

CASE FILE 27 / 237UAP00381

237UAP00381

Radar/correlation-focused public UAP report; score 66

NORMAL-OBJECT FAVORED

| | | | |
|-----------------|---------------------------|-------------|-----------------------|
| REPORT NO. | UAP-OM-27-237UAP00381 | DISPOSITION | NORMAL-OBJECT FAVORED |
| PRIMARY CASE | 237UAP00381 | GENERATED | 2026-05-20 18:32 UTC |
| REPORT TIME | 2024-10-03T01:40:00+00:00 | OBSERVER | 40.91610, -81.44220 |
| SOURCE CASE IDS | 237UAP00381, 237UAP00638 | | |

Abstract

This case file evaluates a reported UAP sighting against historical Starlink orbital elements. The primary external-object candidate is a 4-object same-launch group from 2022-03-09, spanning azimuth 11.11-40.86 deg and elevation 13.2-19.47 deg. The analysis distinguishes plausible geometric overlap from unresolved witness-language features.

This is a standalone independent analysis prepared from public-source records and public orbital datasets. It is not an official government determination, classification marking, or agency-authored report.

1. Executive Summary

237UAP00381 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N1086F C208 a0259c at 0.1 km, azimuth 212.4 deg, elevation 70.97 deg, 4.64 min from report. Dense satellite presence alone is not treated as causation in this packet.

1.1 Key Findings

- Source score 66 based on: radar/primary-return language, high-altitude report, maneuvering/motion anomaly, UAP/UFO language.
- Report time used: 2024-10-03T01:40:00+00:00.
- External object layer used: Starlink.
- Disposition standard: NORMAL-OBJECT requires case-specific causal fit. Satellite density above the horizon is context only and cannot by itself resolve the report.
- Case-specific ordinary-object evidence: strong ADS-B aircraft candidate N1086F C208 a0259c at 0.1 km, azimuth 212.4 deg, elevation 70.97 deg, 4.64 min from report.
- Non-causal context / rejection screens: very dense orbital-object sky background; context only, not causation.
- Remaining hard features: hard maneuver language.
- Objects above horizon: 310; at/above 10 deg: 148.
- Top compact same-launch/designator group: 4 objects from 2022-03-09.
- No explicit Starlink/balloon wording was found in the source excerpt used for ranking.

1.2 Bottom Line

NORMAL-OBJECT FAVORED: A case-specific ordinary-object candidate exists from source language, orbital geometry, launch-object context, or compact trajectory grouping. Dense ordinary sky traffic alone is not treated as causation.

2. Source Control

The source-control table identifies the public report records reviewed for this case and lists public access links where available. The table is included so this PDF remains interpretable when distributed by itself.

| CASE ID | REPORT DATE FIELD | FACILITY / TITLE | TEXT EXTRACT | PUBLIC PDF LINK |
|-------------|--|--|----------------------|---------------------------------|
| 237UAP00381 | 01:40 10/03/2024 Callsign: JIA5656 Origin: DCA | ZOB Operator: JIA Operator Type: Commercial | text extract present | 237UAP00381.pdf |
| 237UAP00638 | 10/2/2024 9:40:00 PM (-04 EDT) | JIA5656 UFO-UAP ACTIVITY 10-02-2024 | text extract present | 237UAP00638.pdf |

3. Original Report Evidence

| | |
|-----------------------------------|---|
| PRIMARY EXCERPT USED FOR MATCHING | Aircraft reported an unidentified aerial phenomenon while NW bound at FL380, orbiting over CAK airport. The unknown phenomenon was a bright white light orbiting at approximately FL600 before disappearing. The UAP was not observed on ATC facility radar system. |
| REPORT TIME USED | 2024-10-03T01:40:00+00:00 |
| OBSERVER COORDINATE USED | 40.91610, -81.44220 |
| OBSERVER SOURCE BASIS | aviation_fix:over CAK (public text extract 237UAP00381) |

4. Methodology

- Spacetime extraction.** The report time and observer coordinate were extracted from the public text report and normalized to UTC. Aviation fixes/radials were resolved during earlier preprocessing where applicable.
- External object dataset.** The object layer used historical Space-Track/TLE-derived Starlink element rows. The analytic mode for this case is historical Starlink element propagation and same-launch/designator sky grouping.
- Propagation.** Orbital elements were propagated to the report minute and observer location. For launch-object checks, samples around the report minute were retained. For Starlink group checks, objects above the horizon were clustered by sky position and filtered for same-launch groupings.
- Comparison.** The output was compared against the report's count of lights, direction cue, motion language, altitude/radar language, and whether the file itself already suggested a satellite explanation.
- Causation standard.** Mere object presence above the horizon is treated as background context only. A normal-object disposition requires a case-specific causal fit, such as a named launch object, a compact same-launch trajectory group, or source language that directly supports that object class.
- Disposition assignment.** *Identified* means a specific normal object fits the report spacetime and the hard reported features do not materially conflict. *Normal-object favored* means a case-specific ordinary aerospace/orbital candidate exists, but it is not a full named identification. *Insufficient* means the file is too thin to carry high anomaly value. *High-value unresolved* is used when radar, video, rapid maneuver, or multi-witness features remain after reasonable normal-object checks.

