



Payload 3 Daily Flight Report



Date: 2023-04-06

Flight Campaign ID: P3C1

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

Aircraft: N934MU

Domain: 00 (Training & Calibration)

Sites Flown: R10D (Boulder Airport Radiometric Calibration), B10E (Riegl Boresight Calibration - 1600m, 1000m, 500m)

Days left in Domain: 12

Report Author: Mitch

Lidar Operators: Mitch, Abe

Spectrometer Operators: Matt, Nick

Pilots: Jeff, Cullen

Ground Crew: Cameron

Flight Hours: 00:37 + 01:26

Hours until maintenance: 119.83

GPS Instruments: AOP_KBDU

Summary

The team was able to take advantage of clear skies over Boulder and collect the Radiometric Calibration over KBDU this morning under green conditions. After swapping crews, the plane headed out to Greeley to make an attempt at the Boresight Calibration, however laser errors prevented lidar data from properly being collected. After troubleshooting in air, the decision was made to abort the collect and RTB.

Concerns

While attempted to collect the higher altitude Boresight lines at 50% laser power, the scanner received a "laser_on_current_too_high" error and refused to fire properly and record data. Troubleshooting revealed that the laser operated nominally at 25% power and below, but not at 50%. The team will see if the issue can be replicated tomorrow by flying the nominal runway flight plan, which includes 50% and higher laser power settings.

Comments

None

Daily Coverage

Estimated Cloud Cover Key

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

D00|R10D

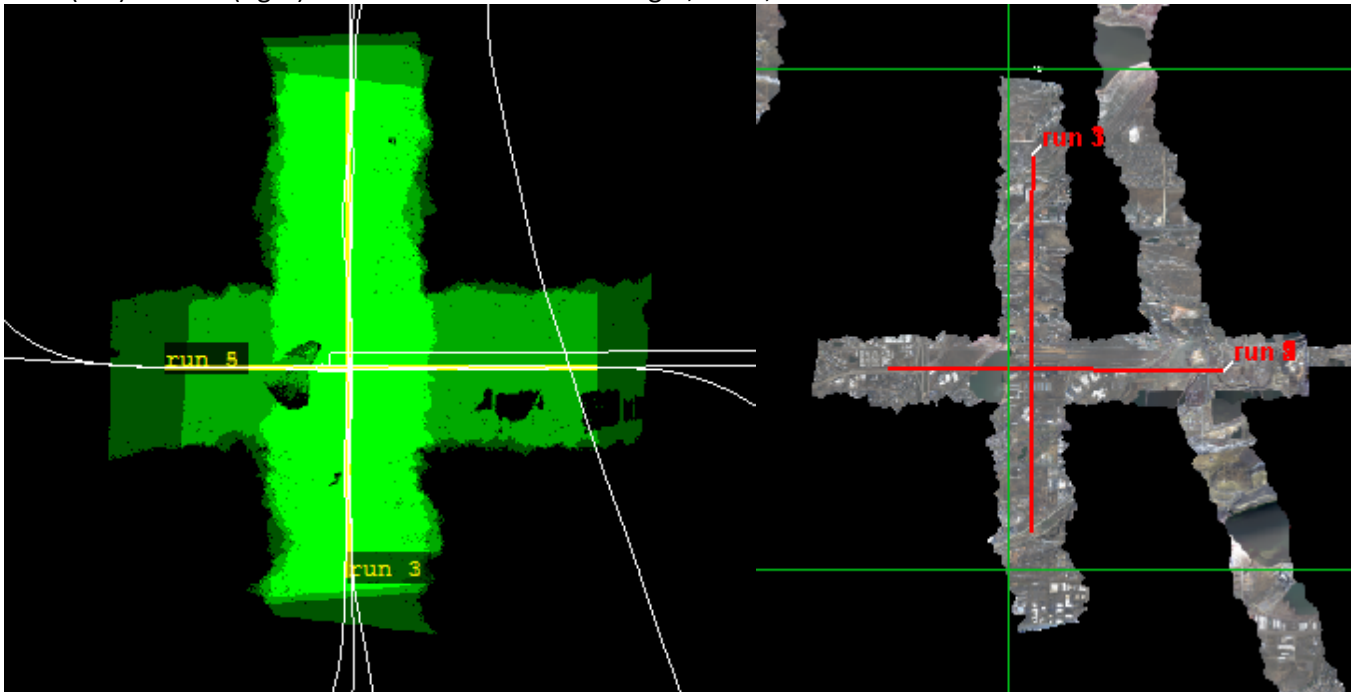
Line #	1	2	3	4	5
Lidar	✓	✓	✓	✓	✓
Spectrometer	✓	✓	✓	✓	✓
Camera	✓	✓	✓	✓	✓
Cloud Cover					

Total number of lines flown: 5

Flight Screenshots: Error code received during second flight while attempted to fire at 50% power.

mERR:LASER_ON_CURRENT_TOO_HIGH	250	The input current of the laser module when the laser is on is too high.
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Lidar (left) and NIS (right) screenshots from the first flight, R10D, over KBDU.



