



## Payload 3 Daily Flight Report



**Date:** 2025-04-15

**Flight Campaign ID:** P3C1

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

**Aircraft:** N821AR

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

**Sites Flown:** N10D (Nominal Runway at KBDU - Riegl), R10D (Boulder Airport Radiometric Calibration)

**Days left in Domain:** 15

**Report Author:** Elissa

**Lidar Operators:** Elissa

**Spectrometer Operators:** Mitch

**Pilots:** Jeff, Justin

**Ground Crew:** Matt, John

**Flight Hours:** 02:23

**Hours until maintenance:** 120.62

**GPS Instruments:** AOP\_KBDU

### Summary

After working out a couple of kinks leftover from payload install, we were able to get in the air today and complete the functional check flight. A radiometric calibration was also collected over Boulder Airport, but skies only remained adequately clear for the first two out of five lines.

### Concerns

- The USB device used for POS backup was not recognized by Tracker software, despite being recognized by the computer and verified functional. The backup copy for today's flight was not recorded to the USB drive.
- The Aperture field in the flight database was not usable today, which may have downstream effects on data processing. Values were manually added for today's flight and the complete list of values will likely be up in time for the next flight.

### Comments

While the plane was in the air a tour was given to a group of University of Colorado students.

### Daily Coverage

Estimated Cloud Cover Key

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

Solar Angle Less Than 40 degrees: (\*)

D00|N10D

Line #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Lidar	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spectrometer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Camera	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cloud Cover																				

Line #	21	22	23	24
Lidar	✓	✓	✓	✓
Spectrometer	✓	✓	✓	✓
Camera	✓	✓	✓	✓
Cloud Cover				

Total number of lines flown: 24

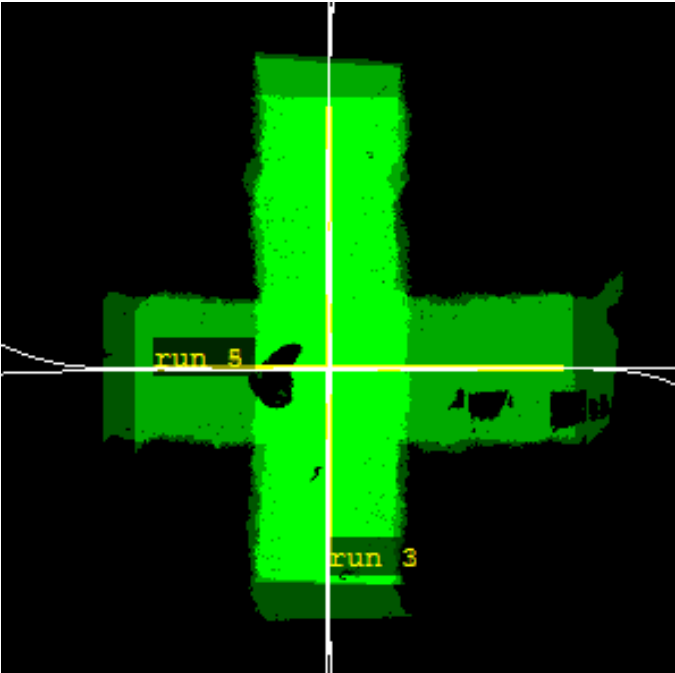
D00|R10D

Line #	1	2	3	4	5
Lidar	✓	✓	✓	✓	✓
Spectrometer	✓	✓	✓	✓	✓
Camera	✓	✓	✓	✓	✓
Cloud Cover					