5. External Object Evidence

5.1 Search Volume and Density

This table is a screening layer only. Objects above the horizon show background opportunity; they do not establish causation unless a specific object or compact trajectory group matches the reported behavior.

| | | | |
|---------------------------------|------|-------------------------|------|
| STARLINK CATALOG IDS CONSIDERED | 6422 | HISTORICAL ELEMENT ROWS | 6421 |
| ABOVE HORIZON AT REPORT MINUTE | 310 | AT/ABOVE 10 DEG | 148 |
| LARGEST SAME-SKY CLUSTER | 111 | | |

5.2 Same-Launch / Same-Designator Candidate Groups

| # | LAUNCH DATE | COUNT | AZIMUTH SPAN | ELEVATION SPAN | MOTION LABELS | MEMBERS |
|---|-------------|-------|-----------------|----------------|-------------------|---|
| 1 | 2022-03-09 | 4 | 11.11-40.86 deg | 13.2-19.47 deg | eastward, setting | STARLINK-3660, STARLINK-3653, STARLINK-3691, STARLINK-3669 |

5.3 Primary Group Members

| OBJECT | NORAD | LAUNCH | AZ | EL | RANGE KM | APPARENT MOTION | ELEMENT AGE H |
|---------------|-------|------------|-------|-------|----------|-------------------|---------------|
| STARLINK-3660 | 51977 | 2022-03-09 | 11.11 | 19.47 | 1304.11 | eastward, setting | 10.67 |
| STARLINK-3653 | 52000 | 2022-03-09 | 39.37 | 17.54 | 1384.8 | eastward, setting | 1.1 |
| STARLINK-3691 | 51960 | 2022-03-09 | 22.77 | 13.66 | 1595.14 | eastward, setting | 1.16 |
| STARLINK-3669 | 51971 | 2022-03-09 | 40.86 | 13.2 | 1620.63 | eastward, setting | 5.25 |

5.4 Bright-Sky Context: Top Starlink Objects by Elevation

| OBJECT | AZ | EL | RANGE KM | APPARENT MOTION | LAUNCH DATE |
|----------------|--------|-------|----------|-------------------|-------------|
| STARLINK-6331 | 29.03 | 78.99 | 572.52 | eastward, setting | 2023-07-16 |
| STARLINK-1356 | 333.21 | 75.05 | 567.9 | eastward, setting | 2020-04-22 |
| STARLINK-30847 | 270.78 | 70.82 | 592.08 | eastward, setting | 2023-11-08 |
| STARLINK-2594 | 238.85 | 68.99 | 585.54 | westward, setting | 2021-05-04 |
| STARLINK-30394 | 158.92 | 64.84 | 615.57 | westward, setting | 2023-09-09 |
| STARLINK-30215 | 348.51 | 64.31 | 618.95 | eastward, setting | 2023-07-24 |
| STARLINK-30085 | 318.56 | 62.64 | 627.01 | eastward, setting | 2023-05-19 |
| STARLINK-5547 | 117.03 | 50.33 | 710.95 | westward, setting | 2023-01-26 |
| STARLINK-5274 | 156.24 | 47.91 | 753.99 | westward, setting | 2023-01-31 |
| STARLINK-3547 | 36.47 | 47.32 | 715.76 | eastward, setting | 2022-03-03 |
| STARLINK-2506 | 216.95 | 44.06 | 759.0 | westward, rising | 2021-04-29 |
| STARLINK-3760 | 127.44 | 43.26 | 759.26 | westward, setting | 2022-04-21 |

5.5 Largest Sky Clusters

| # | COUNT | AZIMUTH SPAN | ELEVATION SPAN | MOTION LABELS |
|---|-------|-----------------|----------------|--|
| 1 | 111 | 2.84-358.72 deg | 10.0-43.15 deg | eastward, level, eastward, rising, eastward, setting, nearly fixed azimuth, setting, |

| # | COUNT | AZIMUTH SPAN | ELEVATION SPAN | MOTION LABELS |
|---|-------|-------------------|-----------------|-------------------------------------|
| | | | | westward, rising, westward, setting |
| 2 | 10 | 142.75-172.97 deg | 10.07-27.14 deg | westward, rising, westward, setting |
| 3 | 7 | 178.15-192.63 deg | 11.91-36.19 deg | westward, rising, westward, setting |
| 4 | 5 | 204.96-221.69 deg | 10.08-23.64 deg | westward, rising, westward, setting |
| 5 | 4 | 29.03-348.51 deg | 62.64-78.99 deg | eastward, setting |

