

Agentic Azure Chat

Grounded answers with transparent citations
powered by Azure AI Search.

Upload PDF Telemetry Mode: Standard Streaming



USER

Why is the Phoenix street grid so bright at night?



ASSISTANT

- Core reason: At night, roadway lighting traces Phoenix's regular street network, so in nighttime Earth imagery the grid shows up as bright, linear patterns visible from orbit [6] [7] [8] .
- Context on technology: A technical report cites “HPS to LED Conversion – A City of Phoenix Experience,” indicating Phoenix has undertaken high-pressure sodium to LED street-lighting conversion; such changes can influence how city lighting appears at night, though the provided sources do not quantify this effect relative to the grid layout and coverage of lights [3] .
- What the sources do not substantiate: I do not know whether specific corridors (e.g., Grand Avenue) or intersections with shopping centers/gas stations are highlighted in the cited night imagery, because those details are not supported by the provided sources [6] [7] [8] .
- Source quality note: Examples about LED choices in other cities (Los Angeles, Pittsburgh) come from a Facebook group and a discussion forum and are not needed to explain Phoenix's nighttime brightness; the Phoenix-specific reference is the technical report noted above [1] [2] [3] . - Core reason: At night, roadway lighting traces Phoenix's regular street network, so in nighttime Earth imagery the grid shows up as bright, linear patterns visible from orbit [6] [7] [8] .
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Ask anything about the Earth at Night dataset...

Send

QUALITY

86%

Grounded

SPEED

345702 ms

Last run

Show details

COST

745 tokens

Context 745

Feature Toggles 10/10



Sources

10

[1] LA converts streetlights to LED

[View source](#)

5 days ago ... By 2019, L.A. had converted roughly 160000 streetlights to LED across the city, repla...

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[2] What CCT Lights are Cities Installing? - Light Pollution - Cloudy Nights

[View source](#)

Mar 27, 2019 ... Pittsburgh lights will be changed to LEDs starting in 2019. The streetlights will b...

[Copy Citation](#)

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[3] Revision of the EU Green Public Procurement Criteria for Road ...

[View source](#)

HPS to LED Conversion – A City of Phoenix Experience. Silva et al., 2017 ... Conversion of a road li...

[Copy Citation](#)

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[4] Ban Blinding Headlights – Soft Lights Foundation

[View source](#)

... amount of lumen in the LED lights of a vehicle. Some vehicles may almost ... “More cities are sw...

[Copy Citation](#)

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[5] What LED strip lighting color temperature for van interior?

[View source](#)

May 11, 2025 ... I'm at about the mid point of building out the interior of my conversion van. I am ...

[Copy Citation](#)

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[6] earth_at_night_508_page_105_verbalized

—

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[7] earth_at_night_508_page_104_verbalized

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[8] earth_at_night_508_page_18_verbalized

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[9] earth_at_night_508_page_19_verbalized

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[10] earth_at_night_508_page_27_verbalized

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Activity

Status: complete

ModelQueryPlanning

Type modelQueryPlanning

Id 0

Input Tokens 2018

Output Tokens 1043

Elapsed Ms 12673

2025-10-23T22:51:33.752Z

SearchIndex

Type searchIndex

Id 3

Knowledge Source Name earth-at-night

Query Time 2025-10-23T22:51:15.019Z

Count 15

Elapsed Ms 466

Search Index Arguments

```
{  "search": "Phoenix urban lighting and streetlight density affecting night brightness",  "filter": null}
```

2025-10-23T22:51:33.752Z

SearchIndex

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Id 2

Knowledge Source Name earth-at-night

Query Time 2025-10-23T22:51:15.037Z

Count 45

Elapsed Ms 484

Search Index Arguments

```
{  "search": "Earth at Night satellite imagery Phoenix street grid pattern brightness explanation",  "filter": null}
```

2025-10-23T22:51:33.752Z

SearchIndex

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Id 1

Knowledge Source Name earth-at-night

Query Time 2025-10-23T22:51:15.056Z

Count 7

Elapsed Ms 502

Search Index Arguments

```
{  "search": "Phoenix street grid brightness at night causes",  "filter": null}
```

2025-10-23T22:51:33.752Z

SemanticReranker

Type semanticReranker

Id 4

Input Tokens 70541

2025-10-23T22:51:33.752Z

ModelAnswerSynthesis

Type modelAnswerSynthesis

Id 5

Input Tokens 7089

Output Tokens 1647

Elapsed Ms 18445

2025-10-23T22:51:33.752Z

Knowledge Agent Search

Knowledge agent returned 10 result(s). [correlation=2cacda1e-1466-4478-a6c5-b7fc4735c8ac]

2025-10-23T22:51:33.752Z

Knowledge Agent Preferred

Direct retrieval with hybrid strategy (lazy mode bypassed for Knowledge Agent path).

Crag Evaluation

Evaluating retrieval quality with CRAG self-grading...

Crag Result

CRAG: ambiguous confidence → use_documents. Evaluation failed (Invalid evaluation JSON: Unterminated string in JSON at position 1717 (line 1 column 1718)). Defaulting to using documents.

Crag Action

Using 5 documents without modification.

Web Search

Fetches 5 web results for "City of Phoenix LED streetlight conversion 2700K 2019 number of street lights lumens".

Reranking

Applied RRF to 5 Azure and 5 web results → 10 combined.

Quality Check

Action: accept