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# Crystalline Silicon Module Products Installation Manual (IEC)

### 1 Scope

- This manual contains information regarding the installation and safe handling of the photovoltaic module (hereafter is referred to as "module") produced LUXEN SOLAR ENERGY CO., LTD. (hereinafter referred to as "LN").
- This manual does not have any warranty significance, Expressed or implied. Installers must read and understand the manual before installation. The installer should conform to all safety precautions in the manual and local laws & regulations when installing module; before installing a solar photovoltaic system, installers should be familiar with the mechanical and electrical requirements for such a system.
- Keep this manual in a safe place for future reference (care and maintenance) and in case of sale or disposal of the modules.
- Any questions, please contact with the salesman or customer service personnel of LN solar for further explanations.
- This manual is applicable to the following products shown in table 1.

Table1 Product model code

Туре	Product model
	LNDT-xxxND (182*105-132pcs)
	LNDB-xxxND (182*105-108pcs)
	LNDX-xxxND (182*105-96pcs)
	LNCU-xxxND (182*99.5-144pcs)
	LNCT-xxxND (182*99.5-132pcs)
Mono	LNVH-×××ND(182.2-156 pcs)
(N-TOPCon)	LNVU-xxxND (182.2-144 pcs)
	LNVT-xxxND (182.2-132 pcs)
	LNVK-xxxND (182.2-120 pcs)
	LNVB-xxxND (182.2-108 pcs)
	LNAU-xxxND (191.6-144pcs)
	Notes: ××× represent module power grade, each 5W consists of a grade;

### 2 Disclaimer of Liability

- **2.1** Because using of this manual and the conditions or methods of the module installation, handling, use and maintenance are beyond the control range of LN solar, so If the conditions or methods of the module installation, handling, use and maintenance of the customer are beyond the range specified in this manual and cause damage, LN solar does not assume responsibility for any loss, damage or expense thus caused.
- **2.2** LN solar has the right to refuse to compensate for the product damage due to construction or design defects of the solar photovoltaic system.
- **2.3** No responsibility is assumed by LN solar for any infringement of patent right or other rights of third parties, which may result from the customer's use of the LN solar's modules. No patent license or patent rights is granted to customer, express or implied, due to its use of LN solar's modules.
- **2.4** Failure to comply with the requirements listed in this manual will invalidate the "Limited Warranty for PV Modules" provided by salesman of LN solar. Meanwhile, recommendations provided in this manual are in order to improve the security of installation.
- **2.5** The information in this manual is based on LN solar's best knowledge and experience and is believed to be reliable; but such information including product specification (without limitations) and suggestions do not give any guarantee, Expressed or implied.
- **2.6** LN solar reserves the right to make changes to the product specifications or installation manual without prior notice.

#### 3 Safety precautions

### 3.1 General safety

- **3.1.1** LN solar's modules have been evaluated by according to IEC61215 and IEC61730, fire safety classaccording to UL790 class A, modules rated for use in this application class may be used in system operating at greater than 50V DC or 240W.
- **3.1.2** The installer should abide by the relevant local laws and regulations when installing module. It is need to obtain the required certificates in advance when necessary, such as the building permit, please don't work under no protective measures.
- **3.1.3** Installing solar photovoltaic systems requires professional skills and knowledge. Installation can only be carried out by qualified personnel. If module glass or other sealing materials are damaged, please wear PPE(personal protective equipment) and then isolate modules from the circuit.Do not operate when modules are wet unless you wear PPE(personal protective equipment). Please follow the cleaning requirements in this manual when cleaning modules.and bear all potential injury risks that may occur during the installation process, such as electric shock.
- **3.1.4** Photovoltaic modules are designed for outdoor use. Modules may be mounted on ground, rooftops, vehicles or boats. Proper design of support structures is the responsibility of the system designers or installers. When modules are mounted on rooftops, fire-protection rating of the final structure should be considered, and also the later maintenance. The rooftops and support structure for PV system should only be certified by architectural experts or engineer, which have a formal complete structure analysis results.
- **3.1.5** For your safety, Do not install or handle the modules under wet or adverse environment, including but not limited to strong wind, gusty wind, frosted roof surfaces, wet environment.

### 3.2 Electrical properties safety

- **3.2.1** When exposed to direct sunlight, one individual PV module may generate DC voltages greater than 30 volts, so it is extremely dangerous to contact the metal part of the wire, which may get a shock, burn and kill. And do not touch or lean on a working module.
- **3.2.2** In order to avoid arc and electric shock, please do not disconnect electrical connections under load, Keep all electrical connectors dry and clean, and ensure that they are in proper working condition. Never insert metal objects into the module connector.
- **3.2.3** Do not apply paint or adhesive to module surface.
- **3.2.4** Do not use mirrors or other magnifiers to focus sunlight on the modules. Do not expose the backside of modules directly to sunlight for a long time.
- **3.2.5** Do not change the configuration of the bypass diodes, Do not disassemble the modules or remove any attached nameplates or components from the modules.
- **3.2.6** Do not contact with module surface when the module is wet unless to clean the modules, please following requirements mentioned in this manual when cleaning.

### 3.3 Handling safety

- **3.3.1** Store pallets in a ventilated, rain-proof and dry location until the modules are ready to be unpacked, Keep children and unauthorized person away from the modules while transporting or installing them. Improper transportation or placing may lead to glass breakage or power loss of the modules, resulting in the loss of the use value of modules.
- **3.3.2** Handle modules with care, lift and put down modules gently. It is forbidden to carry or lift the modules by grabbing the junction box or cables. Carry a module by its edges with two or more persons.
- **3.3.3** To avoid module damage, do not place excessive loads on the module or twist the module frame. Do not stack the modules horizontally for transportation.
- **3.3.4** Pay more attention not to collide, scratch or press the module backside when transporting or installing.
- **3.3.5** To avoid module damage, do not stand or step on the module. Do not drop or place objects on the modules, Do not put tools on the module, Do not put the module on any hard surface, which maybe cause the cells broken.
- **3.3.6** Inappropriate transportation may damage the module. Control the vehicle speed when the road condition is relatively poor.

# 3.4 Installation safety

- **3.4.1** Abide by the safety regulations for all other components used in the PV system, including wiring and cables, connectors, controllers, inverters, storage batteries, etc., and use suitable equipment, connectors, wiring and mounting system for a PV system. It is better to use the same type modules in one system.
- **3.4.2** Do not install or handle the modules when they are wet or during strong wind. Keep the junction box's cover closed.
- **3.4.3** The front side of modules is constructed with tempered glass, which shall be handled with care. Improper operations may cause the tempered glass breakage. If the front glass is broken or if the back sheet is damaged, contact with any module surface or the aluminum frame can cause electrical shock, particularly when the module is wet. Broken or damaged modules must be disposed properly by professional.
- **3.4.4** When exposed to direct sunlight, one individual solar module may generate DC voltages greater than

30 volts. It is extremely dangerous to contact it.

- **3.4.5** Completely cover the module with an opaque material during installation to prevent electricity generation. Do not wear metallic rings, watchbands, ear, nose, lip rings or other metallic devices while installing or repairing photovoltaic systems. Use insulated tools that are approved for working on electrical installations and always keep them dry.
- **3.4.6** The triangle hole punched on the backside frame of the module is the drainage hole which cannot be blocked.
- **3.4.7** The maximum system voltage indicated in the rating label is 1500 V. Attention: During the system Installation, the maximum open circuit voltage in series cannot exceed the maximum system voltage.
- **3.4.8** During modules interconnection, ensure to fix the connecting cables to supporting bracket, so as to restrict the swing amplitude of the slack part of the cables.
- **3.4.9** Abide by the allowable minimum bending radius of the cables (suggest no less than 43mm).
- **3.4.10** Always protect the cable with conduit where animals or children can touch it.
- **3.4.11** Please use the connector which is specially designed for photovoltaic system, and assemble it with the tools recommended or specified by the manufacturer. In case that the connector applicable to the solar photovoltaic system is required, please contact the local supplier. Ban different connectors to plug each other.
- **3.4.12** Make sure that the polarity is correct when connecting the module with inverter, storage battery or combiner box to avoid the damage of bypass diodes in the modules due to incorrect polarity.
- **3.4.13** Do not drill holes in the frame, this may reduce the mechanical load ability and cause corrosion of the frame.
- **3.4.14** Do not scratch the anodized coating of the frame (except for grounding connection), this may cause corrosion of the frame or reduce the mechanical load ability.

### 4 Module specifications

# 4.1 Electrical characteristics

- **4.1.1** Under standard test conditions of 1000W/m  $^2$ , AM1.5, and 25  $^{\circ}$  C, the deviation requirements between the measured electrical performance values and the nominal values are: Isc is  $\pm$  5%, Voc is  $\pm$  5%, and Pmax is  $\pm$  3%.
- 4.1.2 The rated fuse current value of the PV module, Please check PV Module nameplate label.
- **4.1.3** Open circuit voltage temperature coefficient: -0.25% / °C.
- **4.1.4** Short circuit current temperature coefficient: +0.045% / °C.
- **4.1.5** Maximum power temperature coefficient: -0.29% / °C.
- **4.1.6** Safety class: Class II
- 4.1.7 Fire class: Class A
- **4.1.8** The maximum nominal voltage for all module series is 1500V according to IEC standards.

### 4.2 Product identification

Each module has labels providing the following information:

- **4.2.1** Rating label Describes the product type, rated power, rated current, rated voltage, open circuit voltage, short circuit current, all are measured at STC; weight, dimension, maximum system voltage and the fuse rating are all shown on the rating label.
- **4.2.2** Barcode Each module has a unique serial number. It contains the relevant production information of the module.
- **4.2.3** Meaning of crossed out wheeled dustbin (as shown in FIG 1):

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Contact your local government for information regarding the collection systems available.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

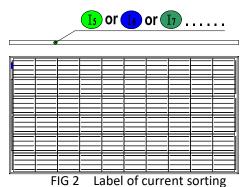
When replacing old appliances with new ones, the retailer is legally obligated to take back your old appliance for disposals at least free of charge.



FIG 1 Crossed - out wheeled dustbin

## 4.3 Current sorting

Each module has a specific label on either side of long aluminum frame (as shown in FIG 2) with the following information.



- **4.3.1** Modules are sorted by Pmax firstly, then sorted by Impp (current at maximum power point) in the same Pmax. Different color labels with distinct alphabetical letters are use to represent the Impp class.
- **4.3.2** LN solar recommends connecting the same Impp class modules in series in order to avoid or minimize power loss due to mismatch effects in arrays.

# **5 Installation Conditions**

### 5.1 Operating environment

LN solar's PV module should operate in the following environmental conditions:

**5.1.1** Ambient temperature:-20  $^{\circ}$ C to +40  $^{\circ}$ C

- **5.1.2** Operating temperature of the module:- $40^{\circ}$ C to + $70^{\circ}$ C
- **5.1.3** Humidity:85%RH
- **5.1.4** Designed mechanical load and safety factor: Positive:3600Pa(1.5 times safety factor).

Negative:1600Pa(1.5 times safety factor).

Notes: Professional system installers are responsible for mechanical load calculations when Design photovoltaic systems.

#### 5.2 Installation location

- **5.2.1** In most applications, PV modules should be installed in a location where they will receive maximum sunlight throughout the year. In the northern hemisphere, modules should typically face south, and in the southern hemisphere, modules should typically face north.
- **5.2.2** The module shall be installed in the place where the sunshine is adequate. the module surface shall not be partly shaded by trees, building, clothes, tools, packaging materials, etc. because these objects will form shadow in the module surface leading to loss of system output power.
- **5.2.3** The module shall be installed in the well-ventilated place; meanwhile, enough space for airiness shall be sated at the back and sides of the module, so that the heat generated during operation can be radiated in time
- **5.2.4** Modules must not be installed nor operated in locations with serious salt mist, hail, snow cover, sandstorm, smoke dust, air pollution, acid rain, soot, etc. and harsh environment. We suggest that the module shall be installed in dry areas with the moderate climate.
- **5.2.5** Never place the module near a naked flame or inflammable gas. LN solar's modules must be installed on suitable buildings with appropriate mounting structures, or other place suitable for modules installation, such as ground, carports, building facades, rooftops, PV trackers.
- **5.2.6** Lighting protection is necessary for PV systems in this area with high probability of lighting strikes.
- **5.2.7** Do not install the modules in this location with water immersion or near the sprinkler.
- **5.2.8** Modules must not be sited in locations with strong corrosive substances, such as salt, salt mist or other type of corrosive agent, which could affect the safety and/or performance of the modules. In case of the special installation environments such as the seaside, farm, high humidity environment and sandstorm environment, please contact the local dealer for professional support and confirmation.
- **5.2.9** The installation of PV modules should not exceed 2000 meters above sea level.

# 5.3 Tilt angle selection

- **5.3.1** The tilt angle of the Modules is measured between the surface of the modules and a horizontal ground surface, the modules generates maximum power output when it faces the sun directly.
- **5.3.2** Modules connected in series should be at the same tilt and azimuth. Differing tilt or azimuth may cause mismatch of power output due to differing amount of sunlight exposure for each module and reduce the efficiency of the PV system.
- **5.3.3** Do consider the power output in winter when choosing the optimal tilt angle for the module, which will lead to enough power output throughout the year.
- **5.3.4** For detailed information on the best installation angle, please refer to standard solar photovoltaic Installation guides or consults a reputable solar installer or systems integrator.

#### 6 Installation instructions

### **6.1 Conventional requirement**

- **6.1.1** Ensure that the installed modules and supporting rail of modules are strong enough, the entire PV system consisting of modules must be able to withstand anticipated mechanical pressure. The installer must provide the guarantee. The installation supporting rail must be tested by the third-party organization with the analysis ability of Static Mechanical according to the local national or international standards.
- **6.1.2** The supporting rail must be made of environmental corrosion, anti-rust and UV-resistant materials.
- **6.1.3** Modules must be securely fastened to the supporting rail.
- **6.1.4** Drilling holes on the surface of module glass or drilling additional mounting holes on module frames may void the warranty.
- **6.1.5** Forces generated during thermal expansion and contraction of the supporting rail may influence the performance and use of the module, so make ensure that the minimum distance between two neighboring frames is 10mm, but in order to ensure good ventilation. Suggest this distance between two neighboring frames is 30mm.
- **6.1.6** Dust gathering on the surface of module will reduce the power output, so solar system installer should calculate the optimal tilt of the module to make it easier for dust to be washed off by rain.
- **6.1.7** The bearing surface of the supporting system must be smooth without any twist or deformation, and all of them shall be at the same height without dislocation.

# 6.2 Two kinds of mounting

### **6.2.1** Roof mounting

- **6.2.1.1** It is necessary to provide a special supporting rail for the roof mounting. When installing a module on a roof or building, ensure that it is securely fastened and cannot fall or be damaged as a result of strong winds or heavy snow. During roof mounting, check the building codes being used to ensure that the building and its structure where the module is installed have adequate bearing and sealing capacity. The roof when penetrated during module installation shall be properly sealed to avoid rainwater leakage.
- **6.2.1.2** To be suitable for operation, reduce steam condensation and facilitate the ventilation & heat dissipation of the module during tile installation, the module shall be parallel to the wall or roof surface of the building, and the distance between module and surface of the wall or roof shall be at least 115mm to prevent wiring damage and to allow air circulation, ventilation and heat dissipation behind the module. For stacking type installation, the module shall be installed on the fire-resistant roof. The Fire Resistance Rated Class of the modules is Class A, and the modules are suitable for mounting on an above Class A roof. Do not install modules on a roof or building during strong wind.
- **6.2.1.3** For the roof system installed in the area with relatively heavy snowfall or snow cover in the meteorological records, the installer shall reinforce the supporting system at the lower frame of the module, in order to prevent the lower frame from being pressed and damaged by the falling snow or freezing of the melt ed snow. LN solar suggests selecting the support reinforcing mechanism shown in FIG 3.

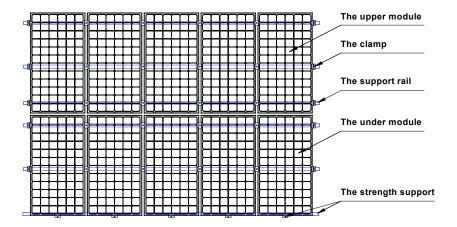


FIG 3 Schematic diagram of reinforcement mounting of module

#### 6.2.2 Ground mounting

Select the height of the mounting system to prevent the lowest edge of the module from being covered by snow for a long time in winter in areas with heavy snowfalls. The module shall be installed on the supporting rail with appropriate height instead of being directly laid on the ground. In addition, the lowest portion of the module shall be high enough (≥500 mm) from ground, so that it is not shaded by plants and trees, or damaged by sand and stone driven by wind, or not shaded by the mud splashed by rain water.

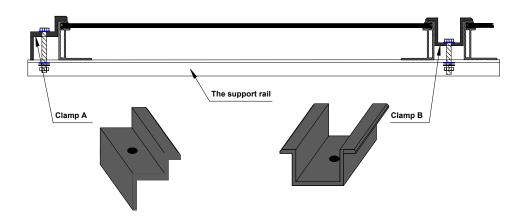
#### 6.3 Installation methods

### 6.3.1 General rules

- a) Modules can be fastened on the supporting system using clamps. Modules must be installed according to the following methods or instructions. If not the warranty may be void.
- b) The modules have been passed the mechanical load test according to IEC standard. For standard installation, the four symmetry holes close to the inner side on module frames or clamps shall be used to fasten the module to the supporting rail. LN solar's modules can sustain 2400 Pa wind pressure and 5400 Pa snow load. System designer and installer are responsible for load calculations.
- c) The supporting rail and other materials required (such as screw) shall be made of durable, resistance to environmental corrosion, anti-rust and UV-resistant materials.

#### 6.3.2 Clamp fasten the module

- **6.3.2.1** Using suitable number of clamps to fasten the module to the supporting rail, LN SOLAR suggest installer clamp the module by the long side of the module frame, and the area of module frame fastened by each clamp shall be no less than 800 mm².( clamp length ≥50mm, the clamped width of module frame shall be in this area: 9-11mm).
- **6.3.2.2** Do not contact the front glass, and do not scratch or deform the module frame in any way when fastening the module. Avoid shading effects from the clamps. Drainage holes on the modules frame must not be plugged.
- **6.3.2.3** Using at least four clamps to fasten each module, two clamps should be fastened on each long side of the module. According to local Environment (depending on wind power and snow loads), additional clamps may be required to ensure modules and PV system to withstand anticipated mechanical pressure. We recommends using the following clamps (as shown in FIG 4), or approved by reputable solar installer or systems integrator.



Clamp A: Fasten the Fringe modules

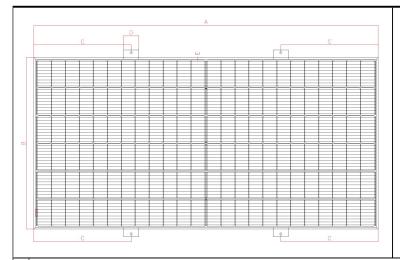
Clamp B: Fasten the Middle modules

FIG 4 Schematic diagram of module fastened by clamp method

- **6.3.2.4** The modules should be fastened to the supporting rail using anti-corrosion clamps, screws, spring washers and flat washers. And the clamps should always be mounted in a symmetric position respect to the center. LN solar suggested selecting M8 screw together with matched nut. Recommended torque should be 8 Newton-meters.
- **6.3.2.5** Under normal circumstances,LN solar suggests the installers to selecting the clamping methods of +5400Pa/-2400Pa mechanical loading to clamp the module (as shown in Table 2) to improve the bearing capacity for snow load at front side and wind pressure at back side, and enhance the system capacity.

	Mechanical	Mechanical	.,	- /	- 1	_,	_,
Module type	Loading/Pa(Positive)	Loading/Pa(Negative)	A/mm	B/mm	C/mm	D/mm	E/mm
LNDT-xxxND (182*105-132pcs)	5400	2400	2382	1134	1/4 A±50	≥50	8~11
LNDB-xxxND (182*105-108pcs)	5400	2400	1961	1134	1/4 A±50	≥50	8~11
LNDX-xxxND (182*105-96pcs)	5400	2400	1762	1134	1/4 A±50	≥50	8~11
LNCU-xxxND (182*99.5-144pcs)	5400	2400	2465	1134	1/4 A±50	≥50	8~11
LNCT-xxxND (182*99.5-132pcs)	5400	2400	2278	1134	1/4 A±50	≥50	8~11
LNVH-xxxND (182.2-156)	5400	2400	2465	1134	1/4 A±50	≥50	8~11
LNVU-xxxND (182.2-144)	5400	2400	2278	1134	1/4 A±50	≥50	8~11
LNVT-xxxND (182.2-132)	5400	2400	2094	1134	1/4 A±50	≥50	8~11
LNVK-xxxND (182.2-120)	5400	2400	1910	1134	1/4 A±50	≥50	8~11
LNVB-xxxND (182.2-108)	5400	2400	1722	1134	1/4 A±50	≥50	8~11

Table 2 Range of clamp to fasten the module



#### Note:

- A: Length of this type of module.
- B: Width of this type of module.
- C: The distance of clamp center from the edge of this type of module.
- D: Clamped length of the module frame by the clamp of this type of module.
- E: Clamped width of the module frame by the clamp of this type of module.
- \* Notes: LN solar's limited warranty will be void in cases where improper clamps or installation methods deviating from this manual are used. When using clamps to fasten the modules, pay attention to the following requirements:
  - (b) Take care of the module frames, not to twist or deform them.
  - (c) Avoid the clamps' shading influence the module.
  - (d) Not to damage the surface of module frame.
  - (e) Make sure that the module's drainage holes not be plugged.
- **6.3.2.6** For matters concerning clamp or installation not mentioned in this manual, contact the local dealer for professional support.