5.6 Space-Track SATCAT Enrichment

Space-Track SATCAT metadata was pulled as a cached subset for NORAD catalog IDs appearing in this packet's evidence tables. This section adds owner/type/status context to the propagated object candidates.

| | | | |
|-----------------------------|-------------|---------------------|---------------------------|
| PACKET SATCAT SUBSET ROWS | 5370 | FETCHED | 2026-05-19T01:19:50+00:00 |
| THIS CASE NORAD IDS CHECKED | 34 | SATCAT ROWS MATCHED | 34 |
| TOP OWNERS | US: 34 | | |
| OBJECT TYPES | PAYLOAD: 34 | | |

5.7 Space-Track Metadata for Top Propagated Objects

| NORAD | OBJECT NAME | TYPE | OWNER | LAUNCH DATE | DECAY DATE |
|-------|----------------|---------|-------|-------------|------------|
| 57351 | STARLINK-6331 | PAYLOAD | US | 2023-07-16 | n/a |
| 45564 | STARLINK-1356 | PAYLOAD | US | 2020-04-22 | n/a |
| 58239 | STARLINK-30847 | PAYLOAD | US | 2023-11-08 | n/a |
| 48388 | STARLINK-2594 | PAYLOAD | US | 2021-05-04 | n/a |
| 57810 | STARLINK-30394 | PAYLOAD | US | 2023-09-09 | n/a |
| 57445 | STARLINK-30215 | PAYLOAD | US | 2023-07-24 | n/a |
| 56709 | STARLINK-30085 | PAYLOAD | US | 2023-05-19 | n/a |
| 55352 | STARLINK-5547 | PAYLOAD | US | 2023-01-26 | n/a |
| 55395 | STARLINK-5274 | PAYLOAD | US | 2023-01-31 | n/a |
| 51889 | STARLINK-3547 | PAYLOAD | US | 2022-03-03 | n/a |
| 48315 | STARLINK-2506 | PAYLOAD | US | 2021-04-29 | n/a |
| 52298 | STARLINK-3760 | PAYLOAD | US | 2022-04-21 | n/a |

5.9 NASA / NOAA / ADS-B Expansion Layer

This source layer adds free NASA context that was previously missing from most packet cases. It is contextual evidence; it does not replace aircraft, satellite, balloon, or radar causation tests.

| | |
|-------------------|---|
| HOURL UTC | 2024100301 |
| CLOUD AMOUNT | 10.12% |
| PRECIPITATION | 0.0 mm/hr |
| 10 M WIND | 2.06 m/s |
| TEMPERATURE | 11.97 C |
| RELATIVE HUMIDITY | 76.23% |
| DONKI +/-1 DAY | CME: unavailable; FLR: unavailable; GST: unavailable; HSS: unavailable; IPS: unavailable; MPC: unavailable; RBE: unavailable; SEP: unavailable; WSAEnliSimulations: unavailable |

5.10 Horizons Sky Geometry Context

| OBJECT | AZ | EL | APP MAG |
|---------|--------|--------|---------|
| Sun | 292.50 | -29.55 | -26.74 |
| Moon | 288.96 | -29.74 | -4.07 |
| Venus | 261.82 | -14.94 | -3.92 |
| Mars | 27.97 | -20.77 | 0.44 |
| Jupiter | 50.18 | -8.51 | -2.48 |
| Saturn | 143.00 | 33.41 | 0.67 |

- Sun elevation was -29.5 deg, so this was a dark-sky/nighttime sighting.
- Moon was below horizon at elevation -29.7 deg.
- Planets above horizon: Saturn (33.4 deg).
- NASA POWER cloud amount for the hour was 10.12%, with precipitation 0.0 mm/hr.

5.11 Free Source Availability and Remaining Work

| LAYER | STATUS | CASE-SPECIFIC NOTE |
|-------------------------------------|-------------------|--|
| ADSB.LOL HISTORICAL RELEASE LISTING | screened/present | planes-readsb-staging-0 2378.0 MiB; planes-readsb-prod-0 2378.0 MiB; planes-readsb-mlatonly-0 77.0 MiB |
| ADSB TRACKS DOWNLOADED | not yet exhausted | Requires targeted extraction from large daily history archives before claiming aircraft exhaustion. |
| NOAA GOES IMAGERY | not yet exhausted | Needed for cloud/lightning visual context. |
| NOAA GOES ABI/GLM MANIFEST | screened/present | Public S3 object availability for the report hour. |
| NOAA NEXRAD WEATHER RADAR | not yet exhausted | Weather radar only; not ATC radar. |
| NOAA IGRA RADIOSONDE | screened/present | Needed for balloon drift plausibility. |
| ASOS/METAR WEATHER OBSERVATIONS | screened/present | Nearest station surface observations around report time. |

- ADSB.lol historical: extract aircraft traces from adsblol/globe_history_2024 for 2024-10-03, then filter +/-60 min and 250 nmi around 40.9161,-81.4422.
- NASA POWER/Horizons/DONKI: batch context for 237UAP00381 at 2024-10-03T01:40:00+00:00.
- NOAA GOES: pull nearest ABI/GLM products for the UTC hour and render cloud/lightning map.
- NOAA NEXRAD: select nearest radar stations and render Level-II/III weather radar sweep around event time.
- NOAA IGRA: find nearest radiosonde station launches bracketing the event and model wind drift for balloon-like descriptions.
- Space-Track gp_history/decay: fetch exact historical element rows and decay/reentry status for top candidate NORAD IDs.