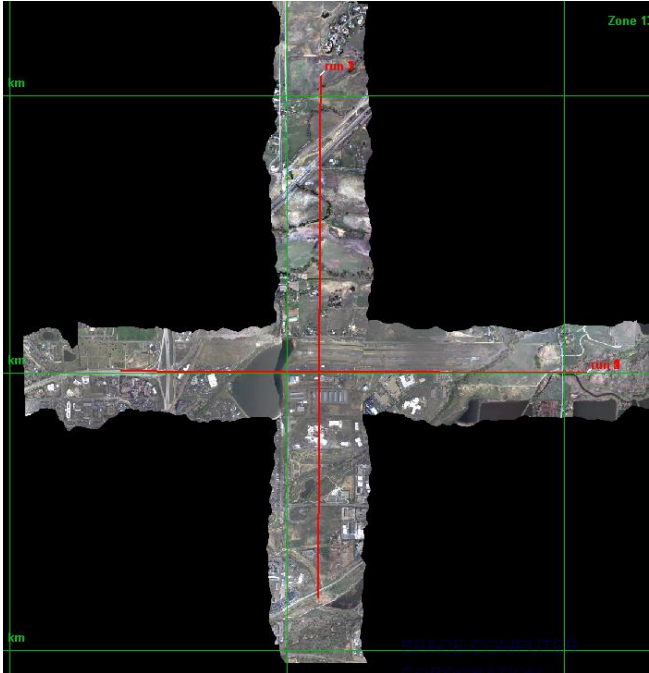
Total number of lines flown: 5

Flight Screenshots

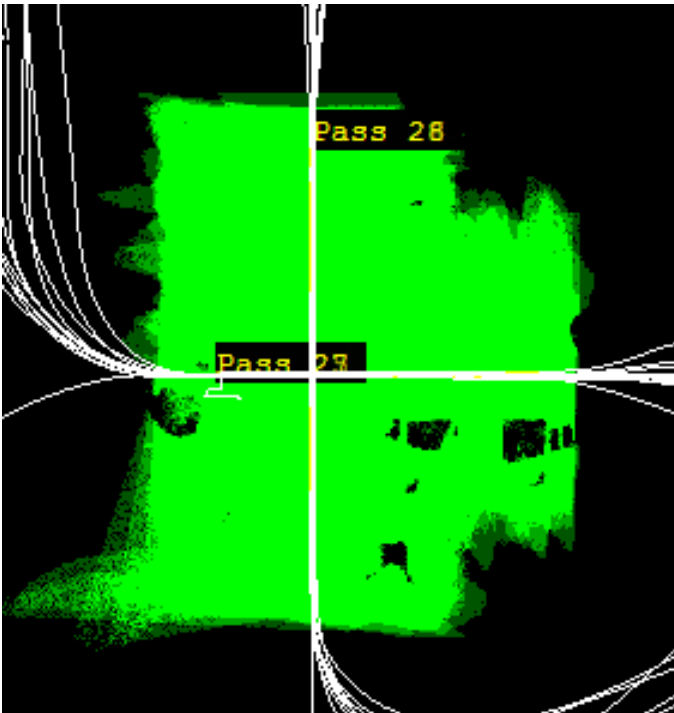
R10D Lidar



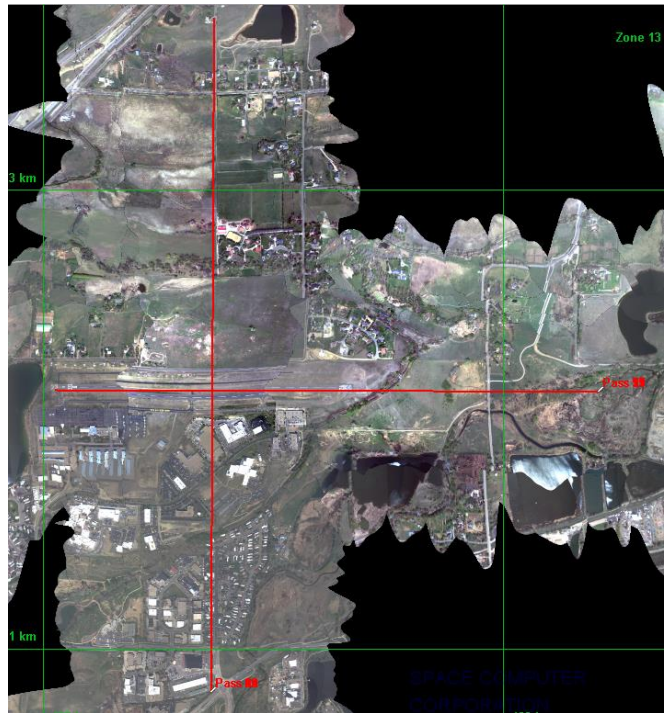
R10D NIS



N10D Lidar



N10D NIS



Pictures



Cloud cover building over the Flatirons.





