

CASE FILE 22 / 237UAP00319

# 237UAP00319

Radar/correlation-focused public UAP report; score 68

NORMAL-OBJECT FAVORED

REPORT NO.	UAP-OM-22-237UAP00319	DISPOSITION	NORMAL-OBJECT FAVORED
PRIMARY CASE	237UAP00319	GENERATED	2026-05-20 18:32 UTC
REPORT TIME	2023-11-22T00:42:00+00:00	OBSERVER	26.52833, -81.10565
SOURCE CASE IDS	237UAP00319		

## Abstract

This case file evaluates a reported UAP sighting against the available orbital-object layer. No compact same-launch group fully identifies the file by itself. The final disposition is assigned under a normal-object favored standard, where ordinary aerospace/orbital explanations are preferred when they reasonably fit the report.

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

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237UAP00319 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N966AN B738 ad727d at 1.1 km, azimuth 121.1 deg, elevation 80.71 deg, 2.72 min from report. Dense satellite presence alone is not treated as causation in this packet.

## 1.1 Key Findings

- Source score 68 based on: radar/primary-return language, negative official correlation, maneuvering/motion anomaly, UAP/UFO language.
- Report time used: 2023-11-22T00:42:00+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 N966AN B738 ad727d at 1.1 km, azimuth 121.1 deg, elevation 80.71 deg, 2.72 min from report.
- Non-causal context / rejection screens: substantial orbital-object sky background; context only, not causation.
- Objects above horizon: 214; at/above 10 deg: 80.
- No compact same-launch/designator group survived the report threshold.
- 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

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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
237UAP00319	00:42 11/22/2023 Callsign: FDX3184 Origin: JPX	ZMA Operator: FDX Operator Type: Commercial	text extract present	<a href="#">237UAP00319.pdf</a>

### 3. Original Report Evidence

PRIMARY EXCERPT USED FOR MATCHING	Aircraft reported an unidentified aerial phenomenon off the left side while E bound at 14,000 feet, 36NM E of RSW. The unknown phenomenon was 3 lights vertical then horizontal at 14,000 feet. The UAP was not observed on ATC facility radar system. Also N516WP LJ60 PTK - FXE concurred with the report.
REPORT TIME USED	2023-11-22T00:42:00+00:00
OBSERVER COORDINATE USED	26.52833, -81.10565
OBSERVER SOURCE BASIS	aviation_offset:36NM E of RSW (public text extract 237UAP00319)

### 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	5120	HISTORICAL ELEMENT ROWS	5057
ABOVE HORIZON AT REPORT MINUTE	214	AT/ABOVE 10 DEG	80
LARGEST SAME-SKY CLUSTER	42		

No compact same-launch/designator group survived the report threshold. In this condition, satellite density remains context only and cannot by itself resolve a report with hard features.

### 5.2 Same-Launch / Same-Designator Candidate Groups

#	LAUNCH DATE	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS	MEMBERS
No same-launch group identified.						

### 5.3 Primary Group Members

OBJECT	NORAD	LAUNCH	AZ	EL	RANGE KM	APPARENT MOTION	ELEMENT AGE H
No members available.							

### 5.4 Bright-Sky Context: Top Starlink Objects by Elevation

OBJECT	AZ	EL	RANGE KM	APPARENT MOTION	LAUNCH DATE
STARLINK-30131	69.98	79.29	568.82	westward, setting	2023-06-04
STARLINK-5338	225.07	73.18	598.94	eastward, setting	2023-01-19
STARLINK-5448	95.12	63.28	599.01	eastward, setting	2022-12-17
STARLINK-1206	309.16	61.84	614.59	westward, setting	2020-02-17
STARLINK-5583	310.69	60.8	651.34	westward, setting	2023-03-03
STARLINK-3679	11.62	57.01	642.85	eastward, setting	2022-03-09
STARLINK-1273	86.19	55.19	654.78	westward, setting	2020-03-18
STARLINK-5677	311.79	54.69	672.82	eastward, setting	2023-02-02
STARLINK-30545	272.08	49.58	663.58	eastward, setting	2023-10-05
STARLINK-1989	199.75	45.04	745.02	westward, setting	2021-02-04
STARLINK-6213	229.87	40.43	818.75	westward, rising	2023-06-12
STARLINK-30609	89.9	38.85	783.58	westward, setting	2023-10-18