## 7 Electrical installations

## 7.1 General with regard to electrical installation

- **7.1.1** Under normal outdoor conditions, a module is likely to produce different current and voltage than the values measured under STC in the specification of LN solar's module. Therefore, when determining the parameters (for example, nominal voltage, conductor capacity, fuse capacity and controller capacity, etc.) related to the power output of the PV system, the values of short-circuit current and open circuit voltage of the modules should be multiplied by a factor of 125% during design and installation.
- **7.1.2** Try to use the modules with the same configuration in the same PV system. If the modules are connected in series, the total voltage is the sum of voltages of all the modules. The maximum voltage of string does not exceed the maximum system voltage of the modules (the maximum system voltage of LN solar modules is 1500V), the maximum number of modules that can be connected in a series string must be calculated in accordance with applicable regulations, make sure the open circuit voltage of string does not exceed the maximum system voltage of the modules and the other electrical DC components required at the minimum temperature at the PV system location. Using the following formula:

System voltage=N\*Voc\*[1
$$\pm\lambda v_{oc}$$
(Tmin - 25 $^{\circ}$ C)]

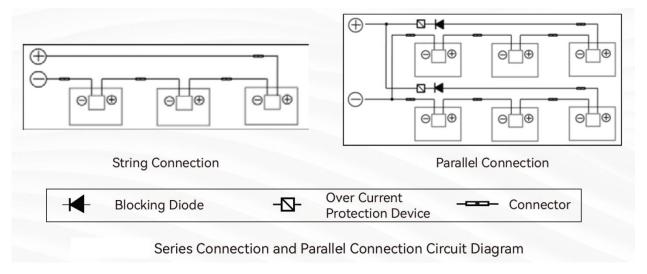
N——number of modules in series

Voc——open circuit voltage at STC (refer to product label or data sheet)

 $\lambda v_{oc}$ —Thermal coefficient of Voc of each module (refer to product data sheet)

Tmin——minimum ambient temperature at the PV system location

- **7.1.3** If the PV system requires the installation of high current, several PV modules can be connected in parallel, and total current is the sum of current of all the modules. The maximum parallel number of the modules N= Imax (fuse rating) /Isc.
- **7.1.4** There are tolerances between the rated values of the electrical performance under STC and measured values. Isc, Vocand Pmax under STC ( $1000 \text{ W/m}^2$  Irradiance, a cell temperature of  $25 ^{\circ}\text{C}$  and an AM1.5). When modules are in series connection, the string voltage is sum of every individual module in one string. When modules are in parallel connection, the current is sum of the individual module as shown in below fiaure. Modules with different electric performance models cannot be connected in the same string.



- **7.1.5** An over-current protection device with appropriately rated must be used when reverse current could exceed the value of the maximum fuse rating of the module, an over-current protection devices is required for each series string if more than two series strings are connected in parallel.
- **7.1.6** When installing the module, place the end with the junction box up and try to avoid the rain.
- **7.1.7** Do not carry out installation in rainy weather, because humidity will void the insulation protection, Thus cause safety accidents.

## 7.2 Cables and wiring

- **7.2.1** The junction boxes with IP68 protection class have been designed to be easily interconnected in series by the connectors. Each module has two single-conductor wires, one positive and one negative, which are pre-wired inside the junction box. Installers can connect two modules by firmly inserting the positive connector of a module into the negative connector of the other module.
- **7.2.2** Never perform pretreatment to modules including connector, junction box and cable with lubricating oil or cleaning agent made of alkanet materials during installation.
- **7.2.3** The cross section area of the cable and connector capacity selected must satisfy the maximum short-circuit current of the system (It is recommended that the cross section area of the cable used for the single module is  $4\text{mm}^2$ , Please note that the temperature limit range of the cable is  $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ ).
- **7.2.4** When fastening the cables to the supporting rail, pay attention to avoid mechanical damage to the cables or modules, and also making a special design to protect the cables from environmental corrosion and direct sunshine, for example, put the cable into the supporting beam or special pipes with UV-resistant materials.
- 7.2.5 The cables designed are sunlight resistant and waterproof, but also to avoid direct sunlight exposure

and water immersion of the cables

#### 7.3 Junction box and Connectors

**7.3.1** When connecting modules, make sure that the connectors of the same series module shall come from the same manufacturer or totally be compatible with each others, the connector should be mated with its original female or male connector of the same supplier, and the same requirements shall go to the connection terminals of series string and PV system, because the connectors from different manufacturers may not be compatible with each others, which easily leads to mismatch risk.

**7.3.2** The junction box, connector and diode model list is as follows:

#### Junction box:

Supplier 1: Jiangsu Tonglin Electric Co., Ltd

Model 1:TL-BOX216x

#### Connector:

Supplier 1: Jiangsu Tonglin Electric Co., Ltd

Model 1:TL-CABLE01S Pro

The connector should be mated with its original female or male connector of the same supplier.

#### Bypass diode:

Supplier 1: Jiangsu Tonglin Electric Co., Ltd

Model 1: PT001H-30

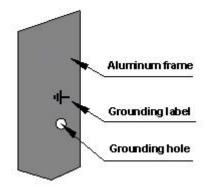
**7.3.3** Ensure that connector caps are tightened before connecting the modules, keep connectors dry and clean. Do not attempt to make an electrical connection when the connectors are wet, soiled, or otherwise faulty conditions. Avoid sunlight exposure and water immersion of the connectors.

## 7.4 Bypass diodes

The junction boxes of LN Solar's modules contain bypass diodes wired in parallel with the PV cell strings. In case of partial cell shading or damaged, the parallel diodes will bypass the current generated by the non-shaded cells, thereby limiting modules heating and performance losses. Take care, the bypass diodes are not over-current protection devices.

### 7.5 Grounding

**7.5.1** LN Solar modules use anti-corrosion and oxidation resistance aluminum frame as rigid supporting. In order to protect the module from lightning strike, electrostatic damage, and personnel safety, all module frames and mounting racks must be properly grounded, as shown in Figure 4: grounding hole and grounding label. Use the recommended connector terminal, or an equivalent, to connect the cable to the frame, and assure good electrical contact as shown in Figure 5: Grounding method.



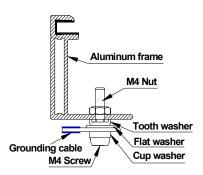


FIG 4 Grounding hole and ground label

FIG 5 Grounding method

- **7.5.2** The frames have pre-drilled grounding holes and brand with signs, these holes should be only used for grounding purposes, but not for mounting the modules. And do not drill any additional grounding holes on the frames of the module, which may void the warranty.
- **7.5.3** If the supporting system is made of metal, the surface must be electroplated and have excellent conductivity.
- **7.5.4** The grounding cables must be fully contact with inside of the aluminum alloy, and the connection terminal must penetrate the oxidation coating of frame during grounding. Connecting the module frames and supporting beams using suitable grounding conductors can achieve good grounding.
- **7.5.5** The grounding cables must be connected to the earth through a suitable grounding electrode. Recommend to use the grounding accessories (lugs) to connect the cables. Welding grounding cable to the jack of lugs, then inserting M4 screws into the ring of the lugs and the grounding holes of module frames, fastening with M4 nuts(Suggested torque range 2-4 N.m). Spring washers should be used to prevent the screws from loosening and lead to poor grounding.
- **7.5.6** LN solar modules passes the most rigorous PID testing before leaving the factory, and the negative pole of the component usually does not need to be grounded, so it can be compatible with isolated (with transformer) or non isolated types Inverter.
- ① Under the combined effects of high humidity, high temperature, and high voltage, photovoltaic modules sometimes experience potential induced attenuation (PID). Components may experience PID attenuation in the following situations:
  - 1) Installation in warm and humid climate conditions
  - 2) Installation in long-term humid locations (such as near water bodies)
- 2 To reduce the risk of PID, we recommend that the negative electrode on the DC side of the photovoltaic array be correctly grounded in a high temperature and humidity installation environment. The recommended grounding method for inverters is as follows:
  - 1) For isolated photovoltaic inverters, the negative electrode of the photovoltaic DC measurement can be directly grounded
  - 2) For non isolated photovoltaic inverter, virtual ground mode can be adopted after adding isolation transformer (usually the inverter manufacturer needs to provide grounding method guidance).

#### 8 Maintenance

#### 8.1 Usual maintenance

- **8.1.1** In the warranty period, the user must carry out regular inspection and maintenance using, which is the user's responsibility. And the user must inform the supplier within one week when founding the damages of modules.
- **8.1.2** When modules are working. There should not be environmental influence factors to cover shadows in the modules, such as other modules, supporting rail, plants, large number of dust etc., which may directly reduce the power output and may even cause regional hot–spot effect. Therefore clean the glass surface on a regular basis, clean modules take measures so as:
  - (a) In general, normal rainfall can keep the glass surface clean, if the dirt accumulated too much, using water and a soft sponge or cloth for cleaning. If necessary, a mild, non-abrasive cleaning agent can be used to remove stubborn dirt.
  - (b) Avoid pressing part of the module hard during cleaning, which may cause glass deformation, cell damage and reduction of the module's life.
  - (c) Remove the snow covered on the module in time to avoid the module damage caused by long-term accumulation of snow cover and freezing of melted snow.
  - (d) Do not clean module with cold water when the module temperature is highest in the daytime, and the thermal shocks might damage the module.
  - (e) when cleaning the back of the module needs to avoid piercing back-sheet, module needs to be often cleaned for horizontal installation (the cleaning frequency depends on the degree of dirt).

## 8.2 Visual inspection of modules

Inspect the modules visually to find whether there are appearance defects, the following need special attention:

- (a) Check whether the module glass is broken;
- (b) Check whether there is burning vestige or back up on the back-sheet;
- (c) Check whether there is corrosion along the cell bus—bar or damaged of encapsulation materials or a large area of the bubbles etc;
- (d) Check aluminum frame holes are normal; the screws of installation are tightness and electrical cables are situation.

### 8.3 Check cables and connectors

- **8.3.1** Carry out regular inspection of mechanics and electric, ensure the cleaning of the connector and be reliable connected.
- **8.3.2** Check whether all electrical connections are tight or corrosion free.
- **8.3.3** Maintenance should be carried out at least once a year.
- **8.3.4** Completely cover the module with an opaque material during repairing the module to prevent electric shock. When exposed to direct sunlight, one individual PV module may generate high DC voltages, so please be cautious of repairing. And repairing modules must be disposed properly by professional.
- Note 1: If any problem arises, have it consulted by a competent specialist.
- Note 2:If the maintenance measures are not included in this manual, please contact the local dealer for professional support.