5.12 Weather, Imagery, and Balloon Query Plan

This plan identifies the concrete free sources needed for the next case-specific weather and balloon checks. These are not treated as completed exclusions until the data are downloaded and plotted.

| | |
|---------------------------|---|
| GOES SATELLITE | GOES16 |
| GOES ABI PREFIX | https://noaa-goes16.s3.amazonaws.com/ABI-L2-CMIPF/2024/277/01/ |
| GOES GLM LIGHTNING PREFIX | https://noaa-goes16.s3.amazonaws.com/GLM-L2-LCFA/2024/277/01/ |

5.13 Nearest Weather-Airport Candidates

| STATION | NAME | DISTANCE KM | COORDINATE |
|---------|---|-------------|---------------|
| KCAK | Akron Canton Regional Airport | 0.00 | 40.92, -81.44 |
| KAKR | Akron Fulton International Airport | 13.70 | 41.04, -81.47 |
| KCLE | Cleveland Hopkins International Airport | 64.80 | 41.41, -81.85 |
| KBKL | Burke Lakefront Airport | 69.80 | 41.52, -81.68 |

| STATION | NAME | DISTANCE KM | COORDINATE |
|---------|-------------------------|-------------|---------------|
| KCGF | Cuyahoga County Airport | 72.30 | 41.57, -81.49 |

- KCAK: [IEM ASOS/METAR daily CSV query](#)
- KAKR: [IEM ASOS/METAR daily CSV query](#)
- KCLE: [IEM ASOS/METAR daily CSV query](#)

5.14 Nearest Radiosonde Stations

| STATION | NAME | DISTANCE KM | COORDINATE |
|-------------|-------------------------------|-------------|---------------|
| USM00072520 | PITTSBURGH; PA. | 111.70 | 40.53, -80.22 |
| USM00072632 | WHITE LAKE; MI. | 260.00 | 42.70, -83.47 |
| USM00072426 | WILMINGTON; OH. | 261.70 | 39.42, -83.82 |
| USM00072528 | BUFFALO/GREATER BUFFALO INT.; | 318.50 | 42.94, -78.72 |
| USM00072403 | STERLING; VA. | 400.30 | 38.98, -77.49 |

5.15 ASOS/METAR Surface Weather Observations

surface visibility ranged 10-10 statute miles; no precipitation was reported in the retained observations; no low broken/overcast cloud ceiling was evident in the retained station observations. Surface ASOS/METAR observations describe airport-level weather and visibility; they do not by themselves prove conditions at the sighting altitude or line of sight.

| STATION | DISTANCE KM | NEAREST OBS UTC | VIS SM | SKY | WIND DEG/KT | METAR |
|---------|-------------|-------------------------------|--------|--------------|---------------|---|
| KCAK | 0.00 | 2024-10-03T01:51:00 +00:00 | 10.00 | CLR, M, M, M | 40.00 / 3.00 | KCAK 030151Z 04003KT 10SM CLR 12/08 A3005 RMK AO2 SLP175 T01220078 \$ |
| KAKR | 13.70 | 2024-10-03T01:54:00 +00:00 | 10.00 | CLR, M, M, M | 0.00 / 0.00 | KAKR 030154Z AUTO 00000KT 10SM CLR 12/08 A3004 RMK AO2 SLP173 T01170078 PWINO \$ |
| KCLE | 64.80 | 2024-10-03T01:51:00 +00:00 | 10.00 | CLR, M, M, M | 150.00 / 3.00 | KCLE 030151Z 15003KT 10SM CLR 13/08 A3003 RMK AO2 SLP183 T01280078 \$ |

5.16 NOAA IGRA Radiosonde Wind Profile

Nearest sounding implies mean 0-12 km wind drift toward 297.2 deg at 21.55 m/s; a passive balloon could drift about 155.2 km in two hours under this crude layer-average model. Radiosonde winds are sparse station soundings; balloon drift remains approximate without launch time, ascent rate, object altitude, and exact line-of-sight bearing.

| STATION | NAME | DISTANCE KM | SOUNDING UTC | MEAN DRIFT BEARING | MEAN SPEED M/S | 2H DRIFT KM | MAX WIND |
|-------------|-----------------|-------------|-------------------------------|--------------------|----------------|-------------|-------------------|
| USM00072520 | PITTSBURGH; PA. | 111.70 | 2024-10-03T00:00 :00+00:00 | 297.20 | 21.55 | 155.20 | 35.00 at 359.00 m |

