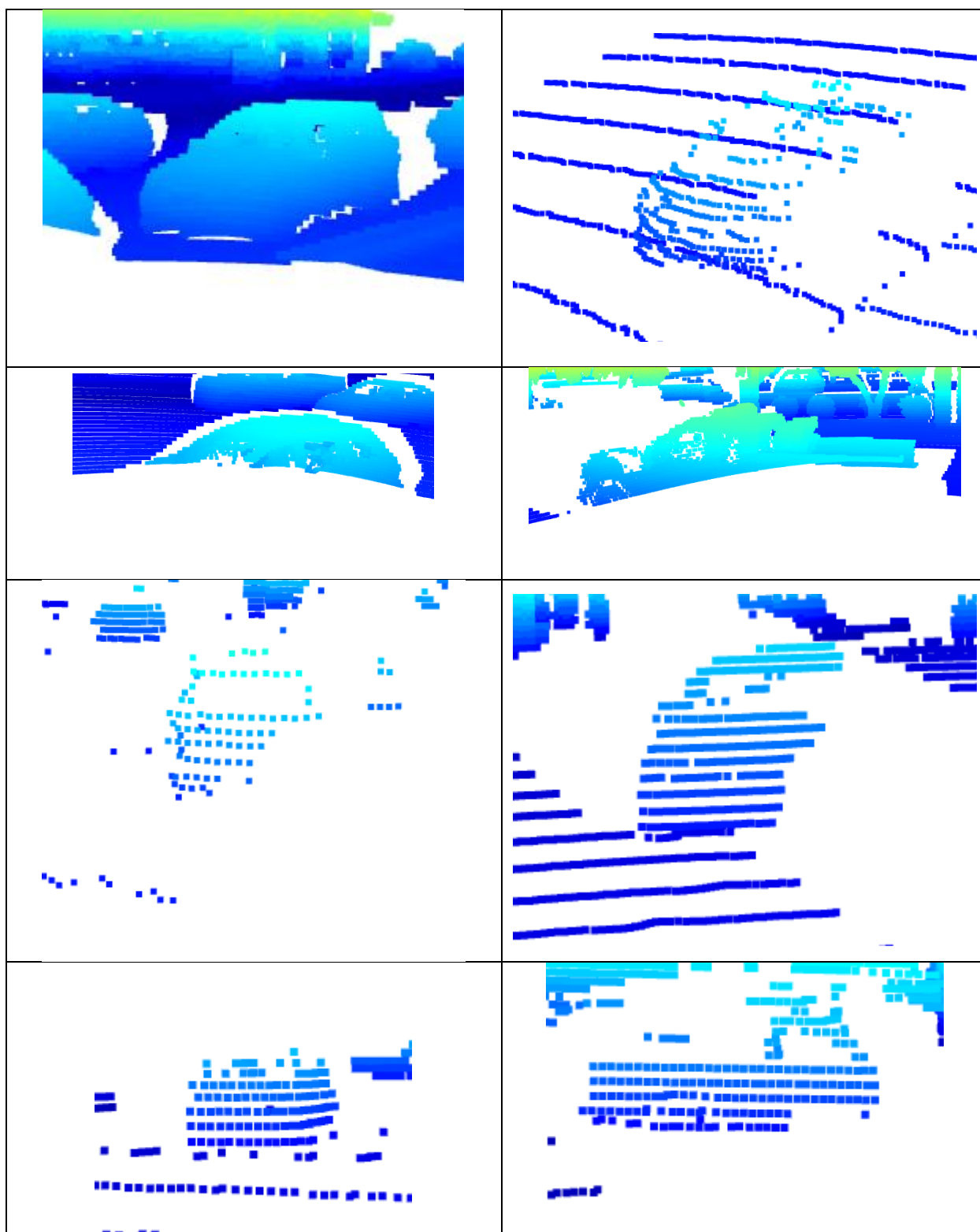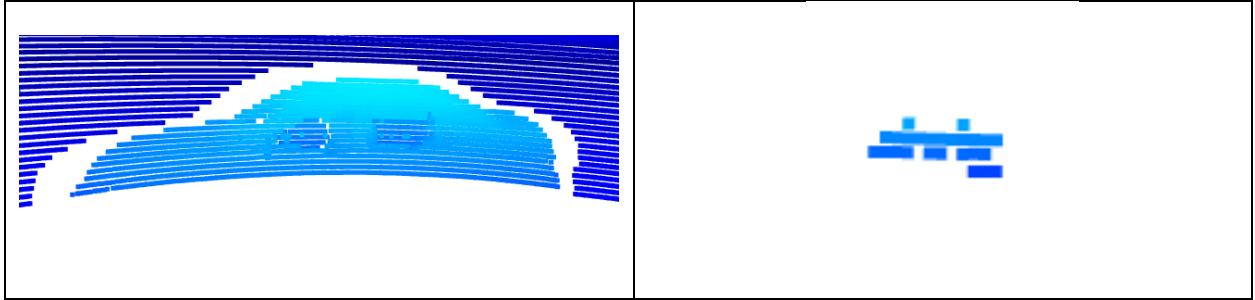**10 vehicles within the point-cloud with varying degrees of visibility:**

In general, the vertical surfaces on vehicles are very consistently visible in the point-cloud. This is to be expected, as these surfaces are orthogonal to the direction of the lidar beams, and thus provide a large area of reflection. In this dataset (and in general) most vehicles are travelling either towards or away from the sensor, making the front and rear bumper areas the most consistently and clearly seen regions in the point-cloud.

This is supported by the range and intensity images below, where it can be observed that the majority of pixels representing any vehicle are in either the front or rear bumper areas. From figures 2 & 3 it can be seen that reflective features such as license plates and lights really stand out in the intensity channel. When considering all channels available, these specific features are the most stable and clearly identifiable. These will likely be very useful for detecting and orientating vehicles.

An additional observation of interest is that windows appear to be invisible to lidar, which perhaps isn't too surprising given that the frequencies used are near the visible range.
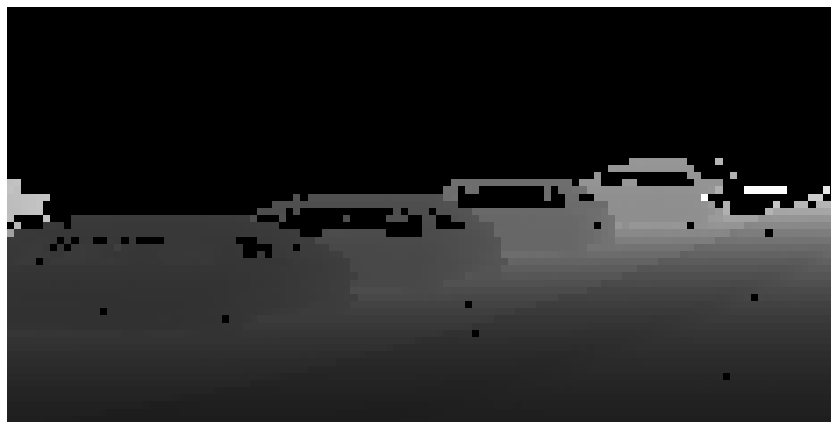
Figure 1: Range image from lidar sensor.

Figure 2: Intensity image from lidar sensor.

Figure 3: Intensity image from lidar sensor.