# 8.4 Electrical ratings for all models

STC: 1000W/m²、25°C、AM1.5G	LNDT-575ND		LNDT-585ND		LNDT-595ND						D LNDT-620ND	
Pmp [W] /Tolerance±3%	575 47.59	580 47.79	585 47.99	590 48.18	595 48.37	600 48.57	605 48.75	48.9		615 49.13	620 49.32	625 49.50
Voc [V] /Tolerance±5% Isc [Adc] /Tolerance±5%	15.38	15.44	15.50	15.56	15.62	15.68	15.74	15.8		15.86	15.92	15.98
Vmp [V]	39.76	39.94	40.12	40.30	40.48	40.65	40.82	40.9	19	41.16	41.33	41.50
Imax [Adc]	14.46	14.52	14.58	14.64	14.70	14.76	14.82	14.8		14.94	15.00	15.06
BSI: GE=1000w/m²+φ*300w/m² Short Circuit Current (Isc)	18.95	19.02	19.10	19.17	19.24	19.32	19.39	ND LNDT-6		19.54	D LNDT-620ND 19.61	19.69
BNPI: GE=1000w/m <sup>2</sup> +\psi^*135w/m <sup>2</sup>	LNDT-575ND	LNDT-580ND			LNDT-595ND	LNDT-600ND	LNDT-605			LNDT-615N		
Maximum Power (Pmax)	637.10	642.64	648.18	653.72	659.26	664.80	670.34	675.		681.42	686.96	692.50
Open Circuit Voltage (Voc)	47.68 16.98	47.88 17.05	48.09 17.11	48.29 17.18	48.50 17.24	48.70 17.31	48.90 17.38	49.1		49.29 17.51	49.49 17.58	49.68 17.64
Short Circuit Current (Isc) 5% back gain (Pmax)	604	609	614	620	625	630	635	64		646	651	656
5% back gain (%)	22.35%	22.55%	22.74%	22.93%	23.13%	23.32%	23.52%			23.91%	24.10%	24.29%
15% back gain (Pmax)	661	667	673	679	684	690	696	70		707	713	719
15% back gain (%) 25% back gain (Pmax)	24.48% 719	24.69% 725	24.91% 731	25.12% 738	25.33% 744	25.54% 750	25.76% 756	25.9		26.18% 769	26.40% 775	26.61% 781
25% back gain (%)	26.61%	26.84%	27.07%	27.30%	27.53%	27.77%	28.00%			28.46%	28.69%	28.92%
				1					-			·
STC: 1000W/m²、25℃、AM1.5G	LNDB	470ND LNI	DB-475ND L	NDB-480ND	LNDB-485NI	LNDB-490	OND LND	B-495ND	LNDB	-500ND I	NDB-505ND	LNDB-510ND
Pmp [W] /Tolerance±3%		70	475	480	485	490		495		00	505	510
Voc [V] /Tolerance±5%		64	38.87	39.10	39.33	39.55		39.78		0.00	40.22	40.44
Isc [Adc] /Tolerance±5%		48	15.54	15.60	15.66	15.72		15.78		5.84	15.90	15.96
Vmp [V]		28	32.49	32.70	32.90	33.11		33.31		3.51	33.71	33.91
Imax [Adc]		56	14.62	14.68	14.74	14.80		14.86		1.92	14.98	15.04
BSI: GE=1000w/m²+φ*300w/m²				.NDB-480ND	LNDB-485NI			B-495ND				LNDB-510ND
Short Circuit Current (Isc) BNPI: GE=1000w/m <sup>2</sup> +φ*135w/n		07 <b>470ND LNI</b>	19.15 DB-475ND L	19.22 .NDB-480ND	19.29 LNDB-485NI	19.37 D LNDB-490		19.44 B-495ND		9.51 - <b>500ND</b> I	19.59 -NDB-505ND	19.66 LNDB-510ND
Maximum Power (Pmax)			526.30	531.84	537.38	542.92		48.46		4.00	559.54	565.08
Open Circuit Voltage (Voc)		.76	38.99	39.23	39.46	39.69		39.92		0.14	40.37	40.59
Short Circuit Current (Isc)	17		17.16	17.22	17.29	17.35		17.42		7.49	17.55	17.62
5% back gain (Pmax)	4		499	504	509	515		520		25	530	536
5% back gain (%)			22.43%	22.66%	22.90%	23.14%	6 2	23.37%		.61%	23.84%	24.08%
15% back gain (Pmax)	5-	11	546	552	558	564		569	5	75	581	587
15% back gain (%)			24.56%	24.82%	25.08%	25.34%	6 2	25.60%		.86%	26.12%	26.37%
25% back gain (Pmax)	5		594	600	606	613		619		25	631	638
25% back gain (%)	26.	42%	26.70%	26.98%	27.26%	27.54%	6   2	27.82%	28	.11%	28.39%	28.67%
STC: 1000W/m <sup>2</sup> , 25°C, AM1.5G	LNDX	415ND LNI	DX-420ND L	NDX-425ND	LNDX-430NI	LNDX-435	SND IND	X-440ND	INDX	-445ND I	NDX-450ND	LNDX-455ND
Pmp [W] /Tolerance±3%		15	420	425	430	435	JIVD LIVE	440		45	450	455
Voc [V] /Tolerance±5%	33		33.76	34.01	34.25	34.49		34.74		1.97	35.21	35.45
Isc [Adc] /Tolerance±5%	15	.60	15.66	15.72	15.78	15.84		15.90	15	5.96	16.02	16.08
Vmp [V]	28	54	28.77	28.99	29.21	29.43		29.65	29	9.87	30.08	30.29
Imax [Adc]		.54	14.60	14.66	14.72	14.78		14.84		1.90	14.96	15.02
BSI: GE=1000w/m <sup>2</sup> +φ*300w/m <sup>2</sup>				NDX-425ND	LNDX-430NI			X-440ND			NDX-450ND	LNDX-455ND
Short Circuit Current (Isc)	19		19.29	19.37	19.44	19.51		19.59		9.66	19.74	19.81
BNPI: GE=1000w/m <sup>2</sup> +φ*135w/n				NDX-425ND	LNDX-430NI			X-440ND				LNDX-455ND
Maximum Power (Pmax)			465.36	470.90	476.44	481.98		187.52		3.06	498.60	504.14
Open Circuit Voltage (Voc) Short Circuit Current (Isc)		.65	33.90	34.15	34.39	34.63		34.87	52	5.11	35.34	35.58
					17 /2	17.40		17 5 5	17	7.62	17.60	
		22	17.29	17.35 446	17.42 452	17.49 457		17.55 462		7.62	17.69 473	17.75 478
5% back gain (Pmax)	4	36	441	446	452	457		462	4	-67	473	478
	4	36 81%						462 23.12%	4 23			
5% back gain (Pmax) 5% back gain (%)	21. 4	36 81% 77	441 22.07%	446 22.33%	452 22.60%	457 22.86%	6 2	462	23 5	.38%	473 23.65%	478 23.91%
5% back gain (Pmax) 5% back gain (%) 15% back gain (Pmax) 15% back gain (9) 25% back gain (Pmax)	4 21. 4 23. 5	86 81% 77 89%	441 22.07% 483 24.17% 525	446 22.33% 489 24.46% 531	452 22.60% 495 24.75% 538	457 22.86% 500 25.04% 544	6 2	462 23.12% 506 25.32% 550	23 5 25	.67 .38% .12 .61%	473 23.65% 518 25.90% 563	478 23.91% 523 26.19% 569
5% back gain (Pmax) 5% back gain (%) 15% back gain (Pmax) 15% back gain (%)	4 21. 4 23. 5	86 81% 77 89%	441 22.07% 483 24.17%	446 22.33% 489 24.46%	452 22.60% 495 24.75%	457 22.86% 500 25.04%	6 2	462 23.12% 506 25.32%	23 5 25	.67 .38% .12 .61%	473 23.65% 518 25.90%	478 23.91% 523 26.19%
5% back gain (Pmax) 5% back gain (%) 15% back gain (Pmax) 15% back gain (%) 25% back gain (Pmax) 25% back gain (%)	4 21. 4 23. 5 25.	86 81% 77 89% 99	441 22.07% 483 24.17% 525 26.27%	446 22.33% 489 24.46% 531 26.59%	452 22.60% 495 24.75% 538 26.90%	457 22.86% 500 25.04% 544 27.21%	6 2	462 23.12% 506 25.32% 550 27.53%	23 5 25 5 27	.38% .12 .61% .56 .84%	473 23.65% 518 25.90% 563 28.15%	478 23.91% 523 26.19% 569 28.46%
5% back gain (Pmax) 5% back gain (%) 15% back gain (Pmax) 15% back gain (%) 25% back gain (Pmax) 25% back gain (%) STC: 1000W/m², 25%, AM1.5G	4 21. 4 23. 5 25.	86 81% 77 89% 9 96%	441 22.07% 483 24.17% 525 26.27%	446 22.33% 489 24.46% 531 26.59%	452 22.60% 495 24.75% 538 26.90%	457 22.86% 500 25.04% 544 27.21%	6 2 6 2 6 2	462 23.12% 506 25.32% 550 27.53%	4 23 5 25 5 27	.67 .38% .12 .61% .56 .84%	473 23.65% 518 25.90% 563 28.15%	478 23.91% 523 26.19% 569 28.46%
5% back gain (Pmax) 5% back gain (%) 15% back gain (9max) 15% back gain (9max) 25% back gain (Pmax) 25% back gain (9max) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±3%	4 21. 4 23. 5 25.	86 81% 77 89% 9 96% LNCU-595ND	441 22.07% 483 24.17% 525 26.27%	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605	452 22.60% 495 24.75% 538 26.90%	457 22.86% 500 25.04% 544 27.21% LNCU-615ND 615	6 2 6 2 6 2 6 2 6 2 6 2 6 2 6 2 6 2 6 2	462 23.12% 506 25.32% 550 27.53%	4 23 5 25 5 27 25 <b>ND</b>	.67 .38% .12	473 23.65% 518 25.90% 563 28.15%	478 23.91% 523 26.19% 569 28.46%
5% back gain (Pmax) 5% back gain (%) 15% back gain (Pmax) 15% back gain (%) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G	4 21. 4 23. 5 25.  LNCU-590ND 590 50.47 14.76	866 81% 77 899% 996% LNCU-595ND 595 50.67 14.82	441 22.07% 483 24.17% 525 26.27% LNCU-600ND 600 50.87 14.88	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94	452 22.60% 495 24.75% 538 26.90% LNCU-610ND 610 51.27 15.00	457 22.86% 500 25.04% 544 27.21% LNCU-615ND 615 51.46 15.06	6 2 6 2 6 2 6 20 51.65 15.12	462 23.12% 506 25.32% 550 27.53% ND LNCU-6 62 51.1	4 23 5 25 25 27 225ND	67 .38% .12 .61% .56 .84%	473 23.65% 518 25.90% 563 28.15%  D LNCU-635ND 635 52.22 15.30	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 52.41 15.36
5% back gain (Pmax) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Max) 25% back gain (Max) STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±3% Voc [V] /Tolerance±5% Isc [Ado] /Tolerance±5%	4 21. 4 23. 5 25. LNCU-590ND 590 50.47 14.76 42.48	866 81% 77 89% 99 96% LNCU-595ND 595 50.67 14.82 42.65	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83	446 22.33% 489 24.46% 531 26.59% LNCU-605ND 605 51.07 14.94 43.00	452 22.60% 495 24.75% 538 26.90% LNCU-610ND 610 51.27 15.00 43.17	457 22.86% 500 25.04% 544 27.21% LNCU-615ND 615 51.46 15.06 43.34	6 2 6 2 6 2 6 620 620 51.65 15.12 43.51	462 23.12% 506 25.32% 550 27.53% ND LNCU-6 62 51.6 15.	4 23 5 25 25 27 825ND 5 14 8 8	67 .38% .12 .61% .56 .84%  LNCU-630N .630 .52.03 .15.24 .43.84	473 23.65% 518 25.90% 563 28.15% D LNCU-635ND 635 52.22 15.30 44.01	478 23.91% 523 26.19% 569 28.46%  D. LNCU-640ND 640 52.41 15.36 44.17
5% back gain (Pmax) 5% back gain (%) 15% back gain (%) 25% back gain (%) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Vcc [V] /Tolerance±5% Vmp [V] Imax [Adc]	4 21. 4 23. 5 5 25.  LNCU-590ND 590 50.47 14.76 42.48 13.89	86 81% 77 89% 99 96% LNCU-595ND 595 50.67 14.82 42.65 13.95	441 22.07% 483 24.17% 525 26.27% LNCU-600ND 600 50.87 14.88 42.83 14.01	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 114.07	452 22.60% 495 24.75% 538 26.90% LNCU-610ND 610 51.27 15.00 43.17 14.13	457 22.86% 500 25.04% 544 27.21% LNCU-615ND 615 51.46 15.06 43.34 14.19	6 2 6 2 6 2 6 20 620 51.65 15.12 43.51 14.25	462 23.12% 506 25.32% 550 27.53% ND LNCU-6 62 51.1 15. 43.6	4 23 5 25 27 27 25ND 5 44 8 8 88 81	67 .38% .12 .61% .56 .84%	473 23.65% 518 25.90% 563 28.15%  D LNCU-635ND 635 52.22 15.30 44.01 14.43	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 52.41 15.36 44.17 14.49
5% back gain (Pmax) 5% back gain (%) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±3% Voc [V] /Tolerance±5% Isc [Adc] /Tolerance±5% Vmp [V] Imax [Adc] BSI: GE=1000w/m²+φ³300w/m² Short Gircuit Current (Isc)	4 21. 4 23. 5 5 25.  LNCU-590ND 590 50.47 14.76 42.48 13.89	86 81% 77 899% 9 996%   LNCU-595ND 595 50.67 14.82 42.65 13.95 LNCU-595ND 18.26	441 22.07% 483 483 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 LNCU-600ND 18.33	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 14.07 LNCU-605ND 18.41	452 22.60% 495 24.75% 538 26.90%  LNCU-610ND 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48	457 22.86% 500 25.04% 544 27.21%  LNCU-615ND 615 51.46 43.34 14.19 LNCU-615ND 18.55	6 2 6 2 6 2 6 6 2 6 10 6 6 2 6 10 6 10 10 10 10 10 10 10 10 10 10 10 10 10	462 23.12% 506 25.32% 550 27.53% ND LNCU-6 62 51.8 15. 43.6 14.3 ND LNCU-6 18.	4 23 5 25 25 27 225ND 6 44 8 8 8 8 11 225ND	67 .38% 12 .61% .56 .84% LNCU-630N 630 52.03 15.24 43.84 14.37 LNCU-630N 18.78	473 23.65% 518 25.90% 563 28.15%  D LNCU-635NE 635 52.22 15.30 44.01 14.43 LNCU-635NE 18.85	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 52.41 15.36 44.17 14.49 LNCU-840ND 18.92
5% back gain (Pmax) 5% back gain (%) 15% back gain (%) 15% back gain (%) 25% back gain (Pmax) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±3% Voc [V] /Tolerance±5% Isc [Adc] /Tolerance±5% Iss [Adc] /Tolerance±5% Sto [Adc] /Tolerance±5% Shot Grouit Current (Isc) BNPI: GE=1000w/m²+φ*300w/m² Shott Grouit Current (Isc) BNPI: GE=1000w/m²+g*35w/m²	4 21. 4 23. 5 25. LNCU-590ND 590 590 42.48 13.89 LNCU-590ND 18.18 LNCU-590ND	86 81% 777 899% 99 996% ELNCU-595ND 595 50.67 14.82 42.65 13.95 ELNCU-595ND LNCU-595ND LNCU-595ND LNCU-595ND LNCU-595ND	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 LNCU-600ND LNCU-600ND 18.33 LNCU-600ND	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 14.07 LNCU-605ND 18.41 LNCU-605ND	452 22.60% 495 24.75% 538 26.90%  LNCU-610ND 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND	457 22.86% 500 25.04% 544 27.21% LNCU-615ND 615 51.46 15.06 43.34 14.19 LNCU-615ND 18.55 LNCU-615ND	6 2 6 2 6 2 6 20 51.65 15.12 43.51 14.25 LNCU-620 LNCU-620	462 23.12% 506 25.32% 550 27.53% ND LNCU-6 43.4 14.3 LNCU-6 18.1	4 23 5 25 5 27 225ND 6 44 8 8 8 11 225ND 70	67 .38% 12 .61% .56 .84%  LNCU-630N 630 52.03 15.24 43.84 14.37 LNCU-630N LNCU-630N	473 23.65% 518 25.90% 563 28.15%  D LNCU-635NC 635 52.22 15.30 44.01 14.43 D LNCU-635NC LNCU-635NC LNCU-635NC	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 52.41 15.36 44.17 14.49 LINCU-640ND 18.92 LINCU-640ND
5% back gain (Pmax) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax) 25% back gain (%) STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Voc [V] /Tolerance±5% Isc [Adc] /Tolerance±5% Ump [V] Imax [Adc] BSI: GE=1000w/m²+φ*300w/m² Short Gircuit Current (Isc) BNPI: GE=1000w/m²+φ*315w/m² Maximum Power (Pmax)	4 21. 44 22. 44 23. 5 25.  LNCU-590ND 590 50.47 14.76 42.48 13.89 LNCU-590ND 18.18 LNCU-590ND 653.72	86 81% 77 89% 99 996% ENCU-595ND 595 50.67 14.82 42.65 13.95 ENCU-595ND 18.26 ENCU-595ND 659.26	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 14.01 LNCU-600ND 18.33 LNCU-600ND 664.80	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 14.07 LNCU-605ND 18.41 LNCU-605ND 670.34	452 22.60% 495 24.75% 538 26.90% LNCU-610ND 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 675.88	457 22.86% 500 25.04% 544 27.21% 615 51.46 15.06 43.34 14.19 LNCU-615ND 18.55 LNCU-615ND 681.42	6 2 LNCU-620 620 11.65 LNCU-620 18.63 LNCU-620 LNCU-620 LNCU-620 686.96	462 33.12% 506 55.32% 55.32% 55.0 27.53% ND LNCU-6 43.4 143.4 18.6 ND LNCU-6 18.6 18.6 ND LNCU-6 692.	4 23 5 25 27 225ND 6 44 8 8 88 81 1225ND 0 625ND	67 38% 12 6.61% 56 8.84%  LNCU-630N 630 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 698.04	473 23.65% 518 25.90% 563 28.15%  D LNCU-635NC 635 52.22 15.30 44.01 14.43 D LNCU-635NC 18.85 INCU-635NC 703.58	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 52.41 15.36 44.17 14.49 LNCU-640ND 18.92 LNCU-640ND 709.12
5% back gain (Pmax) 5% back gain (%) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C. AM1.5G Pmp [W] /Tolerance±5% Voc [V] /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc] /Tolerance±5% Set [Adc] /Tolerance±5% Set [Adc] /Tolerance±5% Set [Adc] /Tolerance±5% Maximum [Adc] BSI: GE=1000w/m²+φ*300w/m² Maximum Power (Pmax) Open Greuit Voltage (Voc)	4 21. 4 23. 5 25.  LNCU-590ND 590 50.47 14.76 42.48 13.89 LNCU-590ND 18.18 LNCU-590ND 653.72 50.63	86 81% 777 899% 996% 996% 50.67 14.82 42.65 13.95 LNCU-595ND 18.26 LNCU-595ND 659.26 50.83	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 LNCU-600ND 18.33 LNCU-600ND 664.80 51.04	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 14.07 LNCU-605ND 18.41 LNCU-605ND 670.34 51.24	452 22.60% 495 24.75% 538 26.90%  LNCU-610ND 610 51.27 15.00 43.17 14.13 LNCU-610ND 675.88 LNCU-610ND 675.88 51.44	457 22.86% 500 25.04% 544 27.21%  LNCU-615ND 615 51.46 15.06 43.34 14.19 LNCU-615ND 18.55 LNCU-615ND 681.42 51.64	6 2 2 1 1 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2	462 33.12% 506 55.32% 550 27.53% 100 100 100 100 100 100 100 100 100 10	4 23 5 25 27 27 225ND 6 44 8 8 8 8 11 225ND 70 225ND	67 38% 12 6.61% 656 8.44% ELNCU-630N 52.03 15.24 43.84 14.37 ELNCU-630N 18.78 ELNCU-630N 698.04 52.22	473 23.65% 518 25.90% 563 28.15%  D LNCU-635ND 635 52.22 15.30 44.01 14.43 D LNCU-635ND 18.85 D LNCU-635ND 703.58 52.241	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 15.241 15.36 44.17 14.49 LNCU-640ND 18.92 LNCU-640ND 709.12 52.60
5% back gain (Pmax) 5% back gain (%) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Voc [V] /Tolerance±5% Isc [Adc] /Tolerance±5% Vmp [V] Imax [Adc] BSI: 6E=1000w/m²+φ*300w/m² Short Grcuit Current (Isc) BNPI: 6E=1000w/m²+φ*135w/m² Maximum Power (Pmax) Open Grcuit Voltage (Voc) Short Grcuit Current (Isc) Short Grcuit Current (Isc)	4 21. 4 23. 5 25.  LNCU-S90ND 590 50.47 14.76 42.48 13.89 LNCU-S90ND 18.18 LNCU-S90ND 18.10 620	86 81% 77 899% 996%	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 LNCU-600ND 18.33 LNCU-600ND 664.80 664.80 664.80 663.0	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 14.07 LNCU-605ND 18.41 LNCU-605ND 18.41 LNCU-605ND 51.24 16.49 635	452 22.60% 495 24.75% 538 26.90%  LNCU-610ND 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 18.48 LNCU-610ND 610 610 610 610 610 610 610 610 610 610	457 22.86% 500 25.04% 544 27.21%  LNCU-615ND 615 51.46 15.06 43.34 14.19 LNCU-615ND 18.55 LNCU-615ND 681.42 51.64 16.63 646	6 2 6 2 6 2 6 20 51.65 15.12 43.51 14.25 18.63 1NCU-620 686.96 51.83 16.69 651	462 23.12% 506 25.32% 550 27.53% LNCU- 15: 43.3.1 10.0 10.0 10.0 10.0 10.0 10.0 10.0	4 23 5 25 27 225ND 5 14 8 8 8 11 225ND 70 225ND 50 13 66 66	67 38% 12 61% 56 84%  LNCU-630N 630 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 18.78 600 18.69 604 52.22 16.82 662	473 23.65% 518 25.90% 563 28.15%  D LNCU-635NE 635 52.22 15.30 44.01 LNCU-635NE 18.85 D LNCU-635NE 18.85 52.41 16.89 667	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 52.41 15.36 44.17 14.49 LNCU-640ND 18.92 LNCU-640ND 18.92 52.60 16.96 672
5% back gain (Pmax) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax)	4 21. 4 22. 23. 5 25.  LNCU-590ND 590 50.47 14.76 42.48 13.89 LNCU-590ND 18.18 LNCU-590ND 653.72 50.63 620 22.16%	36 81% 77 89% 9 96% 96% 595 50.67 14.82 42.65 13.95 LNCU-59SND 18.26 50.83 16.36 625 22.35%	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 11.88 42.83 14.01 1NCU-600ND 18.33 LNCU-600ND 664.80 51.04 16.43 630 22.54%	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 11.07 1.NCU-605ND 18.41 LNCU-605ND 670.34 51.24 635 22.73%	452 22.60% 495 24.75% 538 26.90% 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 675.88 51.44 16.56 641 22.91%	457 22.86% 500 25.04% 544 27.21%  LNCU-6150 615 51.46 43.34 14.19 LNCU-615ND 18.55 LNCU-615ND 681.42 51.64 16.63 646 23.10%	66 2  LNCU-620 620 620 15.165 15.12 43.51 14.25 LNCU-620 686.96 51.83 16.69 651	462 33.12% 5506 55.32% 550 77.53%  IND LINCU-6 51.1. 14. 14. 11. 18. 18. 18. 19. 16. 692 51.1. 16. 65.	4 23 5 25 27 27 225ND 644 8 8 8 8 8 11 225ND 0 325ND 0 33 66 65 88%	67 38% 112 611% 56 844%  LNCU-630N 630 52.03 15.24 43.84 14.37 LNCU-630N 698.04 52.22 16.82 666 622 23.666%	473 23.65% 518 25.90% 563 28.15%  D LNCU-635NC 635 52.22 15.30 44.01 14.43 D LNCU-635NC 18.85 D LNCU-635NC 18.85 52.41 16.89 667 23.85%	478 23.91% 523 26.19% 569 28.46%  LINCU-640ND 640 52.41 115.36 44.17 114.49 LINCU-640ND 18.92 LINCU-640ND 709.12 52.60 672 24.04%
