Payload 1 Daily Flight Report

Date: 2022-11-20
Flight Campaign ID: P1C1
Airport, FBO ID, City: Boulder Municipal Airport (KBDU) - Boulder, CO
Aircraft: N331AR

Domain: 00 (Training & Calibration)
Sites Flown: W10D (Wiggle Timing Test - Galaxy), H10D (NEON Headquarters Lidar Validation - Galaxy), R10F (Boulder Airport Radiometric Calibration - Galaxy)
Days left in Domain: 6

Report Author: Cameron
Lidar Operators: Cameron
Spectrometer Operators: Nick
Pilots: Justin, Vince
Ground Crew: Mike

Flight Hours: 01:15
Hours until maintenance: 41.53
GPS Instruments: AOP_KBDU

Summary
The crew took advantage of clear skies in the Boulder area and completed three (3) calibration flights in green sky conditions.

Concerns
- None

Comments
- Crew used the unmarked digitizer disks as directed by lab.

Daily Coverage

Estimated Cloud Cover Key

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

D00|H10D

<table>
<thead>
<tr>
<th>Line #</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lidar</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Spectrometer</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Camera</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cloud Cover</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
</tr>
</tbody>
</table>

Total number of lines flown: 4

D00|W10D
<table>
<thead>
<tr>
<th>Line #</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lidar</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Spectrometer</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Camera</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cloud Cover</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total number of lines flown: 2

**D00|R10F**

<table>
<thead>
<tr>
<th>Line #</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lidar</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Spectrometer</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Camera</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cloud Cover</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total number of lines flown: 5

**Flight Screenshots**

**H10D**

![Flight Screenshots](attachment:image1.png)

**W10D**

![Flight Screenshots](attachment:image2.png)

**R10F**

![Flight Screenshots](attachment:image3.png)
Top: A beautiful snow cover Boulder this morning! Bottom: The calibration tarps deployed on the ramp at the PIF.

Photo by Cam

Photo by Nick
Cumulative Domain Coverage

D00|B10F (Complete Greeley Boresight Geocalibration - 1500m, 1000m, 550m - Galaxy)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
</tr>
</thead>
</table>
Flown: 0% (0/20)
Green: 0% (0/20)
Yellow: 0% (0/20)
Red: 0% (0/20)

D00|H10D (NEON Headquarters Lidar Validation - Galaxy)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>
Flown: 100% (4/4)
Green: 100% (4/4)
Yellow: 0% (0/4)
Red: 0% (0/4)

D00|N10F (Nominal Runway at KBDU - Galaxy)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
</tr>
</thead>
</table>
Flown: 0% (0/37)
Green: 0% (0/37)
Yellow: 0% (0/37)
Red: 0% (0/37)

D00|R10F (Boulder Airport Radiometric Calibration - Galaxy)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>
Flown: 100% (5/5)
Green: 100% (5/5)
Yellow: 0% (0/5)
Red: 0% (0/5)

D00|V10F (Boulder City Nominal - Galaxy)

| 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: 0% (0/29)
Green: 0% (0/29)
Yellow: 0% (0/29)
Red: 0% (0/29)

D00|W10D (Wiggle Timing Test - Galaxy)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
</tr>
</thead>
</table>
Flown: 100% (2/2)
Green: 100% (2/2)
Yellow: 0% (0/2)
Red: 0% (0/2)
Weather Forecast
Boulder, CO

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>48°</td>
<td>29°F</td>
<td>Sunny</td>
<td>0 in</td>
<td>50°</td>
<td>30°F</td>
</tr>
</tbody>
</table>

source: wunderground.com

Flight Collection Plan for 21 November 2022
Flyority 1
Collection Area: [Functional Checkout Flight] – Nominal Runway Survey
Flight Plan Name: D10_N10F_Nominal_Rnwy_v10_PRM.xml
On-station Time: N/A

Flyority 2
Collection Area: Boresight Calibration – Greeley, CO
Flight Plan Name: D10_B10F_Boresight_Geocal_v9_PRM.xml
**On-station Time:** 1700 UTC / 1100 L (25 degrees solar elevation)

Flyority 6
Collection Area: Boulder City Nominal Science Flight
Flight Plan Name: D10_V10F_Boulder_City_v8_PRM.xml
On-station Time: 1700 UTC / 1100 L (25 degrees solar elevation)

Crew: Mike (Lidar) Cam (NIS) Mitch (Ground)