5.17 NOAA GOES ABI/GLM Public File Manifest

GOES public S3 objects are listed for the report hour where available. This is an availability manifest, not yet a rendered satellite image.

| | | | |
|------------------|--------|------------------|-------------|
| SATELLITE | GOES16 | BUCKET | noaa-goes16 |
| ABI SAMPLE FILES | 12 | GLM SAMPLE FILES | 12 |

ABI sample objects:

- [ABI-L2-CMIPF/2024/277/01/OR_ABI-L2-CMIPF-M6C01_G16_s20242770100203_e20242770109511_c20242770109571.nc](#)
- [ABI-L2-CMIPF/2024/277/01/OR_ABI-L2-CMIPF-M6C01_G16_s20242770110203_e20242770119511_c20242770119573.nc](#)
- [ABI-L2-CMIPF/2024/277/01/OR_ABI-L2-CMIPF-M6C01_G16_s20242770120203_e20242770129511_c20242770129566.nc](#)
- [ABI-L2-CMIPF/2024/277/01/OR_ABI-L2-CMIPF-M6C01_G16_s20242770130203_e20242770139511_c20242770139576.nc](#)

GLM lightning sample objects:

- [GLM-L2-LCFA/2024/277/01/OR_GLM-L2-LCFA_G16_s20242770100000_e20242770100200_c20242770100220.nc](#)
- [GLM-L2-LCFA/2024/277/01/OR_GLM-L2-LCFA_G16_s20242770100200_e20242770100400_c20242770100422.nc](#)
- [GLM-L2-LCFA/2024/277/01/OR_GLM-L2-LCFA_G16_s20242770100400_e20242770101000_c20242770101018.nc](#)
- [GLM-L2-LCFA/2024/277/01/OR_GLM-L2-LCFA_G16_s20242770101000_e20242770101200_c20242770101218.nc](#)

5.18 ADSB.lol Historical Aircraft Track Extraction

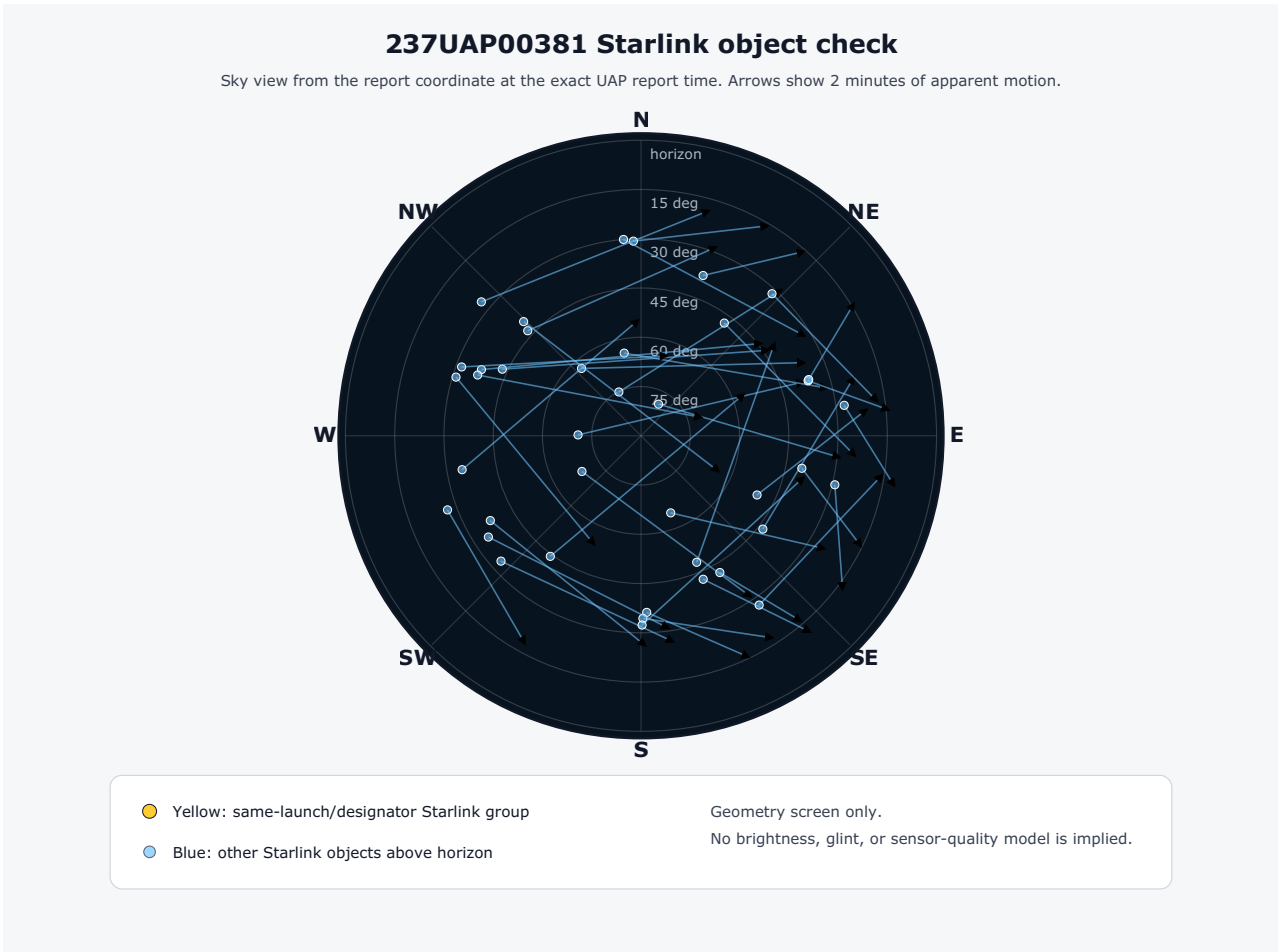
This layer uses the downloaded ADSB.lol daily history archive to test actual aircraft tracks near the report coordinate and minute. It is not treated as a primary-radar substitute; it is a transponder/receiver-derived aircraft screen.