5% back gain (Pmax) 5% back gain (%) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Voc [V] /Tolerance±5% Isc [Adc] /Tolerance±5% Vmp [V] Imax [Adc] BSI: 6E=1000w/m²+φ*300w/m² Short Grcuit Current (Isc) BNPI: 6E=1000w/m²+g*35w/m² Maximum Power (Pmax) Open Grcuit Voltage (Voc) Short Grcuit Current (Isc) 5% back gain (%) 15% back gain (%)	4 21. 44 22. 44 23. 5 25.  LNCU-590ND 50.47 14.76 42.48 13.89 LNCU-590ND 18.18 LNCU-590ND 653.72 50.63 16.30 620 22.16% 679	86 81% 77 89% 99 96%	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 14.01 LNCU-600ND 18.33 LNCU-600ND 18.33 LNCU-600ND 25.104 664.80 51.04 6630 22.54% 690	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 14.07 LNCU-605ND 18.41 LNCU-605ND 670.34 51.24 16.49 635 22.73% 696	452 22.60% 495 24.75% 538 26.90%  LNCU-610ND 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 675.88 51.44 16.56 641 22.91% 702	457 22.86% 500 25.04% 544 27.21%  LNCU-61SND 615 51.46 15.06 43.34 14.19 LNCU-61SND 681.42 51.64 16.63 646 23.10%	6 2  LNCU-620  15.10  15.12  43.51  14.25  18.63  1NCU-620  18.63  1NCU-620  18.63  16.69  651  23.29%	462 33.12% 506 25.32% 550 27.53% ND LNCU- 15. 15. 14. 18. 10D LNCU- 18. 18. 18. 18. 18. 18. 18. 18. 18. 18.	4 23 5 25 25 27 27 25 14 8 8 8 8 11 25 10 0 25 10 13 6 6 8 8 8 6 9	67 38% 12 61% 56 84% 630 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 18.78 LNCU-630N 18.78 2.22 16.62 23.66% 725	473 23.65% 518 25.90% 563 28.15%  D LNCU-635NC 635 52.22 15.30 44.01 14.43 D LNCU-635NC 18.85 D LNCU-635NC 703.58 52.41 16.89 667 23.85% 730	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 52.41 15.36 44.17 14.49 LNCU-640ND 18.92 LNCU-640ND 709.12 52.60 672 24.04% 736
5% back gain (Pmax) 5% back gain (%) 15% back gain (%) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C. AM1.5G Pmp [W] /Tolerance±5% Voc [V] /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc] /Tolerance±5% SBC [Adc] /Tolerance±5% SBC [Adc] /Tolerance±5% Maximum (Power) Maximum Power (Pmax) Open Gricuit Current (Isc) Shot directive (Voc) Shot directive	4 21. 4 23. 5 25.  LNCU-590ND 590 590,47 14.76 42.48 13.89 LNCU-590ND 18.18 LNCU-590ND 653.72 50.63 16.30 620 22.16% 679 24.27%	36 81% 77 89% 9 96% 96% 595 50.67 14.82 42.65 13.95 LNCU-59SND 18.26 50.83 16.36 625 22.35%	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 LNCU-600ND 18.33 LNCU-600ND 664.80 51.04 16.43 630 22.54% 690 24.68%	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 14.07 LNCU-605ND 18.41 LNCU-605ND 670.34 51.24 16.49 635 22.73% 696 24.89%	452 22.60% 495 24.75% 538 26.90% 610 51.27 15.00 43.17 18.48 LNCU-610ND 675.88 51.44 16.56 641 22.91% 702 25.10%	457 22.86% 500 25.04% 544 27.21% 615 51.46 15.06 43.34 14.19 LNCU-615ND 681.42 51.64 16.63 644 23.10% 707 25.30%	6 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	462 13.12% 506 15.32% 550 17.53%  LNCU-6 18.1 14.1 18.1 18.1 18.1 18.1 16.1 16.1 16.1 16	4 23 55 25 5 27 27 27 28 25 ND 5 5 11 11 12 25 ND 10 13 13 16 6 6 6 6 6 6 6 8 9 9 11 9 6	67 38% 12 619% 56 84%  LNCU-630N 630 52.03 15.24 43.84 14.37 LNCU-630N 698.04 52.22 16.62 23.66% 725	473 23.65% 518 25.90% 563 28.15%  D LNCU-635ND 635 52.22 15.30 44.01 14.43 D LNCU-635ND 703.58 52.41 16.89 667 23.85% 730 26.12%	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 15.241 15.36 44.17 14.49 LNCU-640ND 709.12 52.60 16.96 672 24.04% 736 26.33%
5% back gain (Pmax) 5% back gain (%) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Voc [V] /Tolerance±5% Vor [V] /Tolerance±5% Vmp [V] Imax  Adc  BSI: GE=1000w/m²+φ*300w/m² Short Grauit Current (Isc) BNPI: GE=1000w/m²+g*35w/m² Maximum Power (Pmax) Open Grauit Voltage (Voc) Short Grauit Current (Isc) 5% back gain (Pmax) 5% back gain (%) 15% back gain (Pmax)	4 21. 44 22. 44 23. 5 25.  LNCU-590ND 50.47 14.76 42.48 13.89 LNCU-590ND 18.18 LNCU-590ND 653.72 50.63 16.30 620 22.16% 679	86 81% 777 899% 996% 996% 50.67 14.82 42.65 13.95 LNCU-595ND 18.26 LNCU-595ND 659.26 50.83 16.36 625 22.35% 684 24.48%	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 14.01 LNCU-600ND 18.33 LNCU-600ND 18.33 LNCU-600ND 25.104 664.80 51.04 6630 22.54% 690	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 14.07 LNCU-605ND 18.41 LNCU-605ND 670.34 51.24 16.49 635 22.73% 696	452 22.60% 495 24.75% 538 26.90%  LNCU-610ND 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 675.88 51.44 16.56 641 22.91% 702	457 22.86% 500 25.04% 544 27.21%  LNCU-61SND 615 51.46 15.06 43.34 14.19 LNCU-61SND 681.42 51.64 16.63 646 23.10%	6 2  LNCU-620  15.10  15.12  43.51  14.25  18.63  1NCU-620  18.63  1NCU-620  18.63  16.69  651  23.29%	462 33.12% 506 15.32% 550 17.53%  INC UNCU- 15. 43.3 14. 18. IND UNCU- 692. 52. 655. 655. 23.4 71. 788	4 233 55 5 25 5 27 27 25 125 10 10 10 10 10 10 10 10 10 10 10 10 10	67 38% 12 61% 56 84% 630 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 18.78 LNCU-630N 18.78 2.22 16.62 23.66% 725	473 23.65% 518 25.90% 563 28.15%  D LNCU-635NC 635 52.22 15.30 44.01 14.43 D LNCU-635NC 18.85 D LNCU-635NC 703.58 52.41 16.89 667 23.85% 730	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 52.41 15.36 44.17 14.49 LNCU-640ND 18.92 LNCU-640ND 709.12 52.60 672 24.04% 736
5% back gain (Pmax) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Max) STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc] /Tolerance±5% Shot Gircuit Current (Isc) BNP: GE=1000w/m²+φ*300w/m² Shott Gircuit Current (Isc) BNP: GE=1000w/m²+φ*300w/m² Shott Gircuit Current (Isc) 5% back gain (Pmax) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax)	4 21. 4 21. 4 23. 5 25.  LNCU-590N 50.47 14.76 42.48 13.89 LNCU-590ND 18.18 LNCU-590ND 1653.72 50.63 16.30 620 22.16% 679 24.27% 738 26.38%	86 81% 77 889% 9 96%	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 LNCU-600ND 18.33 LNCU-600ND 664.80 51.04 630 22.54% 690 24.68% 750 26.83%	446 22.33% 489 24.46% 531 26.59%  LNCU-60SND 605 51.07 14.94 43.00 14.07 LNCU-60SND 18.41 LNCU-60SND 670.34 51.24 635 22.73% 696 24.89% 756 27.05%	452 22.60% 495 24.75% 538 26.90% 610 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 675.88 51.44 16.56 641 22.91% 702 25.10% 763 27.28%	457 22.86% 500 25.04% 544 27.21%  LNCU-61SND 615 51.46 15.06 43.34 14.19 LNCU-61SND 18.55 LNCU-61SND 681.42 51.64 646 23.10% 707 25.30% 769 27.50%	6 2 6 2 6 6 2 6 6 2 6 6 6 6 6 6 6 6 6 6	462 33.12% 506 25.32% 550 27.53%  INC UNCU- 15. 43.3 IND UNCU- 18. IND UNCU- 692 52. 52. 16. 16. 659 23.4 IND UNCU- 71 IND UNCU- 72 IND UNCU- 73 IND UNCU- 74 IND UNCU- 75 IND UNCU- 77 IND UNCU- 77 IND UNCU- 77 IND UNCU- 78 IND UNCU- 77 IND UNCU-	4 233 5 5 25 25 27 27 25 ND 6 6 6 6 6 6 6 8 8 9 9 9 11 19 6 1 5 5 %	67 38% 12 .61% 56 .84%  LNCU-630N 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 52.02 16.62 23.66% 725 25.92% 788 28.17%	473 23.65% 518 25.90% 563 28.15%  D INCU-635NC 635 52.22 15.30 44.01 14.43 D INCU-635NC 703.58 52.41 16.89 667 23.85% 730 26.12% 794 28.40%	478 23.91% 523 26.19% 569 28.46%  1 LNCU-640ND 640 52.41 15.36 44.17 14.49 1 LNCU-640ND 18.92 LNCU-640ND 709.12 52.60 672 24.04% 736 672 24.04% 736 800 28.62%
5% back gain (Pmax) 5% back gain (%) 15% back gain (β) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Voc [V] /Tolerance±5% Voc [V] /Tolerance±5% Vop [V] Imax (Adc) BSI: GE=1000w/m²+φ*300w/m² Short Grouit Current (Isc) BNPI: GE=1000w/m²+φ*135w/m² Maximum Power (Pmax) Open Grouit Voltage (Voc) Short Grouit Current (Isc) 5% back gain (%) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax) 25% back gain (M) 25% back gain (Pmax)	4 21. 4 21. 4 23. 5 25.  LNCU-590ND 590 590 42.48 13.89 LNCU-590ND 18.18 LNCU-590ND 18.18 2.06.23 2.16% 679 24.27% 738 26.38%	86 81% 777 899% 996% 996% 50.67 14.82 42.65 13.95 LNCU-595ND 18.26 LNCU-595ND 659.26 50.83 16.36 625 624 424.48% 644 24.661% ND LNCT-54	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 LNCU-600ND 18.33 LNCU-600ND 16.43 630 22.54% 690 24.68% 750 26.83%	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 14.07 LNCU-605ND 18.41 LNCU-605ND 18.41 51.24 16.49 635 22.73% 696 24.89% 756 27.05%	452 22.60% 495 24.75% 538 26.90%  LNCU-610ND 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 18.49 LNCU-610ND 25.144 16.56 641 22.91% 702 25.10% 763 27.28%	457 22.86% 500 25.04% 544 27.21%  LNCU-61SND 615 51.46 15.06 43.34 14.19 LNCU-61SND 18.55 LNCU-61SND 681.42 51.64 16.63 646 23.10% 707 25.30% 769 27.50%	6 2  LNCU-620 620 620 620 620 620 620 620 620 620	462 33.12% 506 25.32% 550 27.53%  IND LNCU- 15. 43.1 11. 14. 18. IND LNCU- 18. 49. 49. 49. 49. 49. 49. 49. 49. 49. 49	4 233 5 5 25 25 27 27 25 ND 6 6 6 6 6 6 6 8 8 9 9 9 11 19 6 1 5 5 %	67 38% 12 61% 56 84%  LNCU-630N 630 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 698.04 52.22 16.82 23.66% 725 25.92% 788 28.17%	473 23.65% 518 25.90% 563 28.15%  D LNCU-635ND 635 52.22 15.30 44.01 14.43 D LNCU-635ND 18.85 D LNCU-635ND 703.58 52.41 16.89 667 23.85% 730 26.12% 794 28.40%  LNCT-580ND	478 23.91% 523 26.19% 569 28.46%  D. LNCU-640ND 640 52.41 15.36 44.17 14.49 LNCU-640ND 18.92 LNCU-640ND 709.12 52.60 16.96 672 24.04% 736 26.33% 800 28.62%
5% back gain (Pmax) 5% back gain (%) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc] /Tolerance±5% Shot Gircuit Current (Isc) BNP: GE=1000w/m²+φ*300w/m² Short Gircuit Current (Isc) BNP: GE=1000w/m²+φ*300w/m² Short Gircuit Current (Isc) 5% back gain (Pmax) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax)	4 21. 4 21. 4 23. 5 25.  LNCU-590N 50.47 14.76 42.48 13.89 LNCU-590ND 18.18 LNCU-590ND 1653.72 50.63 16.30 620 22.16% 679 24.27% 738 26.38%	86 81% 77 889% 9 96%	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 1KCU-600ND 18.83 1KCU-600ND 664.80 51.04 16.43 630 22.54% 690 24.68% 750 24.68% 750 25.83%	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 14.07 LNCU-605ND 18.41 LNCU-605ND 670.34 51.24 635 22.73% 696 24.89% 756 27.05%	452 22.60% 495 24.75% 538 26.90% 6100 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 675.88 51.44 12.291% 702 25.10% 763 27.28% 555ND LNCT 503 47	457 22.86% 500 25.04% 544 27.21%  LNCU-61SND 615 51.46 15.06 43.34 14.19 LNCU-61SND 681.42 51.64 16.63 646 23.10% 707 25.30% 769 27.50%	6 2 6 2 6 6 2 6 6 2 6 6 6 6 6 6 6 6 6 6	462 33.12% 506 25.32% 550 27.53%  INC UNCU- 15. 43.3. 14. 18. 18. 18. 18. 18. 18. 18. 18. 18. 18	4 233 5 5 25 25 27 27 25 ND 6 6 6 6 6 6 6 8 8 9 9 9 11 19 6 1 5 5 %	67 38% 12 .61% 56 .84%  LNCU-630N 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 52.02 16.62 23.66% 725 25.92% 788 28.17%	473 23.65% 518 25.90% 563 28.15%  D INCU-635NC 635 52.22 15.30 44.01 14.43 D INCU-635NC 703.58 52.41 16.89 667 23.85% 730 26.12% 794 28.40%	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 52.41 15.36 44.17 14.49 LNCU-640ND 18.92 LNCU-640ND 709.12 52.60 672 24.04% 736 26.33% 800 28.62%  LNCT-585ND 585
5% back gain (Pmax) 5% back gain (%) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc] /Tolerance±5% Ump [V] Imax [Adc] BSI: GE=1000w/m²+φ*300w/m² Short Grouit Current (Isc) BNPI: GE=1000w/m²+φ*135w/m² Maximsum Power (Pmax) Open Grouit Voltage (Voc) Short Grouit Current (Isc) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (%) 25% back gain (Pmax) 25% back gain (%) 25% back gain (%) STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Voc [V] /Tolerance±5%	4 21. 4 21. 4 23. 5 25.  LNCU-S90ND 590 50.47 14.76 42.48 13.89 LNCU-S90ND 18.18 LNCU-S90ND 653.72 50.63 16.30 620 22.16% 679 24.27% 738 26.38%  LNCT-540 540 44.38 46.38	86 81% 77 899% 996% 996% 50.67 14.82 42.65 13.95 LNCU-595ND 18.26 LNCU-595ND 659.26 50.83 16.36 625 22.35% 744 26.61% ND LNCT-54 46.65 46.65 46.65 46.65 14.85	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 LNCU-600ND 18.33 LNCU-600ND 664.80 51.04 16.43 630 22.54% 750 24.68% 750 26.83%  LNCU-500ND 18.33 LNCU-600ND 18.33 LNCU-	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 14.07 LNCU-605ND 18.41 LNCU-605ND 670.34 51.24 16.49 635 22.73% 695 24.89% 756 27.05% 550ND LNCT-0 0 55	452 22.60% 495 24.75% 538 26.90%  LNCU-610ND 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 675.88 51.44 16.56 641 22.91% 762 25.10% 763 27.28%  555ND LNCT 155 5 5 5 03 47 97 115	457 22.86% 500 25.04% 544 27.21%  LNCU-615ND 615 51.46 15.06 43.34 14.19 LNCU-615ND 681.42 51.64 16.63 646 23.10% 707 25.30% 769 27.50% LNCU-600 LNCG 60 2.24	66 2 66 2 66 2 680 51.65 15.12 43.51 14.25 LNCU-62C 18.63 16.69 51.83 16.69 651 713 25.51% 775 27.73% TT-565ND 565 47.45	462 23.12% 506 25.32% 550 27.53%  IND LNCU- 15: 43.3 14: 10D LNCU- 18: 43.3 14: 17: 17: 16: 55.4 23.4 71: 17: 78 27.9 27.9 27.9 47.66 15.16	4 233 5 5 25 25 27 27 25 ND 6 6 6 6 6 6 6 8 8 9 9 9 11 19 6 1 5 5 %	67 38% 12 61% 56 84% 56 84% 630 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 18.78 22 16.82 662 23.66% 725 25.92% 788 28.17% 6755 47.86	473 23.65% 518 25.90% 563 28.15%  D LNCU-635NE 635 52.22 15.30 44.01 14.43 D LNCU-635NE 18.85 D LNCU-635NE 703.58 52.41 16.89 667 23.85% 730 26.12% 794 28.40%  LNCT-580ND 580 48.07 15.27	478 23.91% 523 26.19% 569 28.46%  D LNCU-640ND 640 52.41 15.36 44.17 14.49 LNCU-640ND 18.92 LNCU-640ND 18.92 26.33% 800 28.62%  LNCT-585ND 585 48.27 15.33
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5% back gain (Pmax) 5% back gain (%) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax) 25% back gain (M) STC: 1000W/m², 25°C, AM1.5G Pmp IWI /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc] /Tolerance±5% Strup [V] Imax [Adc] BSI: 6E=1000w/m²+\p*300w/m² Short Grouit Current (Isc) BNPI: 6E=1000w/m²+\p*300w/m² Short Grouit Current (Isc) SNPI: GE=1000w/m²+\p*300w/m² Short Grouit Current (Isc) 5% back gain (Pmax) Open Grouit Voltage (Voc) Short Grouit Current (Isc) 5% back gain (Pmax) 5% back gain (Pmax) 5% back gain (Pmax) 25% back gain (Pmax) 25% back gain (W) STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Isc [Adc] /Tolerance±5%	4 21. 4 21. 4 21. 4 22. 5 25.  LNCU-S90ND 590 50.47 14.76 42.48 13.89 LNCU-S90ND 18.18 LNCU-S90ND 653.72 50.63 16.30 620 22.16% 679 24.27% 738 26.38%  LNCT-540 540 46.38 14.79 38.79 38.79	86 81% 77 899% 996% 996% 595 50.67 14.82 42.65 13.95 LNCU-595ND 659.26 50.83 16.36 625 22.25% 684 24.48% 744 26.61% ND LNCT-54 545 44.66 14.85 38.98 88 38.98 13.98 13.98 13.98 13.98 13.98 13.98 13.98 13.98 13.98 13.98	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 14.01 LNCU-600ND 18.33 LNCU-600ND 18.33 LNCU-600ND 24.68% 690 24.68% 750 26.83%  LNCU-500ND LNCU-500ND 18.33 39.14.64	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 51.07 14.94 43.00 14.07 LNCU-605ND 18.41 LNCU-605ND 670.34 51.24 635 22.73% 695 24.89% 756 27.05%  SSOND LNCT-0 0 55 31 47. 91 14,17 39,14	452 22.60% 495 24.75% 538 26.90%  LNCU-610ND 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 675.88 51.44 16.56 641 22.91% 702 25.10% 763 27.28%  555ND LNCT 55 5 5 57 97 11 36 36 36 36 36 36 10	457 22.86% 500 25.04% 544 27.21%  LNCU-61SND 615 51.46 15.06 43.34 14.19 LNCU-61SND 681.42 51.64 16.63 646 23.10% 707 25.30% 769 27.50%  -560ND LNC 60 0 0.555 1.16	6 2 6 2 6 2 6 6 2 6 6 2 6 6 2 6 6 6 8 7 6 6 7 6 6 8 9 6 7 7 5 8 7 7 7 7 5 2 7 7 3 8 7 7 5 5 5 5 5 5 5 15 15 9 3 9 7 3 14 2 2 2	462 33.12% 506 25.32% 550 27.53%  IND INCU- 15. 15. 14. 18. IND INCU- 16. 62. 51.1 18. IND INCU- 19. 52. 52. INCU- 19. 57. 78. INCU- 570 47.66 15.15 39.92 14.28	4 23 55 25 5 27 27 5 5 14 8 8 8 11 125ND 10 125ND 10 125ND 15 6 6 6 8 8 9 1 19 19 19 19 19 19 19 19 19 19 19 19	67 38% 12 61% 56 84% 630 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 18.	473 23.65% 518 25.90% 563 28.15%  D LNCU-635NE 635 52.22 15.30 44.01 14.43 D LNCU-635NE 703.58 52.41 16.89 667 23.85% 730 26.12% 28.40%  LNCT-580ND 580 48.07 15.27 40.28	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 52.41 15.36 44.17 14.49 LNCU-640ND 18.92 LNCU-640ND 709.12 52.60 672 24.04% 736 26.33% 800 28.62%  LNCT-585ND 585 48.27 15.33 40.46
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5% back gain (Pmax) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] //Tolerance±5% Voc [V] /Tolerance±5% Vmp [V] Imax [Adc] BSI: 6E=1000w/m²+φ³300w/m² Short Grouit Current (Isc) BNPI: 6E=1000w/m²+φ³30w/m² Maximum Power (Pmax) Open Grouit Voltage (Voc) Short Grouit Current (Isc) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (W)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Isc [Adc] /Tolerance±5%	4 21. 4 21. 4 21. 4 22. 5 25.  LNCU-S90ND 590 50.47 14.76 42.48 13.89 LNCU-S90ND 18.18 LNCU-S90ND 653.72 50.63 16.30 620 22.16% 679 24.27% 738 26.38%  LNCT-540 540 46.38 14.79 38.79 38.79	86 81% 77 899% 996% 996% 595 50.67 14.82 42.65 13.95 16.36 62.2 23.5% 684 24.48% 744 26.61% LNCU-595ND 18.26 14.85 46.60 14.85 38.89 13.99 ND LNCT-54 18.30 18.30 ND LNCT-54 18.30 18.30 ND LNCT-54 18.30 ND LNCT-	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 LNCU-600ND 18.33 LNCU-600ND 664.80 51.04 16.43 630 22.54% 690 24.68% 750 26.83% 1500 LNCU-500ND LNCU-500ND 18.33 LNCU-600ND 18.33 LNCU-500ND 18.33 LNCU-50	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 14.07 LNCU-605ND 670.34 51.24 635 22.73% 696 24.89% 756 27.05%  SSOND LNCT- 39, 34 11 14 17 39, 34 14 LNCT- 37 18.	452 22.60% 495 24.75% 538 26.90% 610 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 16.56 641 22.91% 702 25.10% 763 27.28% 555SND LNCU-510% 15.5 03 47 97 15.5 03 47 97 15.5 03 47 97 15.5 03 47 97 15.5 05 10 LNCU-510% 10 11 255SND LNCU-510% 10 11 11 11 11 11 11 11 11 11 11 11 11	457 22.86% 500 25.04% 544 27.21%  LNCU-615ND 615 51.46 15.06 43.34 14.19 LNCU-615ND 18.55 LNCU-615ND 681.42 51.64 23.10% 707 25.30% 769 27.50%  -560ND LNCU-6100 LNCU-61000 LNCU-610000 LNCU-610000 LNCU-6100000 LNCU-61000000000000000000000000000000000000	6 2 6 2 6 2 6 6 2 6 6 2 6 6 2 6 6 6 8 7 6 6 7 6 6 8 9 6 7 7 5 8 7 7 7 7 5 2 7 7 3 8 7 7 5 5 5 5 5 5 5 15 15 9 3 9 7 3 14 2 2 2	462 33.12% 506 25.32% 550 27.53%  IND INCU- 15. 15. 14. 18. IND INCU- 16. 62. 51.1 18. IND INCU- 19. 52. 52. INCU- 19. 57. 78. INCU- 570 47.66 15.15 39.92 14.28	4 23 25 25 25 27 27 27 27 27 28 28 28 28 28 28 28 28 28 28 28 28 28	67 38% 12 61% 56 84% 630 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 18.	473 23.65% 518 25.90% 563 28.15%  D LNCU-635NE 635 52.22 15.30 44.01 14.43 D LNCU-635NE 703.58 52.41 16.89 667 23.85% 730 26.12% 28.40%  LNCT-580ND 580 48.07 15.27 40.28	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 52.41 15.36 44.17 14.49 LNCU-640ND 18.92 LNCU-640ND 709.12 52.60 672 24.04% 736 26.33% 800 28.62%  LNCT-585ND 585 48.27 15.33 40.46