A group of University of Colorado students viewing the spectral calibration tarps.

### 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
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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
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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: 86% (24/28)  
 Green: 7% (2/28)  
 Yellow: 68% (19/28)  
 Red: 11% (3/28)  
 \* Flown within 35deg solar angle

D00|O10B (NIS Offset - Riegl)

1	2
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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|R10D (Boulder Airport Radiometric Calibration)

1	2	3	4	5
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Flown: 100% (5/5)  
Green: 40% (2/5)  
Yellow: 60% (3/5)  
Red: 0% (0/5)  
\* Flown within 35deg solar angle

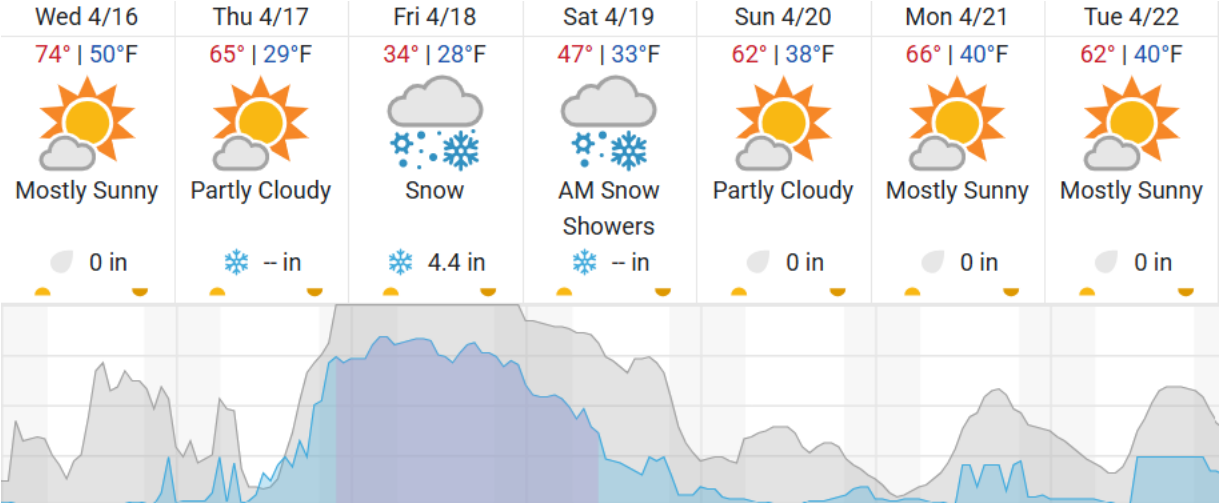
D00|W10C (Wiggle Timing Test - Riegl)

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 (KBDU)



Cloud Cover (%)	Chance of Precip. (%)
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source: wunderground.com

## **Flight Collection Plan for 16 April 2025**

### **Flyority 1**

Collection Area: Table Mountain Radiometric Calibration

Flight Plan Name: D10\_R10C\_Rad\_Cal\_TBMT\_v1\_Q780

45° On-station Time: 1640 UTC / 1040 L

Additional Considerations: Ground should be dry.

### **Flyority 2**

Collection Area: Boresight Calibration – Greeley, CO

Flight Plan Name: D10\_B10E\_Boresight\_1600m\_Q780 (RiAcquire name: D10\_B10E\_Boresight\_Apx\_Q780)

30° On-station Time: 1510 UTC / 0910 L

Additional Considerations: No recent snowfall, clear roofs required.

### **Flyority 3**

Collection Area: NEON HQ Lidar Validation

Flight Plan Name: D10\_H10C\_HQ\_val\_v1\_Q780

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

### **Flyority 4**

Collection Area: Wiggle Timing Test

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

40° On-station Time: 1610 UTC / 1010 L

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

### **Flyority 5**

Collection Area: NIS Offset Flight

Flight Plan Name: D10\_O10B\_NIS\_Offset\_v2\_Q780

35° On-station Time: 1540 UTC / 0940 L

**Crew:** Mitch (Lidar), John (NIS), Elissa (Ground), Cam (Ground), Matt (Ground)