| | | | |
|------------------------------------|--|----------------------|--|
| ARCHIVE WINDOW | 2024-10-03T00:25:00+00:00 to 2024-10-03T02:55:00+00:00 | RADIUS | 300.00 nmi |
| TRACE FILES SCANNED | 32551 | TRACKS RETAINED | 1200 |
| SUPPORT STATUS | aircraft strong candidate present | BEST-CANDIDATE NOTE | ordinary-object favored if the report's count, color, direction, and motion can be reconciled with the candidate track(s). |
| STRONG CANDIDATES | 13 | PLAUSIBLE CANDIDATES | 71 |
| REPORTING-AIRCRAFT TRACKS EXCLUDED | 4 | WEAK CANDIDATES | 151 |

5.19 Top ADS-B Candidate Tracks

| AIRCRAFT | STATUS | SCORE | MIN DIST KM | NEAREST DT MIN | ALT FT | AZ | EL |
|-----------------------|---------------------------|-------|-------------|----------------|--------|--------|-------|
| N1086F C208 a0259c | strong aircraft candidate | 83.86 | 0.10 | 4.64 | 1325 | 212.40 | 70.97 |
| N402AN A21N a4b41c | strong aircraft candidate | 70.31 | 42.00 | 0.02 | 37000 | 166.90 | 14.22 |
| N413YX E75L a4e181 | strong aircraft candidate | 65.85 | 76.80 | 0.10 | 33325 | 197.50 | 7.50 |
| N396FR A20N a499a0 | strong aircraft candidate | 65.76 | 19.90 | 0.02 | 36000 | 298.60 | 12.17 |
| N709P S76 a97742 | strong aircraft candidate | 64.79 | 0.80 | 0.12 | 2400 | 345.10 | 0.42 |
| N37325 B38M a441ac | strong aircraft candidate | 63.89 | 54.40 | 0.00 | 1250 | 323.40 | 0.05 |
| N7839A B737 aa9f3f | strong aircraft candidate | 63.71 | 54.10 | 0.01 | 2225 | 317.10 | 0.30 |
| N5952J C150 a7b2a1 | strong aircraft candidate | 61.77 | 17.50 | 0.06 | 2200 | 56.20 | 0.20 |

6. Annotated Evidence Figure



Generated figure copied from the local evidence-plot output. It is included as an analytic visualization, not as original sensor imagery.

7. Analytic Comparison

| CRITERION | REPORT EVIDENCE | ANALYTIC TREATMENT |
|------------------------|---------------------------|--|
| TIME CONSTRAINT | 2024-10-03T01:40:00+00:00 | Directly used in propagation; this is a hard filter, not descriptive context. |
| LOCATION CONSTRAINT | 40.91610, -81.44220 | Directly used as observer point for azimuth/elevation/range computation. |
| COUNT / PATTERN | not explicit | Primary same-launch group contains 4 propagated objects in a compact sky sector. |
| MOTION LANGUAGE | orbit, disappear | Apparent motion labels in the object table provide a plausible but not definitive comparison. |
| RADAR / OFFICIAL CHECK | not observed on ATC radar | No ATC radar return can be consistent with distant orbital objects or visual aircraft-light hypotheses, but it does not prove the match. |
| ANALYTIC DISPOSITION | normal-object | 237UAP00381 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N1086F C208 a0259c at 0.1 km, azimuth 212.4 deg, elevation 70.97 deg, 4.64 min from report. Dense satellite presence alone is not treated as causation in this packet. |

