構令珊瑚海看上去纖細和輕盈。三角型的框架裡 16 個小型的框架把珊瑚細胞撐起。三角型的框架令拱形的結構更加堅固,我們用了捲狀的半透明片去製作珊瑚粒, 使燈光的折射和反射顯得更加柔和。 我們首先用電腦編程來模擬了珊瑚形態, 再測試不同的比例和用料。我們不斷優化拱型的結構, 並調整它的長度與高度的比例來達到最佳的負力。我們也優化小型的框架, 讓結構顯得更纖細。因為珊瑚海位於海邊, 為了讓作品更耐風, 每個珊瑚粒都預留了一些空間讓風吹過。	Located at the Dapeng Bay National Scenic Area, Coralscape is a public art installation designed for the 2019 Taiwan Latern Festival in Pingtung. The Liuqiu Island nearby is a rare coral island in Taiwan, with rich geologic and coral life. The dynamic underwater world inspired LAAB to design a 6-meter-tall coral installation to bring the colorful underwater world on stage. We used six groups of vault structure to design Coralscape, each is then subdivided by triangular frames. Vault is extremely efficient to structure the coral cells because of its pure axial force, producing a light and thin structure. Within each triangular frame is 16 smaller triangular sub-frames to contain the coral cells. These triangular grids further reinforced the vault design. Curled, translucent sheets were used to fabricate the cell membranes as they give a softer reflection and refraction when projected with light. The design process involves capturing the modular nature of corals, before testing different scaled model with different materials. The vault structure was then optimized by adjusting the length-to-height ratio of the vault to achieve the most efficient load path. The number of sub-frames cells was also optimized to give a slimmer structure. Because the site is at the Bay area with occasional strong winds, the design was carefully calculated to allow spaces for cell movement during windy days.