### 5.5 Largest Sky Clusters

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
1	42	2.11-359.99 deg	10.1-35.36 deg	eastward, level, eastward, rising, eastward, setting, westward, rising, westward, setting
2	13	143.24-233.25 deg	10.55-28.34 deg	eastward, rising, nearly fixed azimuth, rising, westward, rising, westward, setting
3	8	249.37-293.67 deg	10.03-23.78 deg	

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
				eastward, rising, westward, rising, westward, setting
4	3	309.16-311.79 deg	54.69-61.84 deg	eastward, setting, westward, setting
5	2	86.19-95.12 deg	55.19-63.28 deg	eastward, setting, westward, 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.

<b>PACKET SATCAT SUBSET ROWS</b>	5370	<b>FETCHED</b>	2026-05-19T01:19:50+00:00
<b>THIS CASE NORAD IDS CHECKED</b>	30	<b>SATCAT ROWS MATCHED</b>	30
<b>TOP OWNERS</b>	US: 30		
<b>OBJECT TYPES</b>	PAYLOAD: 30		

### 5.7 Space-Track Metadata for Top Propagated Objects

NORAD	OBJECT NAME	TYPE	OWNER	LAUNCH DATE	DECAY DATE
56833	STARLINK-30131	PAYLOAD	US	2023-06-04	n/a
55286	STARLINK-5338	PAYLOAD	US	2023-01-19	n/a
54770	STARLINK-5448	PAYLOAD	US	2022-12-17	n/a
45204	STARLINK-1206	PAYLOAD	US	2020-02-17	2025-09-25
55768	STARLINK-5583	PAYLOAD	US	2023-03-03	2025-05-28
51973	STARLINK-3679	PAYLOAD	US	2022-03-09	n/a
45367	STARLINK-1273	PAYLOAD	US	2020-03-18	n/a
55463	STARLINK-5677	PAYLOAD	US	2023-02-02	n/a
58000	STARLINK-30545	PAYLOAD	US	2023-10-05	n/a
47585	STARLINK-1989	PAYLOAD	US	2021-02-04	2025-03-31
56891	STARLINK-6213	PAYLOAD	US	2023-06-12	n/a
58085	STARLINK-30609	PAYLOAD	US	2023-10-18	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.

<b>HOURL UTC</b>	2023112200
<b>CLOUD AMOUNT</b>	16.66%
<b>PRECIPITATION</b>	0.0 mm/hr
<b>10 M WIND</b>	3.35 m/s
<b>TEMPERATURE</b>	22.88 C
<b>RELATIVE HUMIDITY</b>	80.76%
<b>DONKI +/-1 DAY</b>	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	260.61	-28.70	-26.77
Moon	176.36	56.29	-10.96
Venus	309.21	-57.61	-4.25
Mars	261.17	-29.75	1.34
Jupiter	98.32	44.87	-2.87
Saturn	204.48	47.47	0.83

- Sun elevation was -28.7 deg, so this was a dark-sky/nighttime sighting.
- Moon was above horizon at azimuth 176.4 deg / elevation 56.3 deg.
- Planets above horizon: Jupiter (44.9 deg), Saturn (47.5 deg).
- NASA POWER cloud amount for the hour was 16.66%, 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 1584.1 MiB; planes-readsb-prod-0 1586.0 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\_2023 for 2023-11-22, then filter +/-60 min and 250 nmi around 26.5283,-81.1056.
- NASA POWER/Horizons/DONKI: batch context for 237UAP00319 at 2023-11-22T00:42:00+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	<a href="https://noaa-goes16.s3.amazonaws.com/ABI-L2-CMIPF/2023/326/00/">https://noaa-goes16.s3.amazonaws.com/ABI-L2-CMIPF/2023/326/00/</a>
GOES GLM LIGHTNING PREFIX	<a href="https://noaa-goes16.s3.amazonaws.com/GLM-L2-LCFA/2023/326/00/">https://noaa-goes16.s3.amazonaws.com/GLM-L2-LCFA/2023/326/00/</a>