8. Caveats, Limitations, and Collection Gaps

- No raw cockpit video, ATC replay, radar plot, or witness interview transcript was reviewed unless explicitly stated in the public source text.
- Aviation-derived coordinates can represent a nearby fix/radial or report point, not necessarily the actual line-of-sight intercept point.
- Starlink visibility depends on illumination, observer altitude, atmospheric conditions, and apparent brightness; this analysis tests geometry, not photometry. No brightness model is used unless explicitly stated elsewhere in the case file.
- TLE propagation is appropriate for screening and reconstruction but is not a substitute for authoritative operational ephemerides.
- When many satellites are above the horizon, generic presence is weak evidence and is not treated as causation. The report emphasizes named launch-object checks or compact same-launch trajectory groups.
- Normal-object favored is not the same as a perfect named-object identification; it requires a case-specific ordinary-object candidate stronger than simple object density.

Appendix A. Public Report Text Extracts

237UAP00381

SKYWATCH INCIDENT REPORT

PRIMARY CODE: UNIDENTIFIED AERIAL PHENOMENON

| | | |
|-------------------------|-------------------|-------------------------------|
| Date: 01:40 10/03/2024 | Callsign: JIA5656 | Origin: DCA |
| Status: Closed | Aircraft: CRJ7 | Destination: MKE |
| POD: DEN | Tail Number: | New Destination: |
| Reporting Facility: ZOB | Operator: JIA | Operator Type: Commercial |
| | Paged: YES | MOR Init: YES |
| | | MOR ID: ZOB-M-2024/10/02-0004 |

REMARKS

Aircraft reported an unidentified aerial phenomenon while NW bound at FL380, orbiting over CAK airport. The unknown phenomenon was a bright white light orbiting at approximately FL600 before disappearing. The UAP was not observed on ATC facility radar system.

237UAP00638

Washington Operations Center

Date: 10/2/2024 9:40:00 PM (-04 EDT)

Title: JIA5656 UFO-UAP ACTIVITY 10-02-2024

Latitude: 40.915055549999998 Latitude: -81.443638879999995

DESCRIPTION

PRELIM INFO FROM FAA OPS: AKRON, OH/UFO-UAP ACTIVITY/2140E/CLEVELAND ARTCC ADVISED PSA 5656, CRJ7, DCA - MKE, REPORTED AU UNIDENTIFIED AERIAL PHENOMENON OF WHITE BRIGHT LIGHTS ORBITING-STATIONARY AT FL600 WHILE NW BOUND AT FL380 VCNTY AKRON, OH (CAK). NO EVASIVE ACTION TAKEN. WOC 202-267-3333 JE/MC

