



Payload 3 Daily Flight Report

Date: 2025-09-20

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)

Days left in Domain: 3

Report Author: Mitch

Lidar Operators: Mitch

Flight Hours: 01:51

Spectrometer Operators: Matt

Hours until maintenance: 38.90

Pilots: Vince, Greg

GPS Instruments: AOP_KBDU

Summary

Crew mobilized to the airport early this morning in order to complete the nominal runway flight plan before weekend air traffic picked up. All 24 lines were collected under red conditions.

Concerns

The thermocouple on the forward cryocooler began erroneously reading temperatures of +500°C last night. This was obviously an incorrect reading as the cryocooler had not melted under extreme temperatures. The thermocouple will be replaced in the offseason.

Comments

None

Daily Coverage

Estimated Cloud Cover Key

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

Solar Angle Less Than 40 degrees: (*)

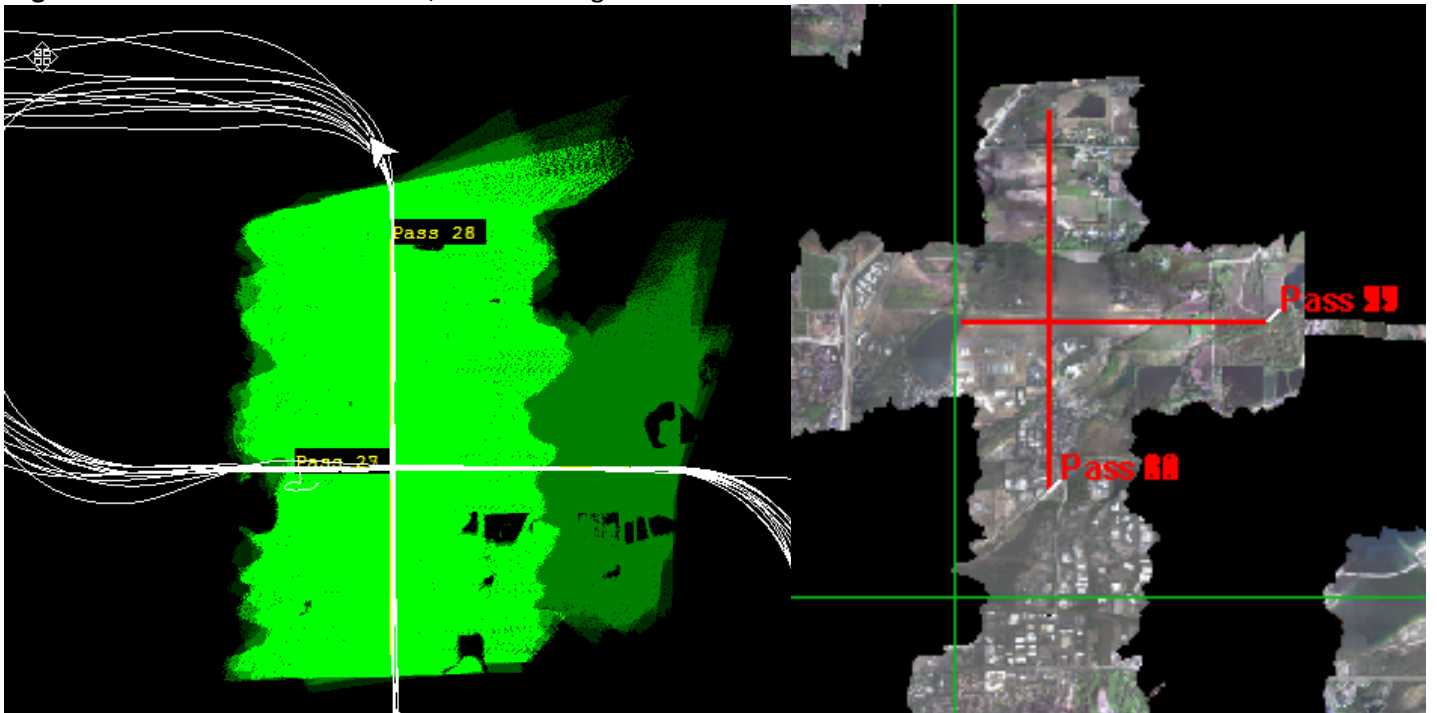
D00|N10D

| 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

Flight Screenshots: Lidar on the left, NIS on the right.



Pictures



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: 100% (20/20)

Green: 0% (0/20)

Yellow: 100% (20/20)

Red: 0% (0/20)

* Flown within 35deg solar angle

D00|H10C (NEON Headquarters Lidar Test - Riegl)

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

Flown: 100% (4/4)

Green: 0% (0/4)

Yellow: 0% (0/4)

Red: 100% (4/4)

* 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: 0% (0/28)

Yellow: 0% (0/28)

Red: 86% (24/28)

* 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|R10D (Boulder Airport Radiometric Calibration)

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

Flown: 100% (5/5)

Green: 100% (5/5)

Yellow: 0% (0/5)

Red: 0% (0/5)

* Flown within 35deg solar angle

D00|W10C (Wiggle Timing Test - Riegl)

| | |
|---|---|
| 1 | 2 |
|---|---|

Flown: 100% (2/2)

Green: 0% (0/2)

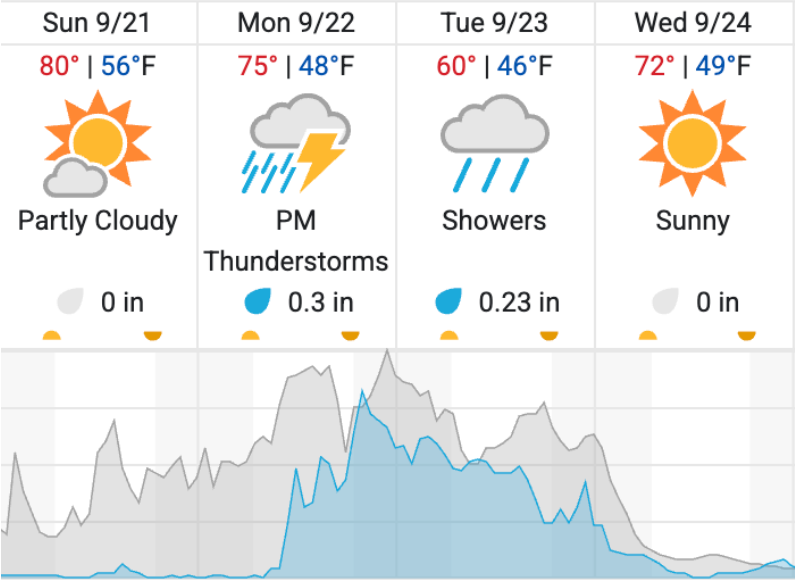
Yellow: 0% (0/2)

Red: 100% (2/2)

* Flown within 35deg solar angle

Weather Forecast

Boulder, CO



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

source: wunderground.com

Flight Collection Plan for 21 September 2025

No flights currently planned.

Crew: Matt, Mitch