



## Payload 2 Daily Flight Report

**Date:** 2025-04-24

**Flight Campaign ID:** P2C1

**Airport, FBO ID, City:** Boulder Municipal Airport (KBDU) - Boulder, CO

**Aircraft:** N615AR

**Domain:** 00 (Training & Calibration)

**Sites Flown:** W10C (Wiggle Timing Test - Riegl)

**Days left in Domain:** 27

**Report Author:** Mitch

**Lidar Operators:** Travis, Mitch      **Flight Hours:** 00:34

**Spectrometer Operators:** Elissa      **Hours until maintenance:** 123.33

**Pilots:** Vince, Mac

**Ground Crew:** Matt

### Summary

After a long day of training and troubleshooting with Travis from Riegl, the crew was able to get a short and successful airborne collect in over the runway using the new Riegl VQ780II-S lidar sensor. Travis operated while Mitch and Elissa observed. 2 lines were collected using the lower altitude Wiggle Timing Test flight plan, which was chosen specifically for its low altitude, needed in order to collect beneath the cloud bases.

### Concerns

- Attempts were made to bypass the missing camera trigger cable, however no GPS data was able to be recorded with the camera files. Camera was triggered based off timing. Will most likely need to continue this method of triggering till the new cabling arrives.
- Upon startup, DCC computer immediately started draining both UPS batteries. Initially tried to troubleshoot before proceeding forward without spectrometer being recorded, as to not drain the UPS and focus on the new lidar sensor.

### Comments

- Flight discs from today's flight have been inserted into Hotel Kit 2. However, no RAID was formatted as one of the RAID port's is not reading drives, and the lidar HDD could not be locked into the hotel kit as we were missing the proper key to lock the drive. Expect more troubleshooting to make this data available tomorrow.
- POS data was recorded in the new T04 file format. The naming convention was changed post flight to more closely match our typical NEON POS naming conventions, so expect a new naming convention for the T04 files on the next collection flight.
- A screen recording from today's flight will be made available tomorrow. Goal will be to develop a working checklist from this.
- Congratulations to Mac for flying his first two TOIL survey lines, and nice work to Vince for navigating both training a new TOIL pilot and a new sensor with completely different pilot display appearances.
- Big thanks to Travis from Riegl for his patience in training and troubleshooting with the AOP team all day.

### Daily Coverage

Estimated Cloud Cover Key

Green:	Yellow:	Red:
0-10%	11-50%	>50%

Solar Angle Less Than 40 degrees: (\*)

D00|W10C

Line #	1	2
Lidar	✓	✓
Spectrometer		
Camera	✓	✓
Cloud Cover		

Total number of lines flown: 2

**Pictures:** Travis operating the new Riegl lidar sensor.



**Cumulative Domain Coverage**

D00|B10E (Riegl Boresight Calibration - 1600m, 1000m, 500m)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----

Flown: 0% (0/20)

Green: 0% (0/20)

Yellow: 0% (0/20)

Red: 0% (0/20)

\* Flown within 35deg solar angle

D00|H10C (NEON Headquarters Lidar Test - Riegl)

1	2	3	4
---	---	---	---

Flown: 0% (0/4)

Green: 0% (0/4)

Yellow: 0% (0/4)

Red: 0% (0/4)

\* Flown within 35deg solar angle

D00|N10D (Nominal Runway at KBDU - Riegl)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28												

Flown: 0% (0/28)  
 Green: 0% (0/28)  
 Yellow: 0% (0/28)  
 Red: 0% (0/28)  
 \* Flown within 35deg solar angle

### D00|O10B (NIS Offset - Riegl)

1	2
---	---

Flown: 0% (0/2)  
 Green: 0% (0/2)  
 Yellow: 0% (0/2)  
 Red: 0% (0/2)  
 \* Flown within 35deg solar angle

### D00|R10C (Table Mountain Radiometric Calibration - Riegl)

1	2	3	4	5
---	---	---	---	---

Flown: 0% (0/5)  
 Green: 0% (0/5)  
 Yellow: 0% (0/5)  
 Red: 0% (0/5)  
 \* Flown within 35deg solar angle