Appendix B. Computational Evidence Digest

This appendix preserves the principal computed values used in the assessment, shortened to the fields most relevant to audit and review.

```
{
  "report_time_utc": "2024-10-03T01:40:00+00:00",
  "source_excerpt": "Aircraft reported an unidentified aerial phenomenon while NW bound at FL380, orbiting over CAK airport. The unknown phenomenon was a bright white light orbiting at approximately FL600 before disappearing. The UAP was not observed on ATC facility radar system.",
  "historical_starlink_element_rows": 6421,
  "observer": {
    "lat": 40.916099548339844,
    "lon": -81.44219970703125,
    "source": "aviation_fix:over CAK (public text extract 237UAP00381)"
  },
  "case_id": "237UAP00381",
  "starlink_above_horizon_at_report_time": 310,
  "starlink_catalog_ids_considered": 6422,
  "largest_same-sky_cluster_count": 111,
  "starlink_at_or_above_10_deg": 148,
  "same_launch_sky_groups": [
    {
      "azimuth_range_deg": [
        11.11,
        40.86
      ],
      "count": 4,
      "elevation_range_deg": [
        13.2,
        19.47
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Appendix C. Source Exhaustion Checklist

This checklist records which source layers were actually applied to this individual report. It separates checked evidence from unexhausted collection gaps so the disposition is auditable when the PDF is read alone.

| SOURCE LAYER | STATUS | CASE-SPECIFIC NOTE |
|-----------------------------------|-----------------------|---|
| NARA PUBLIC UAP/FAA REPORT | reviewed | Source IDs: 237UAP00381, 237UAP00638 |
| TIME AND OBSERVER COORDINATE | extracted | 2024-10-03T01:40:00+00:00 at 40.91610, -81.44220 |
| ORBITAL OBJECT PROPAGATION | screened | Starlink |
| SPACE-TRACK SATCAT METADATA | screened | 34 NORAD IDs checked; 34 matched in local SATCAT subset |
| LAUNCH-OBJECT/SUPGP LAYER | not applicable | not a launch-object case |
| NASA/JPL KNOWN SMALL-BODY LAYER | not selected | CAD/Horizons secondary screen included when this case had NEO-relevant timing/ geometry |
| NASA POWER/HORIZONS/DONKI CONTEXT | screened | Hourly weather, sky geometry, and space-weather context where local JSON is present |
| AIRCRAFT/ADS-B LAYER | screened | 32551 trace files scanned; 1200 tracks retained; aircraft strong candidate present |
| NOAA GOES IMAGERY LAYER | not exhausted | Cloud/lightning imagery layer for the report hour |
| NOAA GOES ABI/GLM MANIFEST | screened | Public S3 object listing for the report hour |
| NOAA/NEXRAD WEATHER RADAR LAYER | not exhausted | Weather radar only; not ATC/primary radar |
| NOAA IGRA RADIOSONDE LAYER | screened | Balloon drift plausibility layer |
| ASOS/METAR SURFACE WEATHER | screened | Nearest station visibility, cloud, wind, precipitation, and METAR observations |
| WEATHER/BALLOON SOURCE PLAN | planned | Nearest weather-airport, GOES, and radiosonde queries are listed where local plan JSON is present |
| FINAL ANALYTIC DISPOSITION | normal-object favored | Presence-only satellite density is context only; a stronger case-specific fit is required for normal-object disposition |

References and Source Links

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2. National Archives and Records Administration. *Record Group 615: Unidentified Anomalous Phenomena Records Collection*. <https://www.archives.gov/research/topics/uaps/rg-615>
3. National Archives and Records Administration. *Bulk Downloads for Records Related to Unidentified Anomalous Phenomena (UAPs)*. <https://www.archives.gov/research/catalog/catalog-bulk-downloads/uap-bulk-download>
4. National Archives Catalog. *Records from the Federal Aviation Administration Relating to Unidentified Anomalous Phenomena, National Archives Identifier 493468575*. <https://catalog.archives.gov/id/493468575>
5. National Archives direct digital object. *237UAP00381.pdf, FAA UAP report record copied from RG 615 bulk digital objects*. <https://s3.dualstack.us-east-1.amazonaws.com/NARApodstorage/lz/electronic-records/rg-615/493468575/237UAP00381.pdf>
6. National Archives direct digital object. *237UAP00638.pdf, FAA UAP report record copied from RG 615 bulk digital objects*. <https://s3.dualstack.us-east-1.amazonaws.com/NARApodstorage/lz/electronic-records/rg-615/493468575/237UAP00638.pdf>
7. Hugging Face dataset. *oxzoid/space-track-tle-history: historical TLE archive used for Starlink screening*. <https://huggingface.co/datasets/oxzoid/space-track-tle-history>
8. Space-Track.org. *Public source for the underlying U.S. Space Surveillance Network TLE distribution referenced by the historical TLE archive*. <https://www.space-track.org/>
9. Space-Track.org. *API documentation for SATCAT and catalog metadata classes used for local enrichment*. <https://www.space-track.org/documentation#/api>
10. NASA POWER. *Hourly point API documentation for meteorological context*. <https://power.larc.nasa.gov/docs/services/api/temporal/hourly/>
11. NASA/JPL Solar System Dynamics. *Horizons API documentation for observer geometry and apparent magnitude queries*. <https://ssd-api.jpl.nasa.gov/doc/horizons.html>
12. NASA. *DONKI space weather API documentation*. <https://api.nasa.gov/>
13. ADSB.lol. *Interactive API documentation and OpenAPI definition*. <https://api.adsb.lol/docs>
14. ADSB.lol. *Historical open-data release documentation*. <https://www.adsb.lol/docs/open-data/historical/>
15. OpenSky Network. *REST API documentation*. <https://openskynetwork.github.io/opensky-api/rest.html>
16. OpenSky Network. *Historical data via Trino documentation*. <https://openskynetwork.github.io/opensky-api/trino.html>
17. NASA GIBS. *Global Imagery Browse Services API documentation*. <https://nasa-gibs.github.io/gibs-api-docs/>
18. NASA Earthdata. *Common Metadata Repository search API documentation*. <https://cmr.earthdata.nasa.gov/search/site/docs/search/api.html>
19. NOAA / AWS Open Data. *GOES public dataset registry*. <https://registry.opendata.aws/noaa-goes/>
20. NOAA / AWS Open Data. *NEXRAD public dataset registry*. <https://registry.opendata.aws/noaa-nexrad/>
21. NOAA NCEI. *Integrated Global Radiosonde Archive*. <https://www.ncei.noaa.gov/products/weather-balloon/integrated-global-radiosonde-archive>
22. Iowa Environmental Mesonet. *ASOS/AWOS/METAR data download service*. <https://mesonet.agron.iastate.edu/request/download.phtml>
23. Celestrak. *Spacetrack Report No. 3: Models for propagation of NORAD element sets*. <https://celestrak.org/NORAD/documentation/spacetrk.pdf>
24. Celestrak. *Supplemental GP element sets documentation and current endpoint index*. <https://celestrak.org/NORAD/elements/supplemental/>