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5% back gain (Pmax) 5% back gain (%) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (%) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc] /Tolerance±5% Vmp [V] Imax [Adc] BSI: 6E=1000w/m²+φ*300w/m² Short Grouit Current (Isc) BNPI: 6E=1000w/m²+q*300w/m² Short Grouit Current (Isc) 5% back gain (%) 15% back gain (%) 15% back gain (%) 25% back gain (%) 25% back gain (%) 25% back gain (%) 25% back gain (%) STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Isc [Adc] /Tolerance	4 21. 4 21. 4 21. 4 22. 5 25.  LNCU-S90ND 50.47 14.76 42.48 13.89 LNCU-S90ND 18.18 LNCU-S90ND 653.72 50.63 16.30 620 22.16% 679 24.27% 738 26.38%  LNCT-540 540 46.38 14.79 38.79 13.92 LNCT-540 18.22 LNCT-540 58.32 46.53	86 81% 77 899% 996% 996% 50.67 14.82 42.65 13.95 LNCU-595ND 659.26 50.83 16.36 625 22.35% 684 24.48% 744 26.61% ND LNCT-54 13.95 LNCU-595ND LNCU-595ND LNCU-595ND LNCT-54 603.8 46.75 13.95 LNCU-595ND LNCT-54 18.36 603.8 46.75 13.95 LNCU-595ND LNCT-54 18.36 603.8 46.75 16.36 13.95 LNCT-54 18.36 LN	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 LNCU-600ND 18.33 14.01 22.54% 690 24.68% 750 24.68% 750 24.68% 750 55.31 40.1 18.33 39.9 3 39.9 31 39.10 18.31 LNCT-50 51 18.31 LNCT-50 51 51 51 51 51 51 51 51 51 51 51 51 51	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 14.07 LNCU-605ND 18.41 LNCU-605ND 670.34 611.24 635 22.73% 696 24.89% 696 24.89% 696 27.05%  SSOND LNCT-7 91 14.47 39. 94 14.550ND LNCT-3550ND LNCT-40 614 97 47 40 614	452 22.60% 495 24.75% 538 26.90%  LNCU-610ND 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 675.88 51.44 16.56 641 22.91% 702 25.10% 643 27.28%  555ND LNCT 4797 1193 36 38 47 97 1193 36 38 47 97 44 18 5555ND LNCT 44 18 5555ND LNCT 94 62 84 62 84 62 84 62	457 22.86% 500 25.04% 544 27.21% 615 51.46 15.06 43.34 14.19 LNCU-61SND 18.55 LNCU-61SND 681.42 51.64 16.63 646 23.10% 707 25.30% 600 27.50%  -560ND LNC 60 .552 -560ND LNC 0.48 60 .552 -560ND LNC 0.48 60 .552	66 2 66 2 66 2 67 6 2 68 68 68 68 68 68 68 68 68 68 68 68 68 6	462 23.12% 506 25.32% 550 27.53%  IND LNCU- 15. 43.4 IND LNCU- 16. 62 51.1 18. IND LNCU- 16. 62 52.4 71 17. 78 27.9 LNCT-570N 570 47.66 15.15 39.92 14.28 LNCT-570N 18.66 LNCT-570N 631.56 47.82 LNCT-570N 631.56	4 23 25 25 25 27 27 27 27 27 28 28 28 28 28 28 28 28 28 28 28 28 28	67 38% 12 61% 56 84%  LNCU-630N 630 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 52.02 16.82 23.66% 725 25.92% 788 28.17% 687.725 40.10 18.74 40.10 18.74 LOT-575ND 18.74 40.10 18.74 LOT-575ND 637.10 48.04	473 23.65% 518 25.90% 563 28.15%  D LNCU-635NC 635 52.22 15.30 44.01 14.43 D LNCU-635NC 703.58 52.41 16.89 667 23.85% 730 26.12% 28.40%  LNCT-580ND 580 48.07 15.27 40.28 14.40 LNCT-580ND 18.81 LNCT-580ND 18.81 LNCT-580ND 642.64 48.24 16.86	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 52.41 15.36 44.17 14.49 LNCU-640ND 18.92 LNCU-640ND 672 24.04% 736 662 26.33% 800 28.62%  LNCT-585ND 18.89 LNCT-585ND 18.89 LNCT-585ND 18.89 LNCT-585ND 648.18 48.45
5% back gain (Pmax) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±3% Voc [V] /Tolerance±5% Iss: [Adc] /Tolerance±5% Isc: [Adc]	4 21. 4 21. 4 22. 23. 5 25. 25. 25. 25. 25. 26. 27. 28. 29. 29. 20. 20. 20. 20. 20. 20. 20. 20. 20. 20	86 81% 77 889% 9 96%	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 LNCU-600ND 664.80 51.04 16.43 630 22.54% 690 24.68% 750 26.83%  SINDL LNCT-5 55 0 46.6 3 39.9 3 14.9 15.00 18.3 18.00 19.00 1	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 14.07 14.07 14.94 43.00 15.24 16.49 635 22.73% 696 27.05% 756 27.05% 500 D LNCT-605ND L	452 22.60% 495 24.75% 538 26.90% 610 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 16.56 641 22.91% 702 25.10% 763 27.28% 555ND LNCT 155 03 47 97 11 36 36 36 10 11 555SND LNCT 44 18 555SND LNCT 45 18 16 18 16 18 16 18 16 18 16 18 18 18 18 18 18 18 18 18 18 18 18 18	457 22.86% 500 25.04% 544 27.21%  LNCU-615ND 615 51.46 15.06 43.34 14.19 LNCU-615ND 18.55 LNCU-615ND 681.42 51.64 23.10% 707 25.30% 707 25.30% 769 27.50%  LNCU-615ND	6 2  LINCU-620 620 51.65 15.12 43.51 14.25 LINCU-620 18.63 LINCU-620 686.96 51.83 16.69 651 23.29% 775 27.73% T-565ND 18.59 14.25 15.09 39.73 14.22 15.50 14.25 15.09 39.73 14.25 17.565ND 18.59 17.565ND	462 23.12% 506 25.32% 550 27.53%  IND LNCU-1 15. 43.1 16. 18. IND LNCU-1 692 52. 16.6 65. 43.4 71 125.7 78 47.66 15.15 39.92 14.28 LNCT-5700 18.66 LNCT-5706 47.62 16.73 599	4 23 25 25 25 27 27 27 27 27 28 28 28 28 28 28 28 28 28 28 28 28 28	677 38% 12 .61% 56 .84% 56 .84% 630 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 18.78 LNCU-630N 18.78 LNCU-630N 18.78 16.82 23.66% 725 23.92% 47.86 15.21 47.86 15.21 40.10 14.34 LICT-575ND 18.74 LICT-575ND	473 23.65% 518 25.90% 563 28.15%  D LNCU-635NE 635 52.22 15.30 44.01 14.43 D LNCU-635NE 18.85 D LNCU-635NE 16.89 667 23.85% 730 26.12% 794 28.40%  LNCT-580ND 18.81 1LNCT-580ND 18.81 LNCT-580ND 18.81 LNCT-580ND 18.81 LNCT-580ND 18.81 LNCT-580ND 18.81 LNCT-580ND 18.81 LNCT-580ND 18.81	478 23.91% 523 26.19% 569 28.46%  1 LNCU-640ND 640 52.41 15.36 44.17 14.49 1 LNCU-640ND 709.12 52.60 16.96 672 24.04% 736 26.33% 800 28.62%  LNCT-585ND 585 48.27 15.33 40.46 14.46 LNCT-585ND 18.89 LNCT-585ND 648.18 48.45 16.92 614
5% back gain (Pmax) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc] /Tolerance±5% Shot dircuit Current (Isc) BNPI: GE=1000w/m²+φ*300w/m² 5hort dircuit Current (Isc) 5% back gain (Pmax) Open Gircuit Voltage (Voc) 5% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax)	4. 21. 4. 21. 4. 21. 21. 23. 5. 25. 25. 25. 25. 25. 25. 25. 25. 25.	86 81% 77 899% 996% 996% 50.67 14.82 42.65 13.95 LNCU-595ND 659.26 50.83 16.36 625 22.35% 684 24.48% 744 26.61% ND LNCT-54 13.95 LNCU-595ND LNCU-595ND LNCU-595ND LNCT-54 603.8 46.75 13.95 LNCU-595ND LNCT-54 18.36 603.8 46.75 13.95 LNCU-595ND LNCT-54 18.36 603.8 46.75 16.36 13.95 LNCT-54 18.36 LN	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 LNCU-600ND 664.80 51.04 16.43 630 22.54% 690 24.68% 750 26.83%  SINDL LNCT-5 55 0 46.6 3 39.9 3 14.9 15.00 18.3 18.00 19.00 1	446 22.33% 489 24.46% 531 26.59%  LNCU-60SND 605 51.07 14.94 43.00 14.07 18.41 LNCU-60SND 670.34 51.24 635 22.73% 696 24.89% 756 27.05% 550ND LNCT-00SND 14.77 39.04 14.77 39.04 14.77 39.04 14.77 39.04 16.88 550ND LNCT-40 611 6550ND LNCT-40 614 6550ND LNCT-40 656 656 656 656 656 657 658 658 658 658 658	452 22.60% 495 24.75% 538 26.90% 610 610 610 611.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 18.48 LNCU-610ND 25.10% 702 25.10% 763 27.28%  5555ND LNCT 15555ND LNCT 1555SND LNCT 155	457 22.86% 500 25.04% 544 27.21%  LNCU-615ND 615 51.46 15.06 43.34 14.19 LNCU-615ND 18.55 LNCU-615ND 681.42 51.64 23.10% 707 25.30% 707 25.30% 769 27.50%  LNCU-615ND	66 2 66 2 66 2 67 6 2 68 68 68 68 68 68 68 68 68 68 68 68 68 6	462 23.12% 506 25.32% 550 27.53%  IND LNCU- 15. 43.4 IND LNCU- 16. 62 51.1 18. IND LNCU- 16. 62 52.4 71 17. 78 27.9 LNCT-570N 570 47.66 15.15 39.92 14.28 LNCT-570N 18.66 LNCT-570N 631.56 47.82 LNCT-570N 631.56	4 23 25 25 25 27 27 27 27 27 28 28 28 28 28 28 28 28 28 28 28 28 28	67 38% 12 61% 56 84%  LNCU-630N 630 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 52.02 16.82 23.66% 725 25.92% 788 28.17% 687.725 40.10 18.74 40.10 18.74 LOT-575ND 18.74 40.10 18.74 LOT-575ND 637.10 48.04	473 23.65% 518 25.90% 563 28.15%  D LNCU-635NC 635 52.22 15.30 44.01 14.43 D LNCU-635NC 703.58 52.41 16.89 667 23.85% 730 26.12% 28.40%  LNCT-580ND 580 48.07 15.27 40.28 14.40 LNCT-580ND 18.81 LNCT-580ND 18.81 LNCT-580ND 642.64 48.24 16.86	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 52.41 15.36 44.17 14.49 LNCU-640ND 709.12 52.60 672 24.04% 736 662 26.33% 800 28.62%  LNCT-585ND 585 48.27 15.33 40.46 14.46 LNCT-585ND 18.89 LNCT-585ND 648.18 48.45 16.92 614 23.78%
5% back gain (Pmax) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±3% Voc [V] /Tolerance±5% Iss: [Adc] /Tolerance±5% Isc: [Adc]	4 21. 4 21. 4 22. 23. 5 25. 25. 25. 25. 25. 26. 27. 28. 29. 29. 20. 20. 20. 20. 20. 20. 20. 20. 20. 20	36 81% 77 899% 996% 996% 595 50.67 14.82 42.65 13.95 LNCU-595ND 18.26 50.83 16.36 625 22.35% 684 24.48% 744 26.61% ND LNCT-54 46.60 14.85 38.96 ND LNCT-54 603.8 ND LNCT-54 603.8 ND LNCT-54 603.8 16.36 46.75 16.35 772 22.15	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 1NCU-600ND 18.33 LNCU-600ND 664.80 51.04 16.43 630 22.54% 690 24.68% 750 24.68% 750 3 14.01 1NCU-600ND 18.33 1SDD LNCT-5 51 18.35 15ND LNCT-5 6 609 15.04 16.43 3 39.7 3 14.0 555 57 8 26.83%	446 22.33% 489 24.46% 531 26.59%  LNCU-605ND 605 51.07 14.94 43.00 18.41 LNCU-605ND 18.41 14.07 1LNCU-605ND 670.34 51.24 51.24 51.24 52.73% 696 24.89% 756 27.05% 550ND LNCT- 00 55 31 47. 31 41. 47. 39. 48. 550ND LNCT- 40 614 97 47. 48. 550ND LNCT- 40 614 97 47. 48. 550ND LNCT- 40 614 97 47.	452 22.60% 495 24.75% 538 26.90% 610 51.27 15.00 43.17 14.13 LNCU-610ND 675.88 51.44 16.56 641 22.91% 702 25.10% 763 27.28%  555ND LNCT 55 03 47 97 18 36 36 36 37 10 12 555SND LNCT 44 18 555SND LNCT 49 19 555SND LNCT 49 10 555SND LNCT 40 11 555SND LNCT 41 11 555SND LNCT 55 55SND LNCT 55 55 55 55 55 55 55 55 55 55 55 55 55	457   22.86%   500   25.04%   544   27.21%   615   51.46   15.06   43.34   14.19   LNCU-615ND   681.42   16.63   646   23.10%   707   25.30%   769   27.50%   27.50%   28.10%   769   27.50%   28.10%   769   27.50%   28.10%   28.10%   39.10%   39	6 2  LINCU-620 620 51.65 15.12 43.51 14.25 18.63 LINCU-620 18.63 16.69 651 23.299 775 27.73%	462 33.12% 506 15.32% 550 17.53%  INCU-15.53% 15. 15. 16. 18. IND LINCU-16. 18. IND LINCU-17. 18. IND LINCU-17. IN	4 23 25 25 25 27 27 27 27 27 28 28 28 28 28 28 28 28 28 28 28 28 28	67 38% 12 .61% 56 .84% 56 .84% 630 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 18.78 LNCU-630N 18.78 LNCU-630N 18.78 16.82 23.66% 725 25.92% 788 28.17% 1CT-575ND 15.21 40.10 14.34 LCT-575ND 18.74 18.75 15.21 40.10 14.34 LCT-575ND 18.74 18.76 637.10 48.04 16.79 604 23.37%	473 23.65% 518 25.90% 563 28.15%  D INCU-635NC 1635 52.22 15.30 44.01 14.43 D INCU-635NC 16.89 667 23.85% 52.41 16.89 667 23.85% 730 26.12% 794 28.40%  LNCT-580ND 580 48.07 15.27 40.28 14.40 INCT-580ND 18.81 LNCT-580ND 642.64 48.24 16.86 609 23.57%	478 23.91% 523 26.19% 569 28.46%  1 LNCU-640ND 640 52.41 15.36 44.17 14.49 1 LNCU-640ND 709.12 52.60 16.96 672 24.04% 736 26.33% 800 28.62%  LNCT-585ND 585 48.27 15.33 40.46 14.46 LNCT-585ND 18.89 LNCT-585ND 648.18 48.45 16.92 614
5% back gain (Pmax) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Voc [V] /Tolerance±5% Vmp [V] Imax [Adc] BSI: 6E=1000w/m²+φ*300w/m² Short Grout Current (Isc) BNPI: 6E=1000w/m²+φ*300w/m² Short Grout Current (Isc) BNPI: 6E=1000w/m²+φ*300w/m² Short Grout Current (Isc) Short Grout Current (Isc) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (W)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc	4   21.   4   21.   4   21.   4   21.   4   21.   4   21.   23.   5   25.	86 81% 77 889% 996% 996% 595 50.67 14.82 42.65 13.95 LNCU-595ND 659.26 50.83 16.36 625 22.35% 684 24.48% 744 26.61% ND LNCT-54 545 46.60 14.85 38.98 89.00 LNCT-54 603.8 ND LNCT-54 16.36 63.3 572 22.215 627 24.26 681	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 LNCU-600ND 18.33 LNCU-600ND 664.80 51.04 16.43 630 22.54% 690 24.68% 750 26.83%  LNCU-600ND 18.33 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1	446 22.33% 489 24.46% 531 26.59%  LNCU-60SND 605 51.07 14.94 43.00 14.07 18.41 1NCU-60SND 670.34 51.24 635 22.73% 695 24.89% 756 27.05%  SSOND LNCT-7 391 14.17 39.44 15.50ND LNCT-37 37 18.550ND LNCT-37 37 18.550ND LNCT-40 616 86 556 87 560 87 560 87 560 87 560 87 560 87 560 88 560	452 22.60% 495 24.75% 538 26.90%  LNCU-610ND 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 675.88 51.44 16.56 641 22.91% 702 25.10% 763 27.28%  5555ND LNCT 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 18.48 LNCU-610ND 18.48 LNCU-610ND 18.49 16.56 641 22.91% 702 25.10% 16.56 641 22.91% 763 27.28%	457   22.86%   500   25.04%   544   27.21%   51.46   15.06   43.34   14.19   LNCU-61SND   681.42   51.64   16.63   646   23.10%   707   25.30%   769   27.50%   27.50%   28.10%   769   27.50%   28.10%   28.10%   28.10%   28.10%   29.10%   29.	6 2  LNCU-620 620 51.65 15.12 43.51 14.25 LNCU-620 18.63 LNCU-620 18.63 1.669 651 23.29% 775 27.73% 25.51% 775 27.73% 14.22 TT-565ND 18.59	462 33.12% 506 15.32% 550 17.53%  IND INCU- 15. 15. 14. 15. 18. IND INCU- 18. 18. IND INCU- 18. 18. IND INCU- 18. 18. IND INCU- 18. 18. IND INCU- 19. 19. 29. 52. 16. 16. 17. 78. 99. 21. 18. INCT-570N 570 47.66 15.15 39.92 14.28 INCT-570N 631.56 INCT-570N	4 23 25 25 25 27 27 27 27 27 28 28 28 28 28 28 28 28 28 28 28 28 28	67 38% 12 619 619 656 84% 630 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 18.78 LNCU-630N 18.78 16.62 23.666 725 25.92% 788 28.17% LT-575ND 15.21 40.10 41.34 LCT-575ND 637.10 48.04 18.79 604 18.79 604 15.26 661 25.60%	473 23.65% 518 25.90% 563 28.15%  D LNCU-635NC 635 52.22 15.30 44.01 14.43 D LNCU-635NC 703.58 52.41 16.89 667 23.85% 730 26.12% 28.40%  LNCU-580ND 580 48.07 15.27 40.28 14.40 LNCT-580ND 642.64 LNCT-580ND 642.64 16.86 609 23.57% 667 25.82%	478 23.91% 523 26.19% 569 28.46%  LNCU-640ND 640 52.41 15.36 44.17 14.49 LNCU-640ND 18.92 LNCU-640ND 709.12 52.60 672 24.04% 736 26.33% 800 28.62%  LNCT-585ND 585 48.27 15.33 40.46 14.46 LNCT-585ND 648.18 40.736 LNCT-585ND 648.18 48.45 16.92 614 23.78% 673 26.04% 731
5% back gain (Pmax) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 25% back gain (Pmax) 25% back gain (%)  STC: 1000W/m², 25°C, AM1.5G Pmp [W] /Tolerance±3% Voc [V] /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc] /Tolerance±5% Isc [Adc] /Tolerance±5% Short Grouit Current (Isc) BNPI: GE=1000w/m²+φ*300w/m² Maximum Power (Pmax) 5% back gain (Pmax) 5% back gain (Pmax) 15% back gain (Pmax) 15% back gain (Pmax) 25% back gain (Pmax) 45% back gain (Pmax) 5% back gain (Pmax) 55% back gain (Pmax) 55% back gain (Pmax) 55% back gain (Pmax) 55% back gain (Pmax)	4 21. 4 21. 4 21. 4 22. 23. 5 25.  LNCU-590N 590. 50.47 14.76 42.48 13.89 LNCU-590ND 18.18 LNCU-590ND 653.72 50.63 16.30 620 22.16% 679 24.27% 738 26.38%  LNCT-540 46.38 14.79 38.79 13.92 LNCT-540 18.22 LNCT-540 18.22 LNCT-540 18.22 LNCT-540 18.22 LNCT-540 18.23 567 21.95%	86 81% 977 889% 9 96%	441 22.07% 483 24.17% 525 26.27%  LNCU-600ND 600 50.87 14.88 42.83 14.01 LNCU-600ND 18.33 LNCU-600ND 664.80 51.04 16.43 630 22.54% 690 24.68% 750 26.83%  LNCU-600ND 18.33 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1	446 22.33% 489 24.46% 531 26.59%  LNCU-60SND 605 51.07 14.94 43.00 14.07 18.41 1NCU-60SND 670.34 51.24 635 22.73% 695 24.89% 756 27.05%  SSOND LNCT-7 391 14.17 39.44 15.50ND LNCT-37 37 18.550ND LNCT-37 37 18.550ND LNCT-40 616 86 556 87 560 87 560 87 560 87 560 87 560 87 560 88 560	452 22.60% 495 24.75% 538 26.90%  LNCU-610ND 610 51.27 15.00 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 675.88 51.44 16.56 641 22.91% 702 25.10% 763 27.28%  5555ND LNCT 43.17 14.13 LNCU-610ND 18.48 LNCU-610ND 18.48 LNCU-610ND 18.48 LNCU-610ND 18.49 16.56 641 22.91% 702 25.10% 16.56 641 22.91% 763 27.28%	457   22.86%   500   25.04%   544   27.21%   51.46   15.06   43.34   14.19   LNCU-61SND   681.42   51.64   16.63   646   23.10%   707   25.30%   769   27.50%   27.50%   28.10%   769   27.50%   28.10%   28.10%   28.10%   28.10%   29.10%   29.	6 2  LINCU-620 620 51.65 15.12 43.51 14.25 LINCU-620 18.63 LINCU-620 18.63 LINCU-620 18.63 16.69 651 23.29% 775 27.73% 775 27.73% 14.22 17.565ND 18.59 14.25 14.25 15.09 39.73 14.22 17.565ND 18.59 14.25 15.09 18.59	462 23.12% 506 25.32% 550 27.53%  IND LNCU- 15.1 15. 43.1 IND LNCU- 692 52.1 16. 65 47.82 18.15 18.16 18.16 18.17 19.18 18.18	4 23 25 25 25 27 27 27 27 27 28 28 28 28 28 28 28 28 28 28 28 28 28	677 38% 12 .61% 56 .84% 56 .84% 630 52.03 15.24 43.84 14.37 LNCU-630N 18.78 LNCU-630N 52.22 16.82 662 23.66% 725 25.92% 47.86 15.21 40.10 14.34 LCT-575ND 18.74 LCT-575ND	473 23.65% 518 25.90% 563 28.15%  D LNCU-635NC 635 52.22 15.30 44.01 14.43 D LNCU-635NC 18.85 52.41 16.89 667 23.85% 794 28.40%  LNCU-635NC 28.15% 28.144.00 LNCU-635NC 15.27 40.28 14.40 LNCT-580ND 18.81 LNCT-580ND 64.28 14.40 LNCT-580ND 64.28 16.86 609 23.57%	478 23.91% 523 26.19% 569 28.46% 640 52.41 15.36 44.17 14.49 18.92 1KICU-640ND 709.12 52.60 672 24.04% 736 26.33% 800 28.62% LNCT-585ND 585 48.27 15.33 40.46 14.46 LNCT-585ND 18.89 LNCT-585ND 68.18 48.45 16.92 614 23.78% 673 673 673 673

