

Mind Bouy



The purpose of this video was to simply visually investigate the flow visualization of caustics. To show an audience the fluid dynamics that are under their feet within their everyday world. Captured in this video, I demonstrate a raw caustics example purely in nature – caustics at the beach. Ever since I was little, caustics have entranced me. There is something so soothing and mesmerizing to its spectral fluidity. So for this film, I wanted the viewer to embrace that entrancing essence that I feel when I see caustics.

This video was captured in the Caribbean on the beautiful island of Curacao; a Dutch island thirty miles north of Venezuela. It was roughly around 1 PM in the afternoon, and there was an offshore wind coming from the north. The sun was almost directly above me, though since it was a little after 1 PM the sun was at a slight angle. The caustics phenomenon was made possible by the turbulent surface water and the slight off shore wind that generated some wind swell. These factors allowed the water to become disrupted, and when the sunlight hit

the surface of the water the light rays refracted because of the curved surfaces of the water formations. The enveloping network of scattering and dancing light rays that are seen in my video is the example of caustics.

Visualization for this phenomenon was fairly simple. I waited until I saw that there was no clouds approaching the sunlight, and then I walked out about 10 feet off shore and stood in the water while I filmed the buoy. The water was about 2 and half feet deep and the waves were no bigger than a half a foot. I pointed the video camera directly downward from where I was standing.

Camera Details:

IPhone 5s

Video Setting

Some miniscule modifications were made while in post production. Some points within the video I applied the "Bad TV" filter to give it an analog- -travel- video-post-card kind of feel. But other than that the video is the raw image.

I think I accomplish what I was attending to produce for this project. I am satisfied with the outcome of the overall essence of this video. The feel of the piece is exactly what I sense when I look at something like that. I produced the music with a keyboard, and I used a field recorder to capture sounds of the beach and other ambient environments. So I got to express the exact emotion to where I wanted the video to feel like because I made the sounds and images. I wish I got more angles of the casutics because I noticed the static overhead shot got a little stale after about a minute. But overall, I am very glad about the simplicity of the piece and the overall direction. Perhaps I will make more of these caustics

documentations in the future. Where I would go around and document different water surfaces that produce different networks of caustics, and eventually have an installation where I have a variety of them all projected on different walls!

1. Weinstein, Lev Albertovich (1969). *Open Resonators and Open Waveguides*. Boulder, Colorado: The Golem Press.
2. Lynch DK and Livingston W (2001). *Color and Light in Nature*. Cambridge University Press. [ISBN 978-0-521-77504-5](#). Chapter 3.16 The caustic network,