



# LTT 9779 b

**LTT 9779 b**, officially named **Cuancoá**, is a Neptune-sized planet orbiting the sunlike star LTT 9779, or Uúba. As of 2023, it has the highest-known albedo of any planet.<sup>[1]</sup>

## Characteristics

LTT 9779 b is one of the few known planets in the Neptunian desert.<sup>[2]</sup> It is highly reflective, with an albedo of 0.8.<sup>[3]</sup> This makes it the most reflective exoplanet discovered so far. It completes an orbit around LTT 9779 in less than a day, making temperatures on the day side soar to over 2,000 degrees Celsius.<sup>[4]</sup> Global climate models of the planet indicate it has a very metal-rich atmosphere, with clouds made of silicate likely being present.<sup>[1]</sup>

Being in the Neptunian desert, LTT 9779 b is a very rare class of planet, with few like it being known. It is estimated that only 1 in 200 Sun-like stars possess a planet with an orbital period of less than a day,<sup>[2]</sup> and most of those are Hot Jupiters or rocky planets, with ultra-hot Neptune planets being rare.<sup>[2]</sup> Because of this, LTT 9779 b has been extensively studied by many space telescopes including Hubble and James Webb.

## Name

LTT 9779 b was officially named Cuancoá in 2022 by the International Astronomical Union, as part of the NameExoWorlds competition. Cuancoá is a word that refers to the morning star in the Uwa language.<sup>[5]</sup> Cuancoá's star was named Uúba after the word for "star," "seed," and "eye" in the same language.

## See also

- LTT 9779
- List of proper names of exoplanets
- Neptunian desert

### LTT 9779 b / Cuancoá

Discovery	
<b>Discovery date</b>	2020
<b>Detection method</b>	Transit
Designations	
<b>Alternative names</b>	Cuancoá
Orbital characteristics	
<b>Semi-major axis</b>	0.01679 AU
<b>Eccentricity</b>	<0.01
<b>Inclination</b>	76.39 ± 0.43°
<b>Star</b>	<u>LTT 9779</u>
Physical characteristics	
<b>Mean radius</b>	4.72 ± 0.23 <span><span></span><span> </span><span>R</span><sub>⊕</sub></span>
<b>Mass</b>	29.32 <span><span></span><span> </span><span>M</span><sub>⊕</sub></span>
<b>Albedo</b>	0.8
<b>Temperature</b>	2,305 K (2,032 <span> </span> °C; 3,689 <span> </span> °F) (Dayside)

- NGTS-4b, another planet in the Neptunian desert

## References

---

1. Hoyer, S.; Jenkins, J. S.; Parmentier, V.; Deleuil, M.; Scandariato, G.; Wilson, T. G.; Díaz, M. R.; Crossfield, I. J. M.; Dragomir, D.; Kataria, T.; Lendl, M.; Ramirez, R.; Rojas, P. A. Peña; Vinés, J. I. (2023-07-01). "The extremely high albedo of LTT 9779 b revealed by CHEOPS - An ultrahot Neptune with a highly metallic atmosphere" (<https://www.aanda.org/articles/aa/abs/2023/07/aa46117-23/aa46117-23.html>). *Astronomy & Astrophysics*. **675**: A81. doi:10.1051/0004-6361/202346117 (<https://doi.org/10.1051%2F0004-6361%2F202346117>). ISSN 0004-6361 (<https://search.worldcat.org/issn/0004-6361>). S2CID 259715040 (<https://api.semanticscholar.org/CorpusID:259715040>).
2. Jenkins, James S.; Díaz, Matías R.; Kurtovic, Nicolás T.; Espinoza, Néstor; Vines, Jose I.; Rojas, Pablo A. Peña; Brahm, Rafael; Torres, Pascal; Cortés-Zuleta, Pía; Soto, Maritza G.; Lopez, Eric D.; King, George W.; Wheatley, Peter J.; Winn, Joshua N.; Ciardi, David R. (2020-09-14). "An Ultra-Hot Neptune in the Neptune desert". *Nature Astronomy*. **4** (12): 1148–1157. arXiv:2009.12832 (<https://arxiv.org/abs/2009.12832>). doi:10.1038/s41550-020-1142-z (<https://doi.org/10.1038%2Fs41550-020-1142-z>). ISSN 2397-3366 (<https://search.worldcat.org/issn/2397-3366>). S2CID 221883508 (<https://api.semanticscholar.org/CorpusID:221883508>).
3. "Cheops shows scorching exoplanet acts like a mirror" ([https://www.esa.int/Science\\_Exploration/Space\\_Science/Cheops/Cheops\\_shows\\_scorching\\_exoplanet\\_acts\\_like\\_a\\_mirror](https://www.esa.int/Science_Exploration/Space_Science/Cheops/Cheops_shows_scorching_exoplanet_acts_like_a_mirror)). *www.esa.int*. Retrieved 2023-10-21.
4. Crossfield, Ian J. M.; Dragomir, Diana; Cowan, Nicolas B.; Daylan, Tansu; Wong, Ian; Kataria, Tiffany; Deming, Drake; Kreidberg, Laura; Mikal-Evans, Thomas; Gorjian, Varoujan; Jenkins, James S.; Benneke, Bjoern; Collins, Karen A.; Burke, Christopher J.; Henze, Christopher E. (2020-10-26). "Phase Curves of Hot Neptune LTT 9779b Suggest a High-Metallicity Atmosphere" (<https://doi.org/10.3847%2F2041-8213%2Fabb71>). *The Astrophysical Journal*. **903** (1): L7. arXiv:2010.12745 (<https://arxiv.org/abs/2010.12745>). doi:10.3847/2041-8213/abb71 (<https://doi.org/10.3847%2F2041-8213%2Fabb71>). ISSN 2041-8213 (<https://search.worldcat.org/issn/2041-8213>).
5. "2022 Approved Names" (<https://www.nameexoworlds.iau.org/2022approved-names>). *NameExoworlds*. Retrieved 2023-10-21.

---

Retrieved from "[https://en.wikipedia.org/w/index.php?title=LTT\\_9779\\_b&oldid=1222442643](https://en.wikipedia.org/w/index.php?title=LTT_9779_b&oldid=1222442643)"