### 5.13 Nearest Weather-Airport Candidates

STATION	NAME	DISTANCE KM	COORDINATE
KRSW	Southwest Florida International Airport	64.40	26.53, -81.75
KFMY	Page Field	75.60	26.59, -81.86
KAPF	Naples Municipal Airport	78.70	26.15, -81.78
KPGD	Punta Gorda Airport	98.10	26.92, -81.99

STATION	NAME	DISTANCE KM	COORDINATE
KFXE	Fort Lauderdale Executive Airport	100.20	26.20, -80.17

- KRSW: [IEM ASOS/METAR daily CSV query](#)
- KFMY: [IEM ASOS/METAR daily CSV query](#)
- KAPF: [IEM ASOS/METAR daily CSV query](#)

#### 5.14 Nearest Radiosonde Stations

STATION	NAME	DISTANCE KM	COORDINATE
USM00072202	MIAMI; FL (72202-0)	112.60	25.75, -80.38
USM00072210	TAMPA BAY AREA; FL.	183.20	27.71, -82.40
USM00074794	CAPE KENNEDY	222.40	28.47, -80.55
USM00072201	KEY WEST/INT.; FL	230.10	24.55, -81.79
USM00072206	JACKSONVILLE/INTNL.; FL.	443.70	30.48, -81.70

#### 5.15 ASOS/METAR Surface Weather Observations

surface visibility ranged 10-10 statute miles; no precipitation was reported in the retained observations; low/broken/overcast cloud layers were present in at least one observation. 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
KRSW	64.40	2023-11-22T00:53:00 +00:00	10.00	CLR, M, M, M	120.00 / 7.00	KRSW 220053Z 12007KT 10SM CLR 23/19 A3001 RMK AO2 SLP158 T02280189
KFMY	75.60	2023-11-22T00:53:00 +00:00	10.00	BKN04800, M, M, M	130.00 / 6.00	KFMY 220053Z 13006KT 10SM BKN048 24/19 A3000 RMK AO2 SLP159 T02440189
KAPF	78.70	2023-11-22T00:53:00 +00:00	10.00	CLR, M, M, M	120.00 / 8.00	KAPF 220053Z 12008KT 10SM CLR 24/22 A3000 RMK AO2 SLP157 T02440222

#### 5.16 NOAA IGRA Radiosonde Wind Profile

Nearest sounding implies mean 0-12 km wind drift toward 286.3 deg at 9.5 m/s; a passive balloon could drift about 68.4 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
USM00072202	MIAMI; FL (72202-0)	112.60	2023-11-22T00:00 :00+00:00	286.30	9.50	68.40	35.90 at 19956.00 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/2023/326/00/OR\\_ABI-L2-CMIPF-M6C01\\_G16\\_s20233260000207\\_e20233260009515\\_c20233260009562.nc](#)
- [ABI-L2-CMIPF/2023/326/00/OR\\_ABI-L2-CMIPF-M6C01\\_G16\\_s20233260010207\\_e20233260019515\\_c20233260019580.nc](#)
- [ABI-L2-CMIPF/2023/326/00/OR\\_ABI-L2-CMIPF-M6C01\\_G16\\_s20233260020207\\_e20233260029515\\_c20233260029580.nc](#)
- [ABI-L2-CMIPF/2023/326/00/OR\\_ABI-L2-CMIPF-M6C01\\_G16\\_s20233260030207\\_e20233260039515\\_c20233260039575.nc](#)

#### GLM lightning sample objects:

- [GLM-L2-LCFA/2023/326/00/OR\\_GLM-L2-LCFA\\_G16\\_s20233260000000\\_e20233260000200\\_c20233260000219.nc](#)
- [GLM-L2-LCFA/2023/326/00/OR\\_GLM-L2-LCFA\\_G16\\_s20233260000200\\_e20233260000400\\_c20233260000419.nc](#)
- [GLM-L2-LCFA/2023/326/00/OR\\_GLM-L2-LCFA\\_G16\\_s20233260000400\\_e20233260001000\\_c20233260001019.nc](#)
- [GLM-L2-LCFA/2023/326/00/OR\\_GLM-L2-LCFA\\_G16\\_s20233260001000\\_e20233260001200\\_c20233260001221.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.