# LN/QR-0613-2023

STC: 1000W/m²、25℃、AM1.5G	LNAU-57	NID I NAII	FOONID	I MIAIL FOR	ND LNAU-590	ND INAL	LEGENID	LNAILG	OOND INA	II COENID	I NIALL 610A	ID IN	IAII 61END	LNAU-620ND
Pmp [W] /Tolerance±3%	575		80	585	590		595	600		605	610	VD LIV	615	620
Voc [V] /Tolerance ± 5%	51.15		1.36	51.56	51.76		1.96	52.10		52.35	52.55		52.74	52.93
Isc [Adc] /Tolerance±5%	14.29	14	1.35	14.41	14.47	1-	4.53	14.59	9	14.65	14.71		14.77	14.83
Vmp [V]	42.81		2.99	43.17	43.35		3.53	43.70		43.87	44.04		44.21	44.38
Imax [Adc]	13.43		3.49	13.55	13.61		3.67	13.73		13.79	13.85		13.91	13.97
BSI: GE=1000w/m²+φ*300w/m² Short Circuit Current (Isc)	LNAU-57 17.61		7.68	17.75	ND LNAU-590 17.83		7.90	LNAU-60 17.91		18.05	18.12	ND LN	18.20	18.27
BNPI: GE=1000w/m <sup>2</sup> + $\phi$ *135w/m <sup>2</sup>	LNAU-57			LNAU-585			J-595ND			U-605ND	LNAU-610N	JD IN		LNAU-620ND
Maximum Power (Pmax)	637.10		2.64	648.18	653.72		59.26	664.8		570.34	675.88	TD LIN	681.42	686.96
Open Circuit Voltage (Voc)	51.38		1.58	51.78	51.98		2.18	52.3		52.57	52.76		52.95	53.14
Short Circuit Current (Isc)	15.78		5.84	15.91	15.97		6.04	16.11		16.17	16.24		16.31	16.37
5% back gain (Pmax)	604		09	614	620		625	630		635	641		646	651
5% back gain (%)	22.359		.55%	22.74%	22.93%		3.13%	23.32		23.52%	23.71%		23.91%	24.10%
15% back gain (Pmax)	661 24.489		.69%	673 24.91%	679 25.12%		684 5.33%	690 25.54		696 25.76%	702 25.97%	_	707 26.18%	713 26.40%
15% back gain (%) 25% back gain (Pmax)	719		25	731	738		744	750		756	763		769	775
25% back gain (*)	26.619		.84%	27.07%	27.30%		7.53%	27.77		28.00%	28.23%		28.46%	28.69%
						<u> </u>			'					
STC: 1000W/m², 25°C, AM1.5G				LNVH-600NI										D LNVH-640ND
Pmp [W] /Tolerance±3% Voc [V] /Tolerance±5%	59 54.9		595 5.06	600 55.18	605 55.30	610 55.41		515 5.53	620 55.64	625 55.75	63		635 55.98	640 56.09
Isc [Adc] /Tolerance±5%	13.7		3.83	13.90	13.97	14.04		4.11	14.18	14.25			14.39	14.46
Vmp [V]	45.2		5.35	45.49	45.63	45.76		5.90	46.03	46.16	46	29	46.42	46.55
Imax [Adc]	13.0		3.12	13.19	13.26	13.33		3.40	13.47	13.54			13.68	13.75
BSI: GE=1000w/m <sup>2</sup> +φ*300w/m <sup>2</sup> Short Circuit Current (Isc)	LNVH-9		<b>1-595ND</b> 7.04	17.12	17.21	17.30		7.38	17.47	17.56	25ND LNVH- 17.		17.73	17.81
BNPI: GE=1000w/m²+φ*135w/m²	LNVH-				LNVH-605ND	LNVH-610			LNVH-620N		5ND LNVH-			
Maximum Power (Pmax)	653.	72 65	59.26	664.80	670.34	675.88	68	1.42	686.96	692.50	0 698.	.04	703.58	709.12
Open Circuit Voltage (Voc)	55.0		5.24	55.40	55.55	55.71		5.86	56.02	56.17			56.46	56.61
Short Circuit Current (Isc) 5% back gain (Pmax)	15.1		5.27 625	15.35 630	15.42 635	15.50 641		5.58 546	15.65 651	15.73 656	3 15 66		15.89 667	15.96 672
5% back gain (%)	22.1		2.35%	22.54%	22.73%	22.91%		.10%	23.29%	23.48			23.85%	24.04%
15% back gain (Pmax)	67	) (	684	690	696	702	7	07	713	719	72	25	730	736
15% back gain (%)	24.2		1.48%	24.68%	24.89%	25.10%		.30%	25.51%	25.71			26.12%	26.33%
25% back gain (Pmax) 25% back gain (%)	73 26.3		744 5.61%	750 26.83%	756 27.05%	763 27.28%		69 .50%	775 27.73%	781 27.95	78 % 28.1		794 28.40%	800 28.62%
	, 20,0	1 20	- 1		,		,	- 1		,	1 201	•	,	
STC: 1000W/m²、25℃、AM1.5G	LN	U-545ND	LNVU-550	ND LNVU	555ND LNVU	560ND LI	NVU-565N	D LNVU	J-570ND LI	NVU-575NI	D LNVU-580	OND L	NVU-585ND	LNVU-590ND
Pmp [W] /Tolerance±3%		545	550			60	565		570	575	580		585	590
Voc [V] /Tolerance ± 5%		50.72	50.87			.14	51.28		51.41	51.55	51.68		51.81	51.94
Isc [Adc] /Tolerance±5%		13.80	13.87	13		.01	14.08		4.15	14.22 42.56	14.29		14.36	14.43 43.00
Vmp [V] Imax [Adc]		41.63 13.09	41.79 13.16			.30	42.26 13.37		3.44	13.51	42.71 13.58		42.86 13.65	13.72
BNPI: GE=1000w/m²+φ*135w/m²	LN			ND LNVU								ND L		LNVU-590ND
Maximum Power (Pmax)		503.86	609.40			).48	626.02		31.56	637.10	642.64		648.18	653.72
Open Circuit Voltage (Voc)±5%		50.90	51.04			.32	51.46		1.60	51.73	51.86		52.00	52.13
Short Circuit Current (lsc)±5%		15.24	15.31			.47	15.54		5.62	15.70	15.78		15.85	15.93
BSI: GE=1000w/m²+φ*300w/m²	LN	17.00	LNVU-550 17.09	ND LNVU			NVU-565N 17.35		J- <b>570ND</b> LI 7.43		D LNVU-580 17.61	DND L	.NVU-585ND 17.69	17.78
Short Circuit Current (Isc)±5%														
5%. 抄而增关 (Dmay)				17		.26				17.52				
5%背面增益 (Pmax) 5%背面增益 (%)		572	578	5	33 5	38	593	9	599	604	609	6	614	620
5%背面增益 (Pmax) 5%背面增益 (%) 15%背面增益 (Pmax)				5 22.	33 5 56% 22.			23				6		
5%背面增益 (%)		572 22.15%	578 22.36%	5 5 22.	33 5 56% 22. 38 6	38 76%	593 22.97%	23	599 3.17%	604 23.37%	609 23.57%		614 23.78%	620 23.98%
5%背面增益 (%) 15%背面增益 (Pmax) 15%背面增益 (%) 25%背面增益 (Pmax)		572 22.15% 627 24.26% 681	578 22.36% 633 24.48% 688	5 22. 6 24.	33 5 56% 22. 38 6 71% 24. 94 7	38 76% 44 93%	593 22.97% 650 25.15% 706	23 6 25	599 3.17% 656 5.37% 713	604 23.37% 661 25.60% 719	609 23.57% 667 25.82% 725	6	614 23.78% 673 26.04% 731	620 23.98% 679 26.27% 738
5%背面增益 (%) 15%背面增益 (Pmax) 15%背面增益 (%)		572 22.15% 627 24.26%	578 22.36% 633 24.48%	5 22. 6 24.	33 5 56% 22. 38 6 71% 24. 94 7	76% 14 93%	593 22.97% 650 25.15%	23 6 25	599 3.17% 656 5.37%	604 23.37% 661 25.60%	609 23.57% 667 25.82%	6	614 23.78% 673 26.04%	620 23.98% 679 26.27%
5%資面增益(%) 15%資面增益(Pmax) 15%資面增益(%) 25%資面增益(Pmax) 25%資面增益(%)		572 22.15% 627 24.26% 681 26.37%	578 22.36% 633 24.48% 688 26.61%	5 22. 6 24. 6 26.	533     5       56%     22       38     6       71%     24       94     7       86%     27	38 76% 44 93% 00	593 22.97% 650 25.15% 706 27.34%	23 6 25 7 27	599 3.17% 656 5.37% 713 7.58%	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07%	6	614 23.78% 673 26.04% 731 28.31%	620 23.98% 679 26.27% 738 28.55%
5%音面暗益(%) 15%音面暗盐(Pmax) 15%音面暗盐((%) 25%音面暗盐((Pmax) 25%音面暗盐((Pmax) 25%音面暗盐(%) STC: 1000W/m²、25℃、AM1.5G		572 22.15% 627 24.26% 681 26.37%	578 22.36% 633 24.48% 688 26.61%	5 22. 6 24. 6 26.	56% 22. 588 6 71% 24. 94 7 86% 27.	938 76% 144 93% 00 10%	593 22.97% 650 25.15% 706 27.34%	23 6 25 7 27	599 3.17% 656 5.37% 713 7.58%	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07%	6	614 23.78% 673 26.04% 731 28.31%	620 23.98% 679 26.27% 738 28.55%
5%背面增益(%) 15%背面增益(Pmax) 15%背面增益(%) 25%背面增益(Pmax) 25%背面增益(%) STC: 1000W/m²、25℃、AM1.5G Pmp [W] /Tolerance±3%		572 22.15% 627 24.26% 681 26.37%	578 22.36% 633 24.48% 688 26.61%	5 22. 6 24. 6 26.	533     5       56%     22       38     6       71%     24       94     7       86%     27	38 76% 44 93% 00	593 22.97% 650 25.15% 706 27.34%	23 6 25 7 27	599 3.17% 656 5.37% 713 7.58%  ND LNVT- 5	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07%	6	614 23.78% 673 26.04% 731 28.31%	620 23.98% 679 26.27% 738 28.55%
5%音面暗益(%) 15%音面暗盐(Pmax) 15%音面暗盐((%) 25%音面暗盐((Pmax) 25%音面暗盐((Pmax) 25%音面暗盐(%) STC: 1000W/m²、25℃、AM1.5G		572 22.15% 627 24.26% 681 26.37% LNVT-500N 500	578 22.36% 633 24.48% 688 26.61%	5 22. 6 24. 6 26. 7T-505 ND	33 5 56% 22. 38 6 71% 24. 94 7 86% 27.	38 76% 44 93% 00 10% LNVT-51	593 22.97% 650 25.15% 706 27.34%	23 6 25 7 27 1VT-520P 520	599 3.17% 656 5.37% 713 7.58%  ND LNVT- 5 47	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% LNVT-530NI	6	614 23.78% 673 26.04% 731 28.31% VT-535ND	620 23.98% 679 26.27% 738 28.55% LNVT-540ND 540
5%音面暗盤(%) 15%音面暗盤(Pmax) 15%音面暗盤(Pmax) 25%音面暗盤((%) 25%音面暗盤((%) STC: 1000W/m³、25℃、AM1.5G Pmp [W] /Tolerance±3% Voc [V] /Tolerance±5%		572 22.15% 627 24.26% 681 26.37% LNVT-500N 500 46.42	578 22.36% 633 24.48% 688 26.61% ND LNV	5 22. 6 24. 6 26. 7T-505 ND 505	33 5 56% 22. 38 6 71% 24. 94 7 86% 27. LNVT-510ND 510 46.75	76% 44 93% 500 10% LNVT-51 515 46.92	593 22.97% 650 25.15% 706 27.34% 15ND LN	23 23 6 25 7 27 <b>IVT-520P</b> 520 47.08	599 3.17% 656 5.37% 713 7.58% ND LNVT 5 47 14	604 23.37% 661 25.60% 719 27.82% -525 ND 1 25	609 23.57% 667 25.82% 725 28.07% LNVT-530NI 530 47.41	6	614 23.78% 673 26.04% 731 28.31% <b>VT-535ND</b> 535 47.56	620 23.98% 679 26.27% 738 28.55% LNVT-540ND 540 47.72
5%音面暗絵(%)   15%音面暗絵(Pmax)   15%音面暗絵(Pmax)   25%音面暗絵((%)   25%音面暗絵((%)   STC: 1000W/m²、25℃、AM1.5G   Pmp [W] / Tolerance±3%   Isc [Adc] / Tolerance±5%   Isc [Adc] / Tolerance±5%		572 22.15% 627 24.26% 681 26.37% LNVT-500N 500 46.42 13.84	578 22.36% 633 24.48% 688 26.61%	5 22. 6 24. 6 26. 7-505ND 505 46.59	33 5 56% 22. 38 6 71% 24. 94 7 86% 27. LNVT-510ND 510 46.75 13.98	888 76% 44 93% 00 10% ENVT-51 46.92 14.05	593 22.97% 650 25.15% 706 27.34% 15ND LN 2 5	23 6 25 7 27 <b>IVT-520P</b> 520 47.08 14.12 38.78 13.41	599 3.17% 656 5.37% 713 7.58%  ND LNVT 5 477 14 38 13	604 23.37% 661 25.60% 719 27.82% -525ND   1 25 .24 .19 .95	609 23.57% 667 25.82% 725 28.07% LNVT-530NI 530 47.41 14.26	6	614 23.78% 673 26.04% 731 28.31% VT-535ND 535 47.56 14.33	620 23.98% 679 26.27% 738 28.55% LNVT-540ND 540 47.72
5%音面暗弦 (%)   15%音面暗弦 (Pmax)   15%音面暗弦 (Pmax)   15%音面暗弦 (%)   25%音面暗弦 (Pmax)   25%音面暗弦 (Pmax)   25%音面暗弦 (Pmp [W] / Tolerance±3%   Voc [V] / Tolerance±5%   Isc [Adc] / Tolerance±5%   Imax [Adc]   BNPI: GE=1000w/m²+φ*135w/m²		572 22.15% 627 24.26% 681 26.37% LNVT-500N 500 46.42 13.84 38.08 13.13 LNVT-500N	578 22.36% 633 24.48% 688 26.61% ND LNV	5 22. 6 24. 7 6 26. 7 7 505 ND 505 46.59 13.91 38.26 13.20 TT-505 ND	33 5 56% 22. 88 6 71% 24. 94 7 866% 27.  LNVT-510ND 46.75 13.98 38.43 13.27  LNVT-510ND	88 76% 44 93% 900 10% LNVT-51 515 46.92 14.05 38.61 13.34 LNVT-51	593 22.97% 650 25.15% 706 27.34% 15ND LN 2 5 1 1	23 6 25 7 27 27 27 27 27 47.08 14.12 38.78 13.41	599 3.17% 656 5.37% 713 7.58%  ND LNVT 5 47 14 388 13 ND LNVT	604 23.37% 661 25.60% 719 27.82% 	609 23.57% 667 25.62% 725 28.07% LNVT-530NI 530 47.41 14.26 39.11 13.55 LNVT-530NI	6 6 6 C C C C C C C C C C C C C C C C C	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND	620 23.98% 679 26.27% 738 28.55% LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND
5%音面暗器 (%)     15%音面暗器 (Pmax)     15%音面暗器 (Pmax)     15%音面暗器 (%)     25%音面暗器 (%)     25%音面暗器 (%)     STC: 1000W/m², 25℃、AM1.5G     Pmp [W] /Tolerance±3%     Voc [V] /Tolerance±5%     Isc [Adc] /Tolerance±5%     Imax [Adc]     Imax [Adc]     BNPI: GE=1000W/m²+φ*135w/m²     Maximum Power (Pmax)		572 22.15% 627 44.26% 681 26.37% LNVT-500N 46.42 13.84 38.08 13.13 LNVT-500N	578 22.36% 633 24.48% 688 26.61% ND LNV	5 22. 6 6 26. 7-505 ND 505 46.59 13.91 38.26 13.20 T-505 ND 559.54	33 5 56% 22. \$8 6 71% 24. \$4 7 86% 27.  LNVT-510ND 510 46.75 13.98 38.43 13.27  LNVT-510ND 565.08	88 76% 14 93% 10 10 10 10 10 10 10 10 10 10 10 10 10	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 11 4 15ND LN	23 6 25 7 27 27 27 27 27 47.08 14.12 38.78 13.41 4VT-520P 576.16	599 3.17% 656 5.37% 713 7.58%  ND LNVT 5 47 14 388 13 ND LNVT 58	604 23.37% 661 25.60% 719 27.82%  -525ND   1 25 -24 -1.19 -95 -48 -48 -525ND   1	609 23.57% 667 25.82% 725 28.07%  LNVT-530NI 530 47.41 14.26 39.11 13.55 LNVT-530NI 587.24	6 6 6 C C C C C C C C C C C C C C C C C	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 592.78	620 23.98% 679 26.27% 738 28.55% LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32
5%音面暗器(%)   15%音面暗器(Pmax   15%音面暗器(Pmax   15%音面暗器(Pmax   25%音面暗器(%)   25%音面暗器(%)		572 22.15% 627 24.26% 681 26.37% LNVT-500N 500 46.42 13.84 38.08 13.13 LNVT-500N 554.00 46.59	578 22.36% 633 24.48% 688 26.61% ND LNV	5 22. 6 6 24. 6 26. 7T-505ND 505 46.59 13.91 38.26 13.20 13.20 1559.54 46.76	33 5 56% 22. 58 6 71% 24, 94 7 586% 25, LNVT-510ND 510 46,75 13.98 38.43 13.27 LNVT-510ND 565.08 46.92	88 76% 144 93% 500 10% 515 46.92 14.05 38.61 13.34 LNVT-51 570.6 47.05	593 22.97% 650 25.15% 706 27.34% 15ND LN 2 5 1 1 4 4 4 1 15ND LN 2 9	23 6 25 7 27 1VT-520P 520 47.08 14.12 38.78 13.41 1VT-520P 576.16 47.25	599 3.17% 656 5.37% 713 7.58%  ND LNVT 5 477 14 38 13 ND LNVT 588 47	604 23.37% 661 25.60% 719 27.82% 	609 23.57% 667 25.82% 725 28.07% LNVT-530NI 530 47.41 14.26 39.11 13.55 LNVT-530NI 587.24 47.58	6 6 6 C C C C C C C C C C C C C C C C C	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 592.78 47.74	620 23.98% 679 26.27% 738 28.55% LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89
5%音面暗盤(%)   15%音面暗盤(Pmax)   15%音面暗盤(Pmax)   15%音面暗盤(Pmax)   25%音面暗盤(%)   STC: 1000W/m²、25℃、AM1.5G   Pmp [W] / Tolerance±3%   Voc [V] / Tolerance±5%   Isc [Adc] / Tolerance±5%   Vmp [V]   Imax [Adc]   BNPI: GE=1000w/m²+φ*135w/m²   Maximum Power (Pmax)   Open Circuit Voltage (Voc)±5%   Short Circuit Current (Isc)±5%		572 22.15% 627 24.26% 681 26.37% LNVT-500N 500 46.42 13.84 38.08 13.13 LNVT-500N 554.09 46.59 15.28	578 22.36% 633 24.48% 688 26.61% ND LNV	5 22. 6 24. 6 26. 7T-505ND 505 46.59 13.91 138.26 13.20 TT-505ND 505 46.76 15.36	33 5 566% 22. 88 6 71% 24. 94 7 86% 27.  LNVT-510ND 510 46.75 13.98 38.43 13.27 LNVT-510ND 565.08 46.92 15.43	88	593 22.97% 650 25.15% 706 27.34%  LN 2 5 11 4 11 4 LN 2 5 11 4 11 4 11 4 11 4 11 4 11 4 11 4	520 25 27 27 27 27 27 27 27 47.08 14.12 38.78 13.41 1VT-520F 576.16 47.25 15.59	599 3.17% 656 5.3.37% 713 7.5.8%  ND LNVT 141 3.88 133 ND LNVT 58 47 155	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% LNVT-530NI 530 47.41 14.26 39.11 13.55 LNVT-530NI 587.24 47.58 15.74	6 C C C C C C C C C C C C C C C C C C C	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 592.78 47.74 15.82	620 23.98% 679 26.27% 738 28.55% LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89
5%音面開盤(%)   15%音面開盤(Pmax)   15%音面開盤(Pmax)   15%音面開盤(Pmax)   25%音面開盤(%)   25%音面開盤(%)   25%音面開盤(***   (***)   STC: 1000W/m²、25℃、AM1.5G   Pmp [W] /Tolerance±3%   Voc [V] /Tolerance±5%   Isc [Adc] /Tolerance±5%   Isc [Adc] /Tolerance±5%   BNPI: GE=1000W/m²+φ*135W/m²   Maximum Power (Pmax)   Open Circuit Voltage (Voc)±5%   Short Circuit Current (Isc)±5%   BSI: GE=1000W/m²+φ*300W/m²		572 12.15% 627 24.26% 681 26.37% LNVT-500N 500 46.42 13.84 38.08 13.13 LNVT-500N 554.00 46.59 15.28 LNVT-500N	578 22.367 633 24.48% 688 26.61% ND LNV	5 22. 6 6 24. 6 6 26. 7T-505ND 505 46.59 13.91 13.8.26 13.2.0 T-505ND 559.54 46.76 15.3.6	33 5 56% 22. 88 6 71% 24. 44 7 86% 27.  LNVT-510ND 510 46.75 13.98 38.43 13.27 LNVT-510ND 565.08 46.92 15.43 LNVT-510ND	88	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 2 5 1 1 4 4 15ND LN 12 9 1 15ND LN	10 23 6 25 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	599   3.17%   656   5.37%   713   7.58%	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% LNVT-530NI 530 47.41 14.26 39.11 13.55 LNVT-530NI 587.24 47.58 15.74 LNVT-530NI	6 C C C C C C C C C C C C C C C C C C C	614 23.78% 673 26.04% 731 28.31% VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND	620 23.98% 679 26.27% 738 28.55% LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND
5%週面開盤(%)   15%層面開盤(Pmax)   15%層面開盤(Pmax)   15%層面開盤(Pmax)   25%層面開盤(%)   25%層面開盤(%)   25%層面開盤(%)   STC: 1000W/m²、25℃、AM1.5G   Pmp [W] /Tolerance±3%   Voc [V] /Tolerance±5%   Isc [Adc] /Tolerance±5%   Vmp [V]   Imax [Adc]   BNPI: GE=1000w/m²+φ*135w/m²   Maximum Power (Pmax)   Open Circuit Voltage (Voc)±5%   Short Circuit Current (Isc)±5%   BSI: GE=1000w/m²+φ*300w/m²   Short Circuit Current (Isc)±5%		572 22.15% 627 24.26% 681 1.6.37% LNVT-500N 46.42 13.8.8 13.13 LNVT-500N 46.59 15.2.8 LNVT-500N	578 22.367 633 24.48% 688 26.61% ND LNV	5 22. 6 24. 6 26. 7 505 8 26. 7 505 8 6.59 13.91 13.91 13.92 13.95 15.36 15.36 15.36 15.36 15.36 15.36 17.14	33 5 56% 22. 88 6 71% 24. 94 7 86% 27.  LNVT-510ND 510 46.75 13.98 38.43 13.27 LNVT-510ND 565.08 46.92 15.43 LNVT-510ND 17.22	88	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 2 5 1 1 4 4 15ND LN 12 9 1 15ND LN	520 47.08 47.08 13.41 1VT-520P 576.16 47.25 15.59 17.40	599 3.17% 556 5.37% 7.13 7.58%  ND LNVT. 47 114 388 47 15 ND LNVT. 17 17 17 17 18 17 18 18 18 18 18 18 18 18 18 18 18 18 18	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% 530 47.41 14.26 39.11 13.55 LNVT-530NI 587.24 47.58 15.74 LVT-530NI 17.57	6 C C C C C C C C C C C C C C C C C C C	614 23.78% 673 26.04% 731 26.04% 731 31 26.31% VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 592.78 47.74 15.82 17.65	620 23.98% 679 26.27% 738 28.55% LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND
5%音面暗器(%)   15%音面暗器(Pmax)   15%音面暗器(Pmax)   15%音面暗器(Pmax)   25%音面暗器(Pmax)   25%音面暗器(Pmax)   25%音面暗器(Pmax)   25%音面暗器(Pmax)   25%音面暗器(Pmax)   25%音面暗器(Pmax)   25%音面暗器(Pmax)   25%		572 22.15% 627 24.26% 681 26.37% 500 46.42 13.84 38.08 13.13 LNVT-5000 554.00 46.59 15.28 LNVT-5000 17.05 525	578 22.36% 633 24.48% 688 26.61% ND LNV	5 22. 6 24. 6 26. 7T-50SND 505 46.59 13.91 13.91 13.92 7T-50SND 15.95 46.76 15.36 7T-50SND	33 5 566% 22. 88 6 71% 24. 94 7 86% 27.  LNVT-510ND 510 46.75 13.98 38.43 13.27 LNVT-510ND 565.08 46.92 15.43 LNVT-510ND 17.22 536	88	593 22.97% 650 25.15% 706 27.34% 15ND LN 2 5 1 1 1 1 1 15ND LN 15ND LN 15ND LN 11 1	520 47.08 14.12 38.78 13.41 1VT-520P 576.16 47.25 15.59 1VT-520P 17.40 546	599 3.17% 556 5.37% 713 7.58% ND LNVT 14 3.88 ND LNVT 58 477 15 ND LNVT 17 55	604 23.37% 661 25.60% 719 27.82%  -525ND   1	609 23.57% 667 25.82% 725 28.07% 530 47.41 14.26 39.11 13.55 LNVT-530NI 587.24 47.58 15.74 LNVT-530NI 17.57	6 LN'	614 23.78% 673 26.04% 731 28.31% VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 592.78 47.74 15.62 VT-535ND	620 23.98% 679 26.27% 738 28.55% LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND
5%週面開盤(%)   15%層面開盤(Pmax)   15%層面開盤(Pmax)   15%層面開盤(Pmax)   25%層面開盤(%)   25%層面開盤(%)   25%層面開盤(%)   STC: 1000W/m²、25℃、AM1.5G   Pmp [W] /Tolerance±3%   Voc [V] /Tolerance±5%   Isc [Adc] /Tolerance±5%   Vmp [V]   Imax [Adc]   BNPI: GE=1000w/m²+φ*135w/m²   Maximum Power (Pmax)   Open Circuit Voltage (Voc)±5%   Short Circuit Current (Isc)±5%   BSI: GE=1000w/m²+φ*300w/m²   Short Circuit Current (Isc)±5%		572 22.15% 627 24.26% 681 1.6.37% LNVT-500N 46.42 13.8.8 13.13 LNVT-500N 46.59 15.2.8 LNVT-500N	578 22.36% 633 24.48% 688 26.61% ND LNV	5 22. 6 24. 6 26. 7 505 8 26. 7 505 8 6.59 13.91 13.91 13.92 13.95 15.36 15.36 15.36 15.36 15.36 15.36 17.14	33 5 56% 22. 88 6 71% 24. 94 7 86% 27.  LNVT-510ND 510 46.75 13.98 38.43 13.27 LNVT-510ND 565.08 46.92 15.43 LNVT-510ND 17.22	88	593 22.978 650 650 25.15% 706 27.34% 115ND LN 22 5 11 4 115ND LN 12 19 11 115ND LN 11 115ND LN 11 115ND LN 11	520 47.08 47.08 13.41 1VT-520P 576.16 47.25 15.59 17.40	599   3.17%   556   5.37%   713   7.58%	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% 530 47.41 14.26 39.11 13.55 LNVT-530NI 587.24 47.58 15.74 LVT-530NI 17.57	6 LN'	614 23.78% 673 26.04% 731 26.04% 731 31 26.31% VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 592.78 47.74 15.82 17.65	620 23.98% 679 26.27% 738 28.55% LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND
5%音面開盤(%)		572 22.15% 627 44.26% 681 26.37% LNVT-5000 46.42 13.84 38.08 13.13 LNVT-5000 46.59 15.28 LNVT-5000 17.05 552 22.11%	578 22.36% 633 24.48% 688 26.61% ND LNV ND LNV 2	5 22. 6 24. 6 26. 7-505ND 505 46.59 13.91 38.26 13.20 13.20 15.36 7-505ND 15.36 7-505ND 15.36 7-505ND 15.36 15.36 15.36	33 5 56% 22. 58 6 22. 58 71% 24. 44 77 86% 27.  LNVT-510ND 510 46.75 13.98 38.43 13.27 LNVT-510ND 565.08 46.92 15.43 LNVT-510ND 17.22 536 22.55%	38	593 22.97% 650 25.15% 706 27.34% 15ND LN 2 5 1 4 4 115ND LN 12 9 1 15ND LN	15.59 17.40 17	599	604 23.378 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% 530 47.41 14.26 39.11 13.55 87.24 47.58 15.74 LNVT-530NI 17.57 57.23	6 6 D LN'	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 13.62 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 562 23.66%	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND 17.74 23.88%
5%音面開盤(%)		572 22.15% 627 44.26% 681 26.37%  LNVT-5000 46.42 13.84 38.08 13.13 LNVT-500 554.00 46.59 15.28 LNVT-5000 17.05 525 22.11% 575 24.21% 625	578 22.36% 633 24.48% 688 26.61% ND LNV 5 ND LNV 5 2 2	5 22. 6 24. 6 26. 7-505ND 505 46.59 13.91 38.26 13.20 13.82 65.55 7-505ND 559.54 46.76 15.36 7-505ND 17.14 559.54 18.46 631	33 5 56% 22. 58 6 22. 58 71% 24. 44 77 86% 27.  LNVT-510ND 510 46.75 13.98 38.43 13.27 LNVT-510ND 565.08 46.92 15.43 LNVT-510ND 17.22 536 22.55% 587 24.70% 638	38 76% 44 93% 00 10%   LNVT-51 515 46.92 14.00 38.61 13.34 LNVT-51 570.6 47.00 15.55 LNVT-51 17.31 5411 22.77 592 24.94 644	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 1 4 4 15ND LN 12 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	52 64 25 77 27 4VT-520 47.08 14.12 38.78 13.41 1VT-520 17.40 546 22.99% 598 25.18% 650	599   3.17%   556   5.37%   7.13   7.58%	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 28.07% 530 47.41 14.26 39.11 13.55 587.24 47.58 15.74 LNVT-530NI 17.57 557 23.44% 610 25.67% 663	6 LN' D LN'	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 11.4.33 39.28 13.62 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 662 23.66% 615 25.91%	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND 17.74 667 23.88% 621 26.15% 675
5%音面唱器 (%)     15%音面唱器 (Pmax)     15%音面唱器 (Pmax)     15%音面唱器 (Pmax)     25%音面唱器 (%)     25%音面唱器 (%)     STC: 1000W/m², 25℃、AM1.5G     Pmp [W] /Tolerance±3%     Voc [V] /Tolerance±5%     Isc [Adc] /Tolerance±5%     Imax [Adc]     BNPI: GE=1000w/m²+φ*135w/m²     Maximum Power (Pmax)     Open Circuit Voltage (Voc)±5%     Short Circuit Current (Isc)±5%     Short Gircuit Current (Isc)±5%     Short G		572 22.15% 627 44.26% 681 26.37%  LNVT-500N 500 46.42 13.84 38.08 13.13 LNVT-500N 554.00 46.52 22.11% 575 24.21%	578 22.36% 633 24.48% 688 26.61% ND LNV 5 ND LNV 5 2 2	5 22. 6 24. 7 24. 8 26. 7 26. 7 26. 8 26.	33 5 566% 22. 88 6 71% 24. 44 7 86% 27.  LNVT-510ND 510 46.75 13.98 38.43 13.27 LNVT-510ND 565.08 46.92 15.43 LNVT-510ND 17.22 536 22.55% 587 24.70%	38 76% 44 93% 500 10% 515 46.92 14.00 13.34 LNVT-51 570.6 47.05 15.55 LNVT-51 17.31 541 22.77 592 24.94	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 1 4 4 15ND LN 12 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	523 6425 727 27 27 27 38.78 14.12 38.78 13.41 13.41 17T-5200 17.40 546 22.99% 598 25.18%	599   3.17%   556   5.37%   7.13   7.58%	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% 530 47.41 14.26 39.11 13.55 NVT-530NI 587.24 47.58 15.74 LNVT-530NI 17.57 23.44% 610 25.67%	6 LN' D LN'	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 592.78 47.74 15.62 23.66% 615 25.91%	620 23.98% 679 26.27% 738 28.55% LNVT-540ND 540 47.72 14.40 39.44 19.40 19.83 47.89 LNVT-540ND 17.74 567 23.88% 621 26.15%
5%音面開盤(%)		572 22.15% 627 44.26% 681 26.37%  LNVT-5000 500 46.42 13.84 38.08 13.13 LNVT-5000 554.00 46.59 15.28 LNVT-5000 17.05 525 22.11% 575 24.21% 625 26.32%	578 22.36% 633 24.48% 638 26.61% ND LNV ND LNV 2 2 2	5 22. 6 24. 6 26. 7-505ND 505 46.59 13.91 38.26 13.20 13.20 15.36 17-505ND 1559.54 46.76 15.36 17-505ND 12.33% 581 12.466% 631 16.58%	33 5 56% 22. 58 6 22. 58 6 71% 24. 44 77 86% 27.  LNVT-510ND 510 46.75 13.98 38.43 13.27 LNVT-510ND 565.08 46.92 15.43 LNVT-510ND 17.22 536 22.55% 587 24.70% 638 26.85%	38 76% 44 93% 500 10%   LNVT-51 515 46.92 14.00 38.61 13.34 LNVT-51 570.6 47.00 15.55 LNVT-51 17.31 541 22.77 592 24.94 644 27.11	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 1 4 4 15ND LN 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	520 47.08 14.12 38.78 13.41 IVT-520I 576.16 47.25 15.59 IVT-520I 17.40 546 22.99% 598 25.18% 650 27.37%	599   3.17%   556   5.37%   713   7.58%	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 28.07% 530 47.41 14.26 39.11 13.55 87.24 47.58 15.74 LNVT-530NI 17.57 557 23.44% 610 25.67% 663 27.90%	6 LNN	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 114.33 39.28 13.62 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 662 23.66% 615 22.51% 669 28.16%	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND 17.74 567 23.88% 621 26.15% 675 28.43%
5%音面開盤(%)     15%溶面開盤(Pmax     15%溶面明盤(Pmax     15%溶面明盤(Pmax     25%溶面明盤(Pmax     25%溶面明盤(%)     25%溶面明盤(%)     STC: 1000W/m², 25℃、AM1.5G     Pmp [W] /Tolerance±3%     Voc [V] /Tolerance±5%     Isc [Adc] /Tolerance±5%     Imax [Adc]     BNPI: GE=1000w/m²+φ*135w/m²     Maximum Power (Pmax )   Open Circuit Voltage (Voc)±5%     Short Circuit Current (Isc)±5%		572 22.15% 627 44.26% 681 500 46.42 13.84 38.08 13.13 LNVT-5000 46.59 15.28 LNVT-5000 17.05 525 22.11% 575 24.21% 625 26.32% LNVK-	578 22.36% 633 24.48% 688 26.61% ND LNV ND LNV 2 2 2 2 4455ND	5 22. 6 24. 6 26. 7-505ND 505 46.59 13.91 38.26 13.20 13.20 15.36 7-505ND 559.54 46.76 15.36 7-505ND 17.14 15.36 15.36 16.58%	33 5 56% 22. 588 6 71% 24. 44 77 86% 27.  LNVT-\$10ND 510 46.75 13.98 38.43 13.27 LNVT-\$10ND 565.08 46.92 15.43 LNVT-\$10ND 17.22 536 587 24.70% 638 26.85%	38	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 1 4 15SND LN 2 9 1 1 1 1 5 ND LN 4 8 LNVK-47	520 47.08 14.12 38.78 13.41 IVT-520I 576.16 47.25 15.59 IVT-520I 17.40 546 22.99% 598 25.18% 650 27.37%	599   3.17%   556   5.37%   7.73   7.758%	604 23.37% 661 25.60% 719 27.82%  525 ND	609 23.57% 667 25.82% 725 725 725 725 725 725 725 725 725 725	6 6 6 DD LNY	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 13.62 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 562 22.866% 615 25.91% 669 28.16%	23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND 17.74 567 23.88% 621 26.15% 675 28.43%  LNVK-490ND
5%音面唱絵 (%)     15%音面唱絵 (Pmax)     15%音面唱絵 (Pmax)     15%音面唱絵 (Pmax)     25%音面唱絵 (%)     25%音面唱絵 (%)     STC: 1000W/m², 25℃, AM1.5G     Pmp [W] / Tolerance±3%     Voc [V] / Tolerance±5%     Isc [Adc] / Tolerance±5%     Imax [Adc]     BNPI: GE=1000w/m²+φ*135w/m²     Maximum Power (Pmax)     Open Circuit Voltage (Voc)±5%     Short Circuit Current (Isc)±5%     SBI: GE=1000w/m²+φ*300w/m²     Short Circuit Current (Isc)±5%     Short C		572 22.15% 627 42.26% 681 126.37%  LNVT-500N 500 46.42 13.84 38.08 13.13 LNVT-500N 17.05 525 22.11% 575 24.21% 625 26.32%  LNVK-	578 22.36% 633 24.48% 688 26.61% ND LNV  5 ND LNV  2 2 2 2 455ND 55	5 22. 6 24. 6 26. 7-505ND 505 38.26 13.91 13.20 7-505ND 15.954 46.76 15.36 7-505ND 12.33% 54 44.6% 631 64.6% 631 66.58%	33 5 56% 22. 58 6 71% 24. 44 7 86% 27.  LNVT-\$10ND 510 46.75 13.98 38.43 13.27 LNVT-\$10ND 555.08 46.92 15.43 LNVT-\$10ND 17.22 536 22.55% 638 26.85% OND LNVK. 4	38 76% 144 93% 100 10% 10% 1515 15.5 15.5 15.5 14.0 17.5 15.5 15.5 14.0 17.5 15.5 15.5 16.0 17.5 16.0 17.5 16.0 17.5 16.0 17.5 16.0 17.5 17.5 17.5 17.5 17.5 17.5 17.5 17.5	593 22.97% 650 650 25.15% 706 27.34%  15ND LN 2 5 1 1 4 115ND LN 12 9 1 1 15ND LN 14 15ND LN 15ND LN 15ND LN 15ND LN 15ND LN 15ND LN 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	523 625 727 27 27 27 38.78 14.12 38.78 13.41 37.75 15.59 38.78 13.41 17.75 17.40 546 22.99% 598 25.18% 650 27.37%	599	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% 47.41 14.26 39.11 13.55 LNVT-530NI 587.24 47.53 LNVT-530NI 17.57 23.44% 663 27.90% K-480ND 480	D LN	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 669 28.66% 669 28.16%	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND 17.74 23.88% 621 26.15% 675 28.43%  LNVK-490ND 490
5%音面開経 (%)     15%音面開経 (Pmax)     15%音面開経 (Pmax)     15%音面明経 (Pmax)     15%音面明経 (Pmax)     15%音面明経 (Pmax)     25%音面明経 (%)     STC: 1000W/m², 25℃, AM1.5G     Pmp [W] /Tolerance±3%     Voc [V] /Tolerance±5%     Isc [Adc] /Tolerance±5%     Isc [Adc] /Tolerance±5%     Imax [Adc]     BNPI: GE=1000w/m²+φ*135w/m²     Maximum Power (Pmax)     Open Circuit Voltage (Voc)±5%     Short Circuit Current (Isc)±5%     BSI: GE=1000w/m²+φ*300w/m²     Short Circuit Current (Isc)±5%     Short Circuit Current (Isc)±5%     Short Gircuit Current (Isc)±5%     STC: 1000W/m², 25°C, AM1.5G     Pmp [W] /Tolerance±3%     Voc [W] /Tolerance±5%		572 22.15% 627 44.26% 681 26.37%  LNVT-5000 500 46.42 13.84 38.08 13.80 15.28 LNVT-5000 17.05 525 22.11% 625 24.21% 625 24.32%  LVVK-44 44	578 22.36% 638 24.48% 688 26.61% ND LNV	5 22. 6 24. 6 26. 7 - 505 ND 505 13.91 13.20 7 - 505 ND 159.54 46.76 15.36 7 - 505 ND 17.14 15.36 17.14 18.20 17.14 18.20 17.14 18.20 18.2	33 5 566% 22. 588 6 71% 24. 494 7. 866% 27.  LNVT-\$10ND 510 46.75 13.98 38.43 13.27 LNVT-\$10ND 565.08 46.92 15.43 LNVT-\$10ND 17.22 536 22.55% 587 24.70% 638 26.85% 60ND LNVK. 4	38 76% 44 93% 100 100% 100% 110% 110% 110% 110% 110	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 1 4 4 15ND LN 1 9 9 1 1 1NK-47 470 42.94	520 47.08 14.12 38.78 13.41 177-520 576.16 47.25 15.59 17.40 546 22.99% 650 27.37%	599   3.17%   556   5.37%   713   7.58%	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 28.07% 530 47.41 13.55 28.075 587.24 47.58 15.74 47.58 15.74 47.58 25.67% 663 27.90% 663 27.90% 480 43.36	D LN  LNVK  4	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 665 615 669 28.16% 645 645 645 645 645 645 645 659 28.16%	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND 17.74 567 23.88% 621 26.15% 675 28.43%  LNVK-490ND 490 43.78
5%音面暗弦 (%)     15%音面暗弦 (Pmax)     15%音面暗弦 (Pmax)     15%音面暗弦 (Pmax)     25%音面暗弦 (Pmax)     25%音面暗弦 (%)     STC: 1000W/m², 25℃, AM1.5G     Pmp [W] / Tolerance±3%     Voc [V] / Tolerance±5%     Isc [Adc] / Tolerance±5%     Imax [Adc]     BNP!: GE=1000w/m²+φ*135w/m²     Maximum Power (Pmax)     Open Circuit Voltage (Voc)±5%     Short Circuit Current (Isc)±5%     Short Circuit Current (Isc)±5%     Short Circuit Current (Isc)±5%     S%音面唱弦 (Pmax)     5%音面唱弦 (Pmax)     15%音面唱弦 (Pmax)     15%音面唱弦 (Pmax)     15%音面唱弦 (Pmax)     25%音面唱弦 (Pmax)		572 22.15% 627 44.26% 681 26.37%  LNVT-5000 500 46.42 13.84 38.08 13.13 LNVT-5000 554.00 46.59 15.28 LNVT-5000 17.05 522.11% 575 24.21% 625 26.32%  LNVK. 4 42 13.3	578 22.36% 633 24.48% 688 26.61% ND LNV ND LNV 2 2 2 2 455ND 555 29 81	5 22. 6 24. 6 26. 7-505ND 505 46.59 13.20 13.826 13.20 15.36 7-505ND 559.54 46.76 15.36 7-505ND 15.36 16.58%  LNVK-46 46.0 42.55 13.88	33 5 56% 22. 58 6 22. 58 6 71% 24. 44 7 7 86% 27.  LNVT-510ND 510 46.75 13.98 38.43 13.27 LNVT-510ND 565.08 46.92 15.43 LNVT-510ND 17.22 536 22.55% 587 24.70% 638 26.85% OND LNVK. 4. 42 13	38	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 1 4 15ND LN 2 9 1 1 1 5 1 1 5 1 1 4 4 7 4 7 4 7 4 7 4 7 4 1 4 7 4 1 4 7 4 1 4 1	520 47.08 14.12 38.78 13.41 13.41 147-520 576.16 47.25 15.59 17.40 546 22.99% 598 25.18% 650 27.37%	599   3.17%   556   5.37%   713   7.58%	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 1725 28.07% 530 47.41 14.26 39.11 13.55 LNVT-530NI 587.24 47.58 15.74 LNVT-530NI 17.57 23.44% 610 25.67% 663 27.90% K-480ND 480 480 43.336 14.16	D LNVK	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 114.33 39.28 13.62 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 615 62 23.66% 615 22.61% 669 28.16% 6485ND 1885 3.57 4.23	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND 17.74 567 23.88% 621 26.15% 675 28.43% LNVK-490ND 490 43.78 14.30
5%音面暗益(%)   15%音面暗益(Pmax)   15%音面暗益(Pmax)   25%音面暗益(Pmax)   25%音面暗益(%)   25%音面暗益(%)   STC: 1000W/m²、25℃、AM1.5G   Pmp [W] /Tolerance±3%   Voc [V] /Tolerance±5%   Isc [Adc] /Tolerance±5%   Wmp [V]   Imax [Adc]   BNPI: GE=1000w/m²+φ*135w/m²   Maximum Power (Pmax)   Open Circuit Voltage (Voc)±5%   Short Circuit Current (Isc)±5%   Short Circuit Current (Isc)±5%		572 22.15% 627 42.26% 681 26.37%  LNVT-500N 500 46.42 13.84 38.08 13.13 LNVT-500N 554.00 46.59 15.28 LNVT-500N 575 22.11% 625 22.11% 625 26.32%  LNVK-44 42 133 34	578 22.36% 633 24.48% 688 26.61% ND LNV	5 22. 6 24. 6 26. 7-505ND 505 46.59 13.91 138.26 15.36 15.36 17-505ND 15.954 46.76 15.36 15.36 15.36 16.58% 16.58% 16.58%	33 5 56% 22. 58 6 71% 24. 44 7 86% 27.  LNVT-510ND 510 46.75 13.98 38.43 13.27 LNVT-510ND 555.08 46.92 15.43 LNVT-510ND 17.22 536 22.55% 638 26.85% 60ND LNVK 4 42 1 13 3 35	38 76% 144 93% 100 100% 100% 110% 110% 110% 110% 110	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 1 4 4 115ND LN 12 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5 23 25 25 27 27 27 27 27 27 27 27 27 27 27 27 27	599   3.17%   556   5.37%   7.713   5.78%	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% 47.41 14.26 39.11 13.55 LNVT-530NI 587.24 47.54 15.74 LNVT-530NI 17.57 557 23.44% 663 27.90% 663 27.90% K-480ND 480 43.36 43.36 44.16	D LNV  LNV  4  4:  11:	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 14.33 39.28 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 662 23.66% 669 669 669 28.16% 6485ND 185 3.57	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND 17.74 567 23.88% 621 26.15% 675 28.43% LNVK-490ND 490 43.78 14.30 36.06