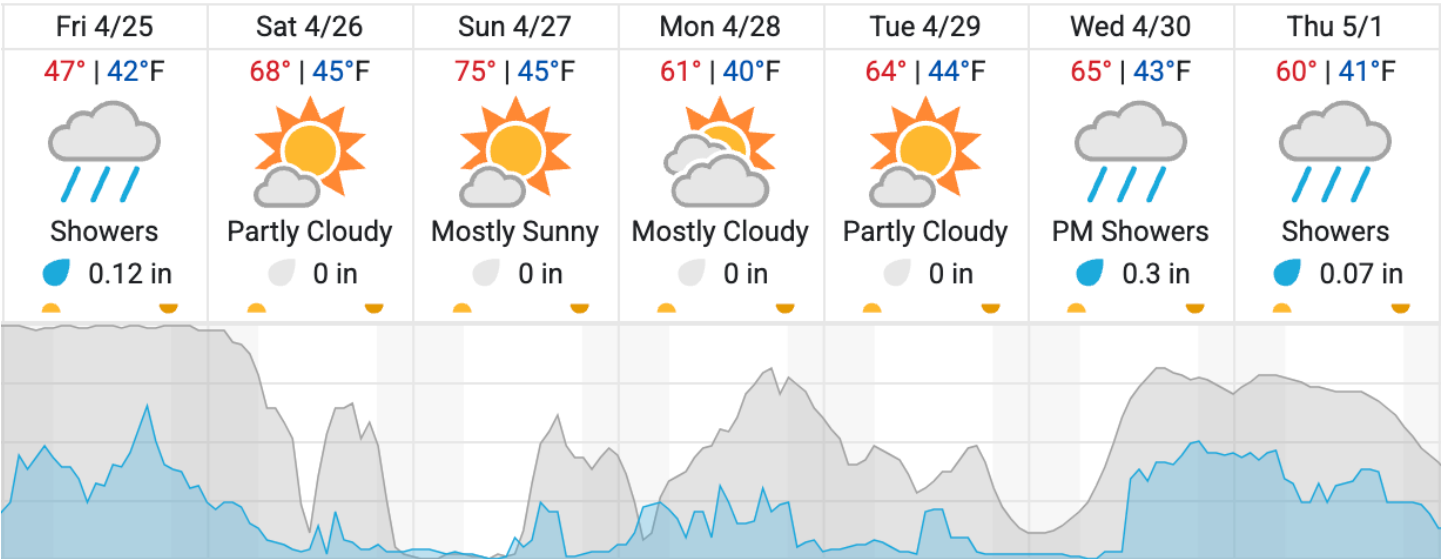
### D00|W10C (Wiggle Timing Test - Riegl)

1	2
---	---

Flown: 0% (0/2)  
 Green: 0% (0/2)  
 Yellow: 0% (0/2)  
 Red: 0% (0/2)  
 \* Flown within 35deg solar angle

### Weather Forecast

Boulder, CO



Cloud Cover (%)	Chance of Precip. (%)
-----------------	-----------------------

source: wunderground.com

Riegl training flights, weather permitting.

**Crew:** John (Lidar), Matt (NIS), Nick (Ground)

## **Flight Collection Plan for 26 April 2025**

### **Flyority 1**

Collection Area: Table Mountain Radiometric Calibration

Flight Plan Name: D10\_R10C\_Rad\_Cal\_TBMT\_v2\_VQ780

45° On-station Time: 1620 UTC / 1020 L

Additional Considerations: Ground should be dry.

Collection Area: Boulder Airport Radiometric Calibration

Flight Plan Name: D10\_R10D\_Rad\_Cal\_KBDU\_v2\_VQ780

45° On-station Time: 1620 UTC / 1020 L

Additional Considerations: Ground should be dry.

### **Flyority 2**

Collection Area: Boresight Calibration – Greeley, CO

Flight Plan Name: D10\_B10E\_Boresight\_VQ780 (RiAcquire name: D10\_B10E\_Boresight\_Apx\_VQ780)

30° On-station Time: 1500 UTC / 0900 L

Additional Considerations: No recent snowfall, clear roofs required.

### **Flyority 3**

Collection Area: Nominal Runway Survey Flight Plan

Name: D10\_N10D\_Nominal\_Rnwy\_v13\_VQ780

On-Station Time: Daylight – No solar angle restrictions.

Additional Considerations: Runway should not be wet or snow covered.

### **Flyority 4**

Collection Area: NEON HQ Lidar Validation

Flight Plan Name: D10\_H10C\_HQ\_val\_v2\_VQ780

On-Station Time: Daylight – No solar angle restrictions.

### **Flyority 5**

Collection Area: Wiggle Timing Test

Flight Plan Name: D10\_W10C\_Wiggle\_Test\_v6\_Q780

40° On-station Time: 1550 UTC / 0950 L

Additional Considerations: Runway should not be wet, or snow covered.

### **Flyority 6**

Collection Area: NIS Offset Flight

Flight Plan Name: D10\_O10B\_NIS\_Offset\_v2\_VQ780

35° On-station Time: 1530 UTC / 0930 L