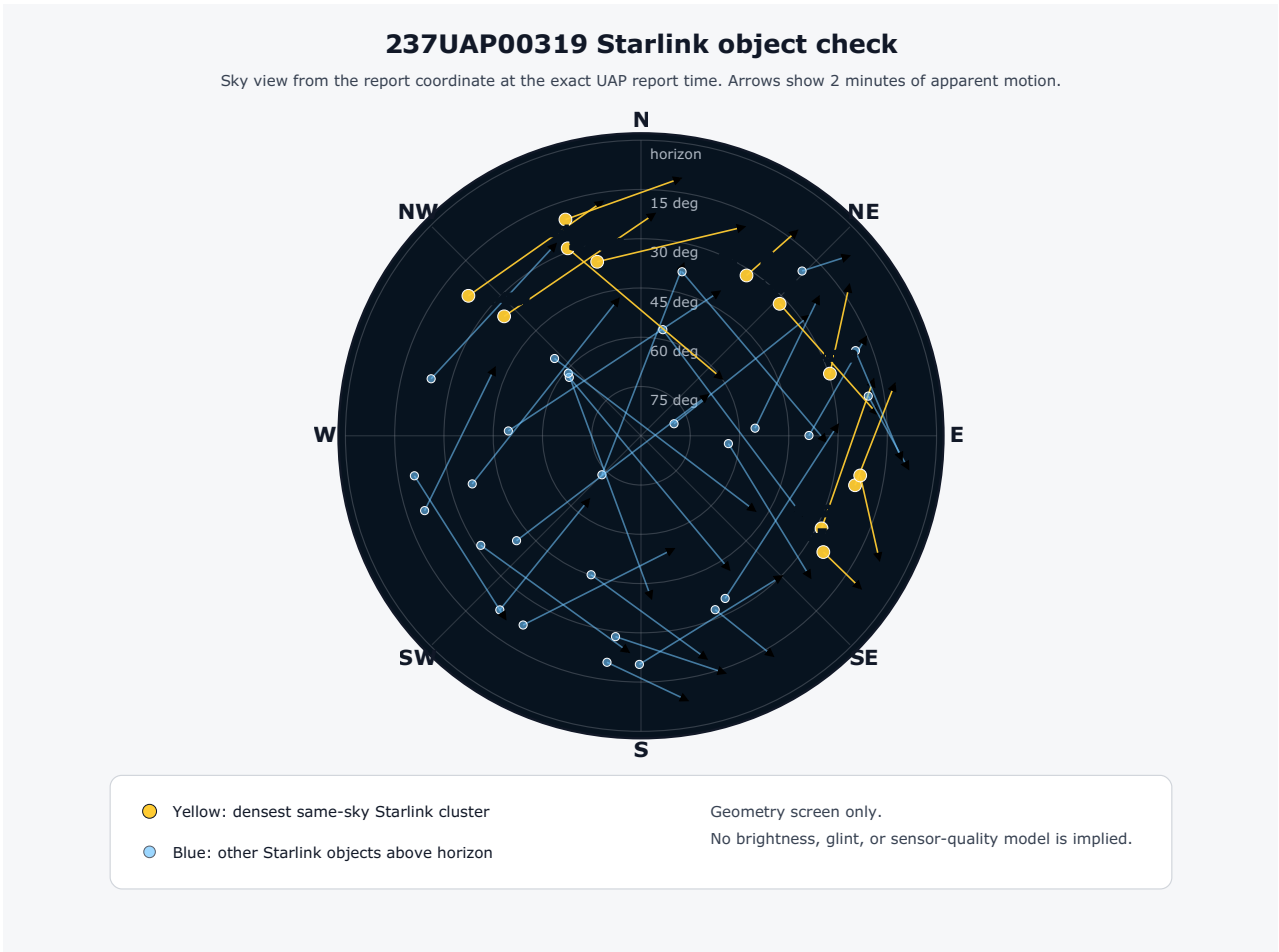
<b>ARCHIVE WINDOW</b>	2023-11-21T23:27:00+00:00 to 2023-11-22T01:57:00+00:00	<b>RADIUS</b>	300.00 nmi
<b>TRACE FILES SCANNED</b>	43890	<b>TRACKS RETAINED</b>	1200
<b>SUPPORT STATUS</b>	aircraft strong candidate present	<b>BEST-CANDIDATE NOTE</b>	ordinary-object favored if the report's count, color, direction, and motion can be reconciled with the candidate track(s).
<b>STRONG CANDIDATES</b>	55	<b>PLAUSIBLE CANDIDATES</b>	321
<b>REPORTING-AIRCRAFT TRACKS EXCLUDED</b>	3	<b>WEAK CANDIDATES</b>	357

