Walter De Maria sculpted lightning – and played drums for Lou Reed. So why isn’t he better known, asks Alastair Sooke

High on a remote desert plateau in western New Mexico, 460 stainless-steel poles are arranged in a grid measuring one mile by one kilometre. Polished, with solid, pointed tips, they are capable of withstanding winds of up to 100 miles per hour.

What are they for? They look like instruments for measuring meteorological phenomena, or antennas for detecting extraterrestrial activity. In fact, those enigmatic rods form a permanent installation known as The Lightning Field (1977). It is one of the most spectacular works of art in North America.

The chances are, though, that you won’t have heard of the sculptor who created The Lightning Field, which remains his best-known work. Although Walter De Maria, who died in 2013 aged 77, had a long career during which he pioneered both Minimalism and a radical movement known as Land Art – and even joined a band called the Performers that later evolved into the Velvet Underground – he has never had a solo exhibition in Britain, until now.

According to Kara Vander Weg, curator of a new show of De Maria’s work at the Gagosian Gallery in London, this fact is “puzzling”. Perhaps, though, De Maria never became household name because he was so reserved. Unlike Andy Warhol, who frittered towards the limelight at any opportunity, De Maria was intensely private.

During the course of his career, he gave only one interview, in 1972. Elizabeth Chrisdensen, now 65 and director of the Walter De Maria Archives, first met the artist in 1978, when she accompanied her boyfriend, the photographer John Cleton, to New Mexico to document The Lightning Field. A year later, she was hired as De Maria’s assistant by the non-profit Dia Art Foundation, which still maintains several of his installations around the world.

As well as The Lightning Field, these include The Brookedale Kilns (1978), a display of 2000 red bricks set in five parallel rows in a building in New York; The Brookedale Kilns exemplifies De Maria’s fascination with geometry, mathematics – and mystery; so does 540’6” (1986), an installation of 396 white lacquered wood rods arranged in patterns determined by the 96 hexagrams, or symbols, of the ancient Chinese divination text, the I Ching. This work recently went on show at the DiaBeacon museum, upstate New York, presented on two enormous red carpets, covering an area of almost 30,000 square feet.

In 1979, one of Children’s first jobs at Dia was to prepare for the reopening, the following year, of De Maria’s New York Burial Room (1977), 365 tons of soil, presented in a coffin left in Lower Manhattan, it will open to the public today.

“Walter and I had a good chemistry,” Chrisdensen recalls. “As time passed, I took on more responsibility – particularly as he got older.” By 1988, she was working full-time for De Maria in a former former substitution he owned.

In Manhattan’s East Village, “I always felt it was like being in a tomb with Walter,” she says now. “He believed in privacy, and we were a bit isolated. But I don’t mean that negatively. Inside, it was spacious and amazing.”

De Maria was born in 1935 in Albany, California, not far from San Francisco. His parents were working-class Italians who ran a simple neighbourhood restaurant.

De Maria – who did not marry after devoting his entire life to his art – was not close to his mother, Christina. “She was very sharp,” says Chrisdensen. “Walter considered her his rock.”

Christian encouraged his son to study music as he was growing up. Inimitably, though, he preferred percussion: he always loved drumming and jazz.

Later, during the 1970s, De Maria studied history, then art at the University of California, Berkeley. He trained as a painter, but in 1969, he moved to New York and began making interactive Minimalist wooden sculptures that
were deliberately absent. For instance, "Rain Drop" (1969) invited viewers to insert a small wooden ball into a slot near the top of a 60-foot tall plywood box, before retrieving it from another hole at the bottom. Also in the 1960s, de Maria joined the Primitives, alongside Lou Reed and John Cage, but he grew tired of hauling his drum kit to rehearsals and gave it up — although he did later record two musical compositions in which he played the drums accompanied, in one, by cymbals, and, in the other, by the sound of the ocean.

De Maria will always be most famous, though, as the architect of Land Art, which emerged in the States in opposition to the conventional gallery system. Along with his peers Michael Heizer and Robert Smithson, he became obsessed with creating ambitious works for sites far removed from civilization. In the great outdoors. In 1968, for instance, he partially realized "MuLong Drawings," a vast of parallel chalk lines that stretched for a mile through California's Mojave Desert. The Lightning Field, though, is the most powerful expression of de Maria's art, which summons monumental effects from simple, austere forms. The grid's precision of the poles is offset by the panoramic wilderness of the landscape, which contains no trace of human presence, aside from a tattered old wind pump in the distance.

As it happens, lightning strikes the Field relatively rarely: only around three times a month during "lightning season" (from late May to early September). This, however, hardly matters, since, whenever the sun rises or sets, the poles turn incandescent with reflected light. "Walter engages with something that is infinite," explains Jessica Morgan, the director of Dia Art Foundation. "His works are often enigmatic, but they are also ambitious, extraordinarily theatrical, and awe-inspiring."

According to Childress, De Maria always hated talking about the meaning of his work. Instead, he preferred to discuss practicalities about how his sculptures were made. That said, she continues, he did have a "spiritual" side, even if he was not religious in any conventional sense.

"Walter was a complicated, private person — he didn't suffer fools — but he was also beloved," she says. "I don't think he ever wanted it to be about him. It was always about the artwork."

Walter De Maria is at Gagosian Galley, London W1C (020 7841 9960), until July 30. Information: gagosian.com