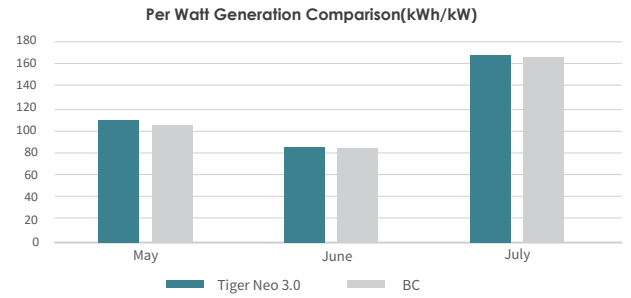
Chongqing Jiangjin Field Test: JinkoSolar's Tiger Neo 3.0 Achieves Up to 7.55% Yield Gain Compared to N-Type BC Modules

Key Findings:

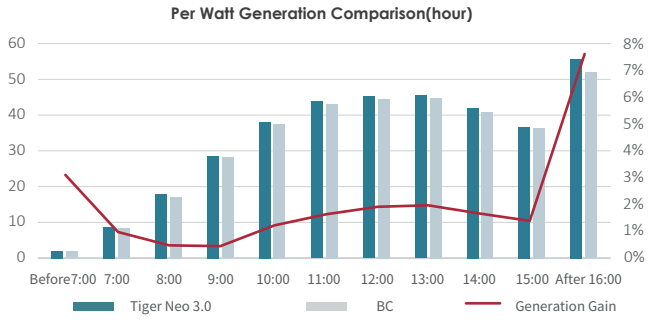
·**Higher Total Power Generation:** During the testing period, the Tiger Neo 3.0 achieved a consistent **2.31%** increase in power output per watt compared to N-type BC competitors of the same power rating

·**Significant Low-Light Advantage:** During the testing period, in the early morning and evening hours, as well as after 15:00 , the Tiger Neo 3.0 achieved an average power gain per watt of **7.55%**; on cloudy or rainy days, the daily power gain reached up to **5.68%**.

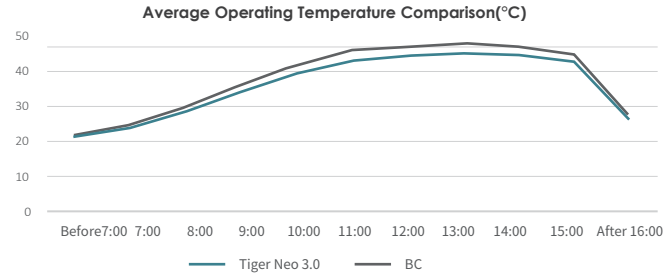
1. Leading Comprehensive Power Generation: The Chongqing Jiangjin field test project completed power generation comparison tests from May 1, 2026, to July 31, 2026. Field data shows that during the test period, JinkoSolar's Tiger Neo 3.0 modules achieved a cumulative power generation of **361.30 kWh/kW**, while N-type BC modules of the same power rating recorded **353.15 kWh/kW**. The Tiger Neo 3.0 achieved a stable power generation gain per watt of 2.31%, fully demonstrating its comprehensive power generation advantage in commercial and industrial rooftop applications.



2.Superior Low-Light Performance: Performance analysis by time segment shows that the Tiger Neo 3.0 modules demonstrate particularly strong advantages during low-light periods—with a per-watt gain of **3.00%** before 7:00 , allowing them to enter effective power generation mode earlier; and a per-watt gain of **7.55%** after 16:00 , effectively extending the duration of power generation in the evening; The average gain across all time periods throughout the day (9:00 to 15:00) remains above **1%**, demonstrating consistent performance stability around the clock. From a technical perspective, the Tiger Neo 3.0 maintains higher current collection efficiency in low-light environments thanks to its low leakage current characteristics; By contrast, N-type BC modules, due to the complex interlaced electrode structure on their rear side and dense current leakage pathways, suffer significant leakage power losses under low irradiance conditions, resulting in limited power generation.



3.Significant Advantage in Low Operating Temperature: The Tiger Neo 3.0 modules demonstrate a clear advantage in operating temperature. Throughout the entire test cycle, the average operating temperature was **1.27° C** lower than that of competitor products with the same power output; during the midday period from 12:00 to 13:00 , the average operating temperature was **2.7° C** lower than that of competing products with the same power output. Lower operating temperatures help mitigate power losses caused by the temperature coefficient, further enhancing power generation performance.