### 5.19 Top ADS-B Candidate Tracks

AIRCRAFT	STATUS	SCORE	MIN DIST KM	NEAREST DT MIN	ALT FT	AZ	EL
N966AN B738 ad727d	strong aircraft candidate	86.96	1.10	0.07	17250	121.10	80.71
N676CB C172 a8f236	strong aircraft candidate	80.29	0.60	0.09	3975	133.50	36.79
N8861Q B38M ac36a9	strong aircraft candidate	77.47	22.00	0.10	26725	34.20	17.60
N507JT A320 a654cb	strong aircraft candidate	74.43	24.20	0.02	19900	244.00	10.93
N78511 B738 aaa5ae	strong aircraft candidate	72.47	15.70	0.02	11875	48.60	28.82
N515QS C68A a67571	strong aircraft candidate	71.72	54.40	0.10	29225	6.50	7.11
N649GC C172 a88743	strong aircraft candidate	70.76	11.10	0.01	5425	170.50	2.21
N615JB A320 a8021b	strong aircraft candidate	68.62	76.00	0.14	34025	123.30	7.14



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	2023-11-22T00:42:00+00:00	Directly used in propagation; this is a hard filter, not descriptive context.
LOCATION CONSTRAINT	26.52833, -81.10565	Directly used as observer point for azimuth/elevation/range computation.
COUNT / PATTERN	three-object/light language present	No compact same-launch count match; retained for unresolved report features.
MOTION LANGUAGE	not explicit	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	237UAP00319 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N966AN B738 ad727d at 1.1 km, azimuth 121.1 deg, elevation 80.71 deg, 2.72 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

## 237UAP00319

SKYWATCH INCIDENT REPORT

PRIMARY CODE: UNIDENTIFIED AERIAL PHENOMENON  
Date: 00:42 11/22/2023  
Status: Closed  
POD: DEN  
Reporting Facility: ZMA

Callsign: FDX3184  
Aircraft: B763  
Tail Number:  
Operator: FDX

Origin: JPX  
Destination: FLL  
New Destination:  
Operator Type: Commercial  
Paged: YES

REMARKS

Aircraft reported an unidentified aerial phenomenon off the left side while E bound at 14,000 feet, 36NM E of RSW. The unknown phenomenon was 3 lights vertical then horizontal at 14,000 feet. The UAP was not observed on ATC facility radar system. Also N516WP LJ60 PTK - FXE concurred with the report.