Pictures: Murph working the tarps after Payload 3 finished up R10D.



Below: A nice, snowy mountain view looking North towards Lyons and Estes Park.



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)

D00|H10C (NEON Headquarters Lidar Test - Riegl)

1	2	3	4
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Flown: 100% (4/4)
Green: 0% (0/4)
Yellow: 0% (0/4)
Red: 100% (4/4)

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)

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)

D00|R10C (Table Mountain Radiometric Calibration - Riegl)

1	2	3	4	5
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Flown: 0% (0/5)
Green: 0% (0/5)
Yellow: 0% (0/5)
Red: 0% (0/5)

D00|R10D (Boulder Airport Radiometric Calibration)

1	2	3	4	5
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Flown: 100% (5/5)
Green: 100% (5/5)
Yellow: 0% (0/5)
Red: 0% (0/5)

D00|V10C (Boulder City South)

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	29											

Flown: 14% (4/29)
Green: 0% (0/29)
Yellow: 0% (0/29)
Red: 14% (4/29)

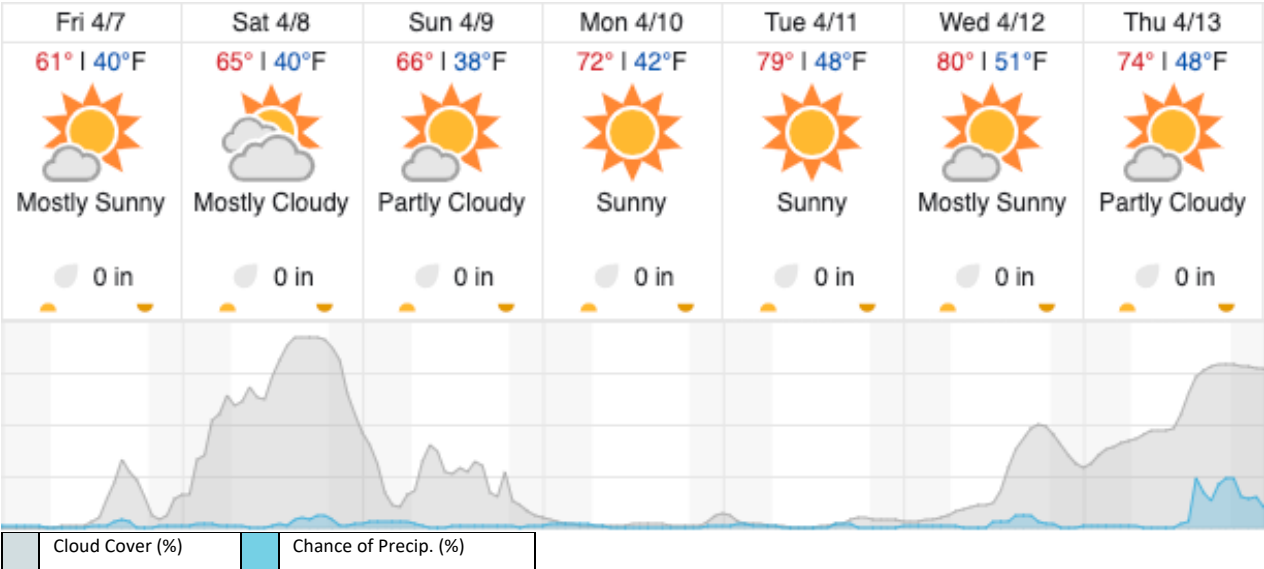
D00|W10C (Wiggle Timing Test - Riegl)

1	2
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Flown: 100% (2/2)
Green: 0% (0/2)
Yellow: 0% (0/2)
Red: 100% (2/2)

Weather Forecast

Boulder, CO



source: wunderground.com

Flight Collection Plan for April 7 2023

Flyority 1

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: 1530 UTC / 0930 L

Additional Considerations: No recent snowfall, clear roofs required.

Flyority 2

Collection Area: Nominal Runway Survey Flight Plan

Name: D10_N10D_Nominal_Rnwy_v8_Q780

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

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

Flyority 3

Collection Area: NIS Offset Flight

Flight Plan Name: D10_O10B_NIS_Offset_v2_Q780

35° On-station Time: 1620 UTC / 1030 L

Flight Crew

Matt (Lidar), John (NIS), Abe (Ground)