Project Background

To verify the low-light power generation performance of Tiger Neo 3.0 in real-world operating conditions and to explore its practical application value in typical commercial and industrial rooftop scenarios in the southwestern region, JinkoSolar conducted a comparative field test of Tiger Neo 3.0 and N-type BC modules in Jiangjin, Chongqing.

Chongqing experiences frequent cloudy weather, with a high proportion of periods of low irradiance, making it a typical region for testing modules' low-light response capabilities. At the same time, with the rapid development of distributed PV in the region, industrial plant roofs have become a key application scenario. Therefore, this project selected commercial and industrial rooftop application as the demonstration site to ensure that the test results more closely reflect the actual operating conditions of local projects.

Project Design

To ensure that the test results fully reflect the actual operating conditions of local projects and to guarantee the objectivity and validity of the comparison, this project adopted a string-level parallel comparison approach and standardized key test conditions:

1. Test Samples: 15 pieces of Tiger Neo 3.0 modules (rated power: 650 W) were selected, along with 15 pieces N-type BC competitor modules of the same power rating (rated power: 650 W). Both test groups have a capacity of 9.75 kW.

2. Installation Method: Both sets of modules were installed flat on a commercial and industrial rooftop with a near-0 ° tilt angle, facing the same direction and with no surrounding obstructions, to ensure essentially identical irradiation conditions;

3. Purpose of Comparison: Under such conditions, light exposure on the rear side of the modules is limited, which effectively minimizes the impact of differences in bifaciality on power generation results, allowing the test to more accurately reflect the front-side power generation performance and low-light response capabilities of the two types of modules;

4. Electrical Configuration: Two string circuits are connected to the same model of string inverter, utilizing independent MPPT channels to synchronously collect power generation data.

5. Monitoring Period: May 1, 2026, to July 31, 2026, covering a nearly three-month operational cycle.

6. Key monitoring metrics include: cumulative power generation per watt (kWh/kW), time-segmented power generation per watt (kWh/kW), relative power generation gain (%), and module cell temperature (°C).

Data Insights

Actual measurement data from the nearly three-month monitoring period shows that during the test period, the cumulative power generation per watt of JinkoSolar's Tiger Neo 3.0 modules reached **361.30 kWh/kW**, while N-type BC modules of the same power rating achieved **353.15 kWh/kW**. The Tiger Neo 3.0 achieved a stable power generation gain per watt of **2.31%**. In Jiangjin, Chongqing, overcast and rainy weather accounted for nearly 80% of the time, the Tiger Neo 3.0 modules' low-light performance can be verified from the following two perspectives.

1.Outstanding power generation performance in the morning and evening: A time-segmented analysis shows that the Tiger Neo 3.0 performs particularly well during low-light periods. Before 7:00 , it achieves a per-watt gain of **3.00%**, entering effective power generation mode earlier; after 16:00 , it achieves a per-watt gain of **7.55%**, effectively extending the evening power generation duration; The average gain remained above 1% during the 9:00 –15:00 period, demonstrating stable performance throughout the day and across all time slots.

2. Significant advantages throughout the day on cloudy and rainy days: A single-day analysis of the rainy weather on June 6 showed that the Tiger Neo 3.0 achieved a power generation gain per watt of **5.68%** on that day. Specifically, the average power generation gain from 9:00 to 15:00 was **4.51%**, demonstrating stable performance even when irradiance was generally low throughout the day. Compared to the 2.29% average gain recorded on July 19 under sunny conditions, the Tiger Neo 3.0's performance advantage in overcast and rainy weather is particularly pronounced.

Technical Analysis

From a technical perspective, the Tiger Neo 3.0' s performance advantage during low-light conditions is primarily due to lower internal current losses. As irradiance decreases, the photogenerated current produced by the module decreases accordingly, while the proportion of leakage current and parallel resistance losses in the total output increases relatively, leading to a more pronounced impact on the module' s operating voltage, fill factor, and output power. Tiger Neo 3.0 is capable of maintaining a more stable electrical output under low irradiance conditions, thereby further amplifying its relative power generation advantage during early morning, late evening, and overcast or rainy periods.

In contrast, N-type BC cells feature an interlaced arrangement of positive and negative electrodes on the rear surface, requiring more complex production processes, which place higher demands on local insulation, boundary recombination, and control of parallel resistance. Related electrical losses are more easily amplified under low-irradiance conditions, thereby affecting power output during low-light periods. This is consistent with empirical results showing that Tiger Neo 3.0 achieves a gain of **3.00%** per watt before 7:00 and a gain that expands to **7.55%** after 16:00.