## 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": "2023-11-22T00:42:00+00:00",
  "source_excerpt": "Aircraft reported an unidentified aerial phenomenon off the left side while E bound at 14,000 feet, 36NM E of RSW. The unknown phenomenon was 3 lights vertical then horizontal at 14,000 feet. The UAP was not observed on ATC facility radar system. Also N516WP LJ60 PTK - FXE concurred with the report.",
  "historical_starlink_element_rows": 5057,
  "observer": {
    "lat": 26.528333347468234,
    "lon": -81.10564582597516,
    "source": "aviation_offset:36NM E of RSW (public text extract 237UAP00319)"
  },
  "case_id": "237UAP00319",
  "starlink_above_horizon_at_report_time": 214,
  "starlink_catalog_ids_considered": 5120,
  "largest_same-sky_cluster_count": 42,
  "starlink_at_or_above_10_deg": 80,
  "top_starlinks": [
    {
      "azimuth_deg": 69.98,
      "azimuth_plus_2m_deg": 54.54,
      "azimuth_plus_5m_deg": 53.85,
      "element_age_hours": 0.18,
      "element_epoch": "2023-11-22T00:31:03.042336+00:00",
      "elevation_deg": 79.29,
      "elevation_plus_2m_deg": 27.06,
      "elevation_plus_5m_deg": 4.98,
      "epoch_altitude_km": 565.58,
      "ground_track_bearing_deg": 52.98,
      "ground_track_label": "NE",
      "launch_date": "2023-06-04",
      "name": "STARLINK-30131",
      "norad_id": "56833",
      "range_km": 568.82,
      "sky_motion_label": "westward, setting",
      "subpoint_lat": 26.8257,
      "subpoint_lon": -80.1867
    },
    {
      "azimuth_deg": 225.07,
      "azimuth_plus_2m_deg": 13.92,
      "azimuth_plus_5m_deg": 18.14,
      "element_age_hours": 3.08,
      "element_epoch": "2023-11-22T03:47:01.835232+00:00",
      "elevation_deg": 73.18,
      "elevation_plus_2m_deg": 36.17,
      "elevation_plus_5m_deg": 7.63,
      "epoch_altitude_km": 577.76,
      "ground_track_bearing_deg": 19.1,
      "ground_track_label": "NNE",
      "launch_date": "2023-01-19",
      "name": "STARLINK-5338",
      "norad_id": "55286",
      "range_km": 598.94,
      "sky_motion_label": "eastward, setting",
      "subpoint_lat": 25.5108,
      "subpoint_lon": -82.2253
    },
    {
      "azimuth_deg": 95.12,
      "azimuth_plus_2m_deg": 129.89,
      "azimuth_plus_5m_deg": 135.75,
      "element_age_hours": 0.94,
      "element_epoch": "2023-11-22T01:38:36.181248+00:00",
      "elevation_deg": 63.28,
      "elevation_plus_2m_deg": 22.85,
      "elevation_plus_5m_deg": 3.19,
      "epoch_altitude_km": 545.73,
      "ground_track_bearing_deg": 141.16,
      "ground_track_label": "SE",
      "launch_date": "2022-12-17",
      "name": "STARLINK-5448",
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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: 237UAP00319
TIME AND OBSERVER COORDINATE	extracted	2023-11-22T00:42:00+00:00 at 26.52833, -81.10565
ORBITAL OBJECT PROPAGATION	screened	Starlink
SPACE-TRACK SATCAT METADATA	screened	30 NORAD IDs checked; 30 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	43890 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. *237UAP00319.pdf, FAA UAP report record copied from RG 615 bulk digital objects*. <https://s3.dualstack.us-east-1.amazonaws.com/NARAprdstorage/lz/electronic-records/rg-615/493468575/237UAP00319.pdf>
6. Hugging Face dataset. *oxzoid/space-track-tle-history: historical TLE archive used for Starlink screening*. <https://huggingface.co/datasets/oxzoid/space-track-tle-history>
7. 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/>
8. Space-Track.org. *API documentation for SATCAT and catalog metadata classes used for local enrichment*. <https://www.space-track.org/documentation#/api>
9. NASA POWER. *Hourly point API documentation for meteorological context*. <https://power.larc.nasa.gov/docs/services/api/temporal/hourly/>
10. NASA/JPL Solar System Dynamics. *Horizons API documentation for observer geometry and apparent magnitude queries*. <https://ssd-api.jpl.nasa.gov/doc/horizons.html>
11. NASA. *DONKI space weather API documentation*. <https://api.nasa.gov/>
12. ADSB.lol. *Interactive API documentation and OpenAPI definition*. <https://api.adsb.lol/docs>
13. ADSB.lol. *Historical open-data release documentation*. <https://www.adsb.lol/docs/open-data/historical/>
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15. OpenSky Network. *Historical data via Trino documentation*. <https://openskynetwork.github.io/opensky-api/trino.html>
16. NASA GIBS. *Global Imagery Browse Services API documentation*. <https://nasa-gibs.github.io/gibs-api-docs/>
17. NASA Earthdata. *Common Metadata Repository search API documentation*. <https://cmr.earthdata.nasa.gov/search/site/docs/search/api.html>
18. NOAA / AWS Open Data. *GOES public dataset registry*. <https://registry.opendata.aws/noaa-goes/>
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21. Iowa Environmental Mesonet. *ASOS/AWOS/METAR data download service*. <https://mesonet.agron.iastate.edu/request/download.phtml>
22. Celestrak. *Spacetrack Report No. 3: Models for propagation of NORAD element sets*. <https://celestrak.org/NORAD/documentation/spacetrk.pdf>
23. Celestrak. *Supplemental GP element sets documentation and current endpoint index*. <https://celestrak.org/NORAD/elements/supplemental/>