#### **Burning Sky**

Clouds Second

**By Jonathon Gruener** 

MCEN 5151 Flow Visualization December 16, 2023 University of Colorado Boulder

## Introduction

This image was taken for the second Clouds assignment for Flow Vis. We were tasked with taking photos of interesting cloud formations and explain how and why those clouds formed. I took this image because I loved the way the sunset was reflecting off of the layer of clouds.

#### **Image Circumstances**

This photo was captured on October 17th at 6:27 pm in Boulder, Colorado. The elevation of the photo was about 5,430 feet and was taken from the top story of an apartment building. Earlier in the day, there had been little cloud activity.

# **Cloud Description**

The clouds in the picture are likely stratus clouds. They were very low in the sky and had a silky texture to them. Stratus clouds exist in the lower parts of the atmosphere, below 2000 meters, which agrees with my prediction. The Skew-T diagram is shown below.



Figure 1: Skew-T diagram

As noted on the Skew-T diagram, the CAPE value is 0. Although the Skew-T is from Grand Junction and thus not very representative of cloud activity in Boulder, the stable atmosphere was the same.

## **Photographic Technique**

This picture was taken on an iPhone 12 with the wide lens. The settings on the phone were an ISO of 200, a focal length of 14 mm, and shutter speed of 1/60 sec. The field of view is about 45 degrees. The initial image was  $3024 \times 3024$  px and the dimensions of the edited photo was 1884 x 881 px.



#### Figure 2: Raw and edited images

I cropped the image first. Then, I increased the green-magenta and blue-yellow contrasts using the color contrast tool. Finally, I added some black level correction using the exposure tool.

#### **Image Analysis**

Overall, I really like this cloud photo. I think that the bright orange is captured well and almost looks like the clouds are on fire. I think this is a great example of stratus clouds. I think the image could definitely be clearer since it was captured through a window. Unfortunately, I couldn't get as good of an angle outside on the ground floor.