5%音面唱絵 (%)     15%音面唱絵 (Pmax)     15%音面唱絵 (Pmax)     15%音面唱絵 (Pmax)     25%音面唱絵 (%)     25%音面唱絵 (%)     STC: 1000W/m², 25℃, AM1.5G     Pmp [W] / Tolerance±3%     Voc [V] / Tolerance±5%     Isc [Adc] / Tolerance±5%     Isc [Adc] / Tolerance±5%     Imax [Adc]     BNPI: GE=1000w/m²+φ*135w/m²     Maximum Power (Pmax)     Open Circuit Voltage (Voc)±5%     Short Circuit Current (Isc)±5%     SSI: GE=1000w/m²+φ*300w/m²     Short Circuit Current (Isc)±5%     Short Circuit		572 22.15% 627 44.26% 681 26.37%  LNVT-500N 500 46.42 13.84 38.08 13.13 LNVT-500N 554.00 46.52 22.11% 575 24.21% 625 26.32%  LNVK-42 13.34 13.34	578 22.36% 633 24.48% 688 26.61% ND LNV 5 ND LNV 5 2 2 2 2 2 2 3 3 3 3 3 3 3 4 4 5 5 5 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5 22. 6 24. 6 26. 7-505ND 505 13.91 138.26 15.36 15.36 17.505ND 15.95 13.91 13.20 17.505ND 17.14 15.36 17.14 16.58% 18.11 18.446% 18.11 18.11 18.11 18.11 18.11 18.11 18.11 18.11 18.11 18.11 18.11 18.11 18.11 18.11	33 5 566% 22. 588 6 71% 24. 44 7 86% 27.  LNVT-510ND 510 46.75 13.98 38.43 18.27 LNVT-510ND 555.08 46.92 15.43 LNVT-510ND 17.22 536 22.55% 638 26.85% 60ND LNVK 4 42 13 355 13 13	38 76% 44 93% 100 10% 10% 10% 10% 10% 10% 10% 10% 10	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 1 4 4 15ND LN 1 1 5 5 1 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4	523 625 727 727 727 727 727 727 727 727 727 7	599   3.17%   656   5.37%   713   7.58%	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% 530 47.41 14.26 39.11 13.55 LNVT-530NI 17.57 23.44% 610 25.67% 663 27.90% 480 43.36 14.16 33.69 14.16 40 40 40 40 40 40 40 40 40 40 40 40 40	6 6 6	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 592.78 47.74 15.82 23.66% 615 25.91% 669 28.16% 689 28.16% 689 28.16% 689 28.16%	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 139.49 15.90 LNVT-540ND 17.74 567 23.88% 621 26.15% 675 24.88% LNVK-490ND 43.78 14.30 36.06 13.59
5%音面開盤(%)		572 22.15% 627 44.26% 681 26.37%  LNVT-5000 500 46.42 13.84 38.08 13.13 LNVT-5000 17.05 525 22.11% 625 24.21% 625 24.21% 44 13 34 LNVK-	578 22.36% 633 24.48% 638 26.61% ND LNV 5 ND LNV 5 2 2 2 2 2 455ND 5529817310	5 22. 6 24. 6 26. 7 - 505 ND 505 46.59 46.59 46.59 13.20 7 - 505 ND 559.54 46.76 15.36 7 - 505 ND 17.14 5581 14.465% 631 6.58% LNVK-46 46.00 42.51 13.88 34.93 13.17 LNVK-46	33 5 566% 22. 588 6 71% 24. 24. 24. 24. 25. 26. 27. 28. 27. 28. 27. 28. 28. 29. 29. 29. 29. 29. 29. 29. 29. 29. 29	38	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 1 4 4 15ND LN 1 1 5 6 7 4 7 4 7 4 7 4 7 4 7 4 7 4 1 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5 23 25 25 27 27 27 27 27 27 27 27 27 27 27 27 27	599 3.17% 656 5.37% 713 7.58%  ND LNVT. 14 3.88 3.80 ND LNVT. 5.8 47 15 ND LNVT. 5.6 6.7 2.5 6.6 6.7 4.75 4.3.15 14.09 3.5.50 1.3.38 LNVK-4751	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 28.07% 530 47.41 13.55 14.26 39.11 13.55 87.24 47.58 15.74 47.58 15.74 47.58 610 25.67% 663 27.90%  K-480ND 48.0 48.0 43.36 41.16 48.0 48.0 48.0 48.36.6 48.16 48.66	D LNV LNVK 4 4: 1: 1: LNVK	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 114.33 39.28 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 662 23.66% 615 669 28.16% 669 28.16% 4.485ND 1885 3.5.57 4.2.3 3.5.2	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND 17.74 567 23.88% 621 26.15% 675 28.43% LNVK-490ND 490 43.78 14.30 36.06 13.59 LNVK-490ND
5%音面開盤(%)   15%音面開盤(Pmax)   15%音面開盤(Pmax)   25%音面開盤(Pmax)   25%音面開盤(%)   25%音面開盤(%)   25%音面開盤(%)   STC: 1000W/m², 25℃、AM1.5G   Pmp [W] /Tolerance±3%   Voc [V] /Tolerance±5%   Isc [Adc] /Tolerance±5%   Isc [Adc] /Tolerance±5%   Maximum Power (Pmax)   Open Circuit Voltage (Voc)±5%   Short Circuit Current (Isc)±5%   Short Circuit Current (Isc)±5%   Sherian Power (Pmax)   5%音面開盤(Pmax)   5%音面開盤(%)   15%音面開盤(%)   15%音面開盤(Pmax)   25%音面開盤(Pmax)   25%音面開盤(Pmax)   25%音面開盤(Pmax)   25%音面開盤(Pmax)   25%音面開盤(Pmax)   25%音面用盤(%)   STC: 1000W/m², 25℃、AM1.5G   Pmp [W] /Tolerance±5%   Isc [Adc] /Tolerance±5%   Isc [Adc] /Tolerance±5%   Vmp [V]   Imax [Adc]   BNPI: GE=1000w/m²+φ*135w/m   Maximum Power (Pmax)		572 22.15% 627 44.26% 681 26.37%  LNVT-5000 500 46.42 13.84 38.08 13.13 LNVT-5000 17.05 522.11% 575 24.21% 625 26.32%  LNVK. 4 42 13.3 344 13 LNVK. 504	578 22.36% 633 24.48% 688 26.61% ND LNV ND LNV 2 2 455ND	5 22. 6 24. 6 26. 7-505ND 505 46.59 13.20 13.82.6 13.20 15.36 7-505ND 559.54 46.76 15.36 7-505ND 15.36 16.58%  LNVK-46 46.0 42.51 13.88 34.93 1.17 LNVK-46 509.6	33 5 56% 22. 58 6 22. 58 6 71% 24. 44 77 86% 27.  LNVT-510ND 510 46.75 13.98 38.43 13.27 LNVT-510ND 565.08 46.92 15.43 LNVT-510ND 17.22 536 22.55% 587 24.70% 638 26.85% OND LNVK. 42 13 35 OND LNVK. 8 51!	38	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 1 4 15ND LN 2 9 1 1 1 5 1 1 4 4 7 4 7 4 7 4 2 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1	520 637 727 1077-5201 520 47.08 13.41 13.41 1377-5201 17.40 576.16 47.25 15.59 17.40 546 22.99% 598 25.18% 650 27.37%	599   3.17%   598   3.17%   556   5.37%   7.13   7.58%	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 1725 28.07% 530 47.41 14.26 39.11 13.55 LNVT-530NI 587.24 47.58 15.74 LNVT-530NI 17.57 23.44% 610 25.67% 663 27.90% K-480ND 480 43.36 43.16 45.69 13.45	LNVK  LNVK  4  4  11  11  LNVK  53	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 114.33 39.28 13.62 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 669 28.16% 669 28.16% 669 485 3.57 4.23 5.87 4.23 5.87	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND 17.74 567 23.88% 621 26.15% 675 28.43% LNVK-490ND 490 43.78 14.30 36.06 13.59 LNVK-490ND 542.92
「S%音面唱益(Pmax) 15%音面唱益(Pmax) 15%音面唱益(Pmax) 25%音面唱益(Pmax) 25%音面唱益(Pmax) 25%音面唱益(S)  STC: 1000W/m²、25℃、AM1.5G  Pmp [W] /Tolerance±3%  Voc [V] /Tolerance±5%  Isc [Adc] /Tolerance±5%  Wmp [V] Imax [Adc] BNPI: GE=1000w/m²+φ*135w/m² Maximum Power (Pmax) Open Circuit Voltage (Voc)±5% Short Circuit Current (Isc)±5% BSI: GE=1000w/m²+φ*300w/m² Short Circuit Current (Isc)±5% S%青面唱益(Pmax) 5%青面唱益(Pmax) 15%青面唱益(Pmax) 15%青面唱益(Pmax) 15%青面唱益(Pmax) 25%青面唱益(Pmax) 25%青面唱益(Pmax) 15%青面唱益(S)  STC: 1000W/m²、25℃、AM1.5G Pmp [W] /Tolerance±5% Voc [V] /Tolerance±5% Voc [V] /Tolerance±5% Vmp [M] Imax [Adc] BNPI: GE=1000w/m²+φ*135w/m Maximum Power (Pmax) Open Circuit Voltage (Voc)±5%		572 22.15% 627 42.26% 681 26.37%  LNVT-500N 500 46.42 13.84 38.08 13.13 LNVT-500N 17.05 525 22.11% 625 22.11% 625 26.32%  LNVK- 44 42 13 344 13 344 13 LNVK- 500 422	578 22.36% 633 24.48% 688 26.61% ND LNV  5 ND LNV  2 2 2 455ND 55293110455ND 4.1440	5 22. 6 24. 6 26. 7-505ND 505 38.26 13.91 13.20 7-505ND 559.54 46.76 15.36 1-505ND 12.33% 581 14.46% 631 6.58% LNVK-46 42.51 13.88 34.99 13.17 LNVK-46 550,6 42.62	33 5 566% 22. 588 6 71% 24. 44 7 86% 27.  LNVT-\$10ND 510 46.75 13.98 38.43 13.27 LNVT-\$10ND 555.08 46.92 15.43 LNVT-\$10ND 17.22 536 22.55% 638 22.55% 638 26.85% 60ND LNVK. 4 42 13 35 13.30ND LNVK. 8 50ND LNVK. 8 50ND LNVK.	38	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 55 1 4 4 115ND LN 12 9 11 15ND LN 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18	523 625 727 8VT-5201 520 47.08 14.12 38.78 13.41 1VT-5201 576.16 47.25 15.59 1VT-5201 17.40 546 22.99% 650 27.37%	599	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% LNVT-530NI 530 47.41 14.26 39.11 13.55 LNVT-530NI 587.24 47.53 LNVT-530NI 17.57 23.44% 663 27.90% K-480ND 48.0 43.36 14.16 35.69 13.45 K-480ND 13.45 K-480ND 13.45	D LNV  LNVK  4  4: 11: 12: 13: 13: 14:	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 662 23.66% 615 25.91% 669 28.16% 485ND 185 3.57 4.23 5.87 3.52 4.485ND 17.38	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 17.74 17.74 24.889 15.90 LNVT-540ND 17.74 23.88% 621 26.15% 675 28.43% LNVK-490ND 490 43.78 14.30 36.06 13.59 LNVK-490ND LNVK-490ND 542.92 43.94
5%音面開盤(%)		572 22.15% 627 44.26% 681 26.37%  LNVT-5000 500 46.42 38.08 38.18 13.13 LNVT-5000 17.05 525 22.11% 625 24.21% 625 24.21% 625 24.21% 44 42 13 34 133 LNVK-5000 46.59	578 22.36% 638 24.48% 688 26.61% ND LNV 5 ND LNV 5 2 2 2 2 2 2 455ND 55298110455ND 4.144025	5 22. 6 24. 6 26. 7 - 505 ND 505 38.26 13.91 13.20 7 - 505 ND 559.54 46.76 15.36 17.14 15.36 17.14 15.36 17.14 16.58%  LVVK-46 460 42.51 13.88 34.92 13.17 LNVK-46 509.6	33 5 566% 22. 588 6 71% 24. 44 7 86% 27.  LNVT-\$10ND 510 46.75 13.98 38.43 13.27 LNVT-\$10ND 555.08 46.92 15.43 LNVT-\$10ND 17.22 536 22.55% 587 24.70% 638 26.85% 60ND LNVK 4 42 13 355 13 30ND LNVK 3 511 13 511 13 15 15 15 15 15 15 15 15 15 15 15 15 15	38	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 1 4 15ND LN 1 1 1 1 5ND LN 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	520 47.02 520 47.02 520 47.02 14.12 38.78 13.41 1VT-520 15.59 1VT-520 17.40 546 22.99% 598 650 27.37% 670 11 12 16 17 17 17 17 17 17 17 17 17 17 17 17 17	599   3.17%   595   596   597	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% 530 47.41 14.26 39.11 14.26 39.11 15.72 47.58 15.74 47.58 15.74 47.58 15.74 47.66 63 27.90% 663 27.90% 48.0 48.0 48.0 43.36 14.16 33.66 14.16 33.69 13.45 K-480ND 31.84 43.51	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 15.82 VT-535ND 17.65 562 23.66% 615 62.816% 648 6485ND 1885 3.57 4.23 5.87 3.52 6485ND 17.38	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND 17.74 567 23.88% 621 26.15% 675 28.43% LNVK-490ND 43.78 14.30 36.06 13.59 LNVK-490ND 542.92 43.94
5%音面開盤(%)		572 22.15% 627 44.26% 681 500 500 46.42 13.84 38.08 13.13 LINVT-500N 17.05 525 22.11% 625 24.21% 625 24.21% 625 24.32% LNVK-500N 46.59 15.28 LNVK-500N 17.05 525 42.11% 625 44.133 344 133 LNVK-500 422 1554	578 22.36% 633 24.48% 688 26.61% ND LNV 50 ND	5 22. 6 24. 6 26. 7 - 505 ND 505 46.59 38.26 13.20 17-505 ND 559.54 46.76 15.36 17-505 ND 559.54 46.76 15.36 17-505 ND 17.14 15.36 17-505 ND 17.14 18.36 18.34 18.	33 5 56% 22. 588 6 71% 24. 494 7. 86% 27.  LINVT-\$10ND 510 46.75 13.98 38.43 13.27 LINVT-\$10ND 565.08 46.92 15.43 LINVT-\$10ND 17.22 536 22.55% 587 24.70% 638 26.85% 60ND LINVK-4 42 1 13 60ND LINVK-8 8 511 60ND LINVK-8 1 42 1 42 1 42 1 42 1 43 1 44 1 45 1 44 1 45 1 45 1 41 1 41 1 41	38	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 1 44 15ND LN 2 9 1 1 15ND LN 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5 23 25 25 27 27 27 27 27 27 27 27 27 27 27 27 27	599 3.17% 656 5.37% 713 7.58%  ND LNVT. 14 3.8 3.8 3.8 ND LNVT. 5.8 47 15.5 2.3. 6.25, 6.7 27. LNVK-4751 4.09 35.50 13.38 LNVK-4751 526.30 43.29 15.56 LNVK-4751	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 28.07% 530 47.41 14.26 39.11 13.55 14.26 47.58 15.74 47.58 15.74 47.58 610 25.67% 663 27.90% K-480ND 480 43.36 14.16 43.56 43.36 14.16 43.56 43.38 443.51 15.63 K-480ND	LINVK  LINVK  53  41  LINVK	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 13.62 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 669 28.16% 669 28.16% 669 28.16% 689 28.16% 689 28.16% 689 28.16% 689 28.16% 689 28.16% 689 28.16% 689 28.16% 689 38.57 4.23 5.67 3.52 4.23 5.571 4.485ND  17.48	23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 17.74 667 23.88% 621 26.15% 675 28.43% LNVK-490ND 490 43.78 14.30 36.06 13.59 LNVK-490ND 542.92 43.94 15.79 LNVK-490ND
5%音面暗絵(%)   15%音面暗絵(Pmax)   15%音面暗絵(Pmax)   25%音面暗絵(Pmax)   25%音面暗絵(%)   25%音面暗絵(%)   25%音面暗絵(%)   STC: 1000W/m², 25℃、AM1.5G   Pmp [W] /Tolerance±3%   Voc [V] /Tolerance±5%   Isc [Adc] /Tolerance±5%   Vmp [V]   Imax [Adc]   BNPI: GE=1000w/m²+φ*135w/m²   Maximum Power (Pmax)   Open Circuit Voltage (Voc)±5%   Short Circuit Current (Isc)±5%   STC: 1000W/m², 25℃、AM1.5G   Pmp [W] /Tolerance±3%   Voc [V] /Tolerance±5%   Voc [V] /Tolerance±5%   Vmp [V]   Imax [Adc]   BNPI: GE=1000w/m²+φ*135w/m   Maximum Power (Pmax)   Open Circuit Voltage (Voc)±5%   Short Circuit Current (Isc)±5%   Short Circuit Current (Isc)±5%   Short Circuit Current (Isc)±5%   Short Circuit Current (Isc)±5%		572 22.15% 627 42.26% 681 126.37%  LNVT-500N 500 46.42 13.84 38.08 13.13 LNVT-500N 554.00 46.59 15.28 LNVT-500N 575 24.21% 625 22.11% 625 26.32%  LNVK 44 42 13 34 13 LNVK 500 42 15 LNVK 500 42 15 LNVK 500 42 15 LNVK 500 42 15 15 15 15 15 15 15 15 15 15 15 15 15	578 22.36% 633 24.48% 688 26.61%  ND LNV  ND LNV  2 2 455ND 5529817310 4.144025	5 22. 6 24. 6 26. 7-505ND 505 46.59 13.91 13.20 7-505ND 15.954 46.76 15.36 15.36 15.36 16.58% 4600 42.51 13.11 LNVK-46 509.6 42.62 15.32 13.17 LNVK-46 15.33	33 5 56% 22. 58 6 22. 58 6 71% 24. 44 77 86% 27.  LNVT-\$10ND 510 46.75 13.98 38.43 13.27 LNVT-\$10ND 565.08 46.92 15.43 LNVT-\$10ND 17.22 536 22.55% 587 24.70% 638 26.85% OND LNVK. 41 42 13 35 OND LNVK. 3 51! 50ND LNVK. 42 115.43	38	593   22.97%   650   27.34%   15ND	5 23 25 25 27 27 27 27 27 27 27 27 27 27 27 27 27	599   3.17%   598   3.17%   556   5.37%   7.13   7.58%	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 1725 28.07% 14.26 39.11 13.55 14.758 15.74 47.58 15.74 17.57 23.44% 610 25.67% 663 27.90%  K-480ND 480 480 480 43.36 44.16 45.63% 480 31.84 43.51 15.63	LNVK	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 13.62 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 662 23.66% 615 25.91% 669 28.16% 4.485ND 1885 3.3.57 4.23 5.87 4.23 5.87 4.33 3.72 4.485ND 17.38 3.72 4.485ND 17.53	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND 17.74 567 23.88% 621 26.15% 675 28.43% LNVK-490ND 490 43.78 14.30 36.06 13.59 LNVK-490ND 542.92 43.94 15.79
5%音面暗路 (%)		572 22.15% 627 44.26% 681 26.37%  LNVT-500N 500 46.42 13.84 38.08 13.13 LNVT-500N 7554.00 46.52 22.11% 625 22.11% 625 24.21% 625 26.32%  LNVK- 44 42 13 344 13 LNVK- 504 42 15 44 47 47 44 48 48 49 49 40 40 40 40 40 40 40 40 40 40 40 40 40	578 22.36% 633 24.48% 688 26.61% ND LNV 5 ND LNV 5 2 2 2 2 2 455ND 5529817310455ND445ND25455ND	5 22. 6 24. 6 6 26. 7-505ND 505 446.59 13.91 13.20 7-505ND 159.54 46.76 15.36 17-505ND 159.54 16.58% 18.17.14 18.38 18.31 18.17 18.446% 18.31 18	33 5 566% 22. 588 6 71% 24. 44 7 86% 27.  LNVT-\$10ND \$10 46.75 13.98 38.43 13.27 LNVT-\$10ND \$15.43 LNVT-\$10ND 17.22 \$36 22.55% 638 26.85% 60ND LNVK- 4 42 1 13 60ND LNVK- 4 1 13 60ND LNVK- 4 1 13 60ND LNVK- 4 1 15 60ND LNVK- 4 1 13 60ND LNVK- 4 1 14 1 15 60ND LNVK- 4 1 15 60ND LNVK- 4 1 15 60ND LNVK- 4 4 42 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	38	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 4 4 15ND LN 15ND LN 11 15ND L	523 625 727 8VT-5201 520 47.08 14.12 38.78 13.41 1VT-5201 17.40 546 22.99% 650 27.37% 600D I	599	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 28.07% 14.26 39.11 14.26 39.11 13.55 LNVT-530NI 587.24 47.53 15.74 LNVT-530NI 17.57 557 23.44% 610 25.67% 663 27.90% K-480ND 480 43.36 14.16 35.69 13.45 K-480ND 13.45 K-480ND 15.63 K-480ND 15.63 K-480ND 15.63 K-480ND	Column	614 23.78% 673 26.04% 731 28.31% VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 669 28.16% 615 25.91% 669 28.16% 485ND 1885 3.57 4.23 5.87 3.52 4.485ND 17.38 3.72 5.71	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND 17.74 567 23.88% 621 26.15% 675 28.43% LNVK-490ND 43.78 14.30 36.06 13.59 LNVK-490ND 542.92 43.94 15.79 LNVK-490ND 17.79 LNVK-490ND
5%音面開盤(%)		572 22.15% 627 44.26% 681 26.37%  LNVT-5000 500 46.42 13.84 38.08 13.18 LNVT-5000 17.05 525 22.11% 625 24.21%	578 22.36% 633 24.48% 688 26.61% ND LNV  10 LN	5 22. 6 24. 6 26. 7-505ND 505 38.26 13.91 13.20 7-505ND 559.54 46.76 15.36 7-505ND 159.54 46.76 15.36 42.66 15.38 LNVK-46 460 42.51 13.88 34.93 13.17 LNVK-46 509.6 42.61 15.33 LNVK-46 42.62 15.33 LNVK-46 42.63 42.63 42.63	33 5 566% 22. 588 6 71% 24. 494 7. 866% 27.  LNVT-\$10ND 510 46.75 13.98 38.43 18.27 LNVT-\$10ND 555.08 46.92 15.43 LNVT-\$10ND 17.22 536 22.55% 638 26.85% 60ND LNVK 4 42 13 355 60ND LNVK 8 511 13 60ND LNVK 17 15 15 15 15 15 15 15 15 15 15 15 15 15	38	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 1 4 4 15ND LN 1 1 1 5ND LN 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	523 625 727 8VT-5201 520 47.08 14.12 38.78 13.41 1VT-5201 17.40 546 22.99% 650 27.37% 600D I	599 3.17% 656 5.37% 713 7.58%  ND LNVT. 14 3.88 47 13 ND LNVT. 15 ND LNVT. 15 23. 6 6. 25. 6 6. 27. LNVK-475 43.15 14.09 35.50 13.38 LNVK-475 15.56 26.30 43.29 15.56 LNVK-475 17.36 499 23.03%	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% 530 47.41 14.26 39.11 14.26 39.11 15.72 47.58 15.74 47.58 15.74 47.58 15.74 47.59 15.77 23.44% 610 25.67% 663 27.90% 480 43.36 14.16 33.36 14.16 33.36 14.16 33.84 480 17.45 610 17.45 610 17.45 610 17.45 610 17.45 610 17.45 610 17.45 610 17.45 610 17.45 610 17.45 610 17.45 610 17.45 610 17.45 610 17.45	Column	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 669 28.16% 669 28.16% 669 28.16% 675 28.16% 685 28.16% 697 28.16% 697 28.16% 698 28.16% 699 28.	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 598.32 47.89 15.90 LNVT-540ND 17.74 567 23.88% 621 26.15% 675 28.43% LNVK-490ND 43.78 14.30 36.06 13.59 LNVK-490ND 542.92 43.94 15.79 LNVK-490ND 17.62 515 23.75%
5%音面開盤(%)		572 22.15% 627 42.6% 681 500 46.42 13.84 38.08 13.13 LINVT-500N 554.00 46.59 15.28 LINVT-500N 17.05 525 22.11% 625 24.21% 44 13 344 13 LINVK 500 42 15 LINVK 500 42 500 500 500 500 500 500 500 500 500 50	578 22.36% 633 24.48% 688 26.61%  ND LNV   ND LNV    STAND LNV   AU   AU    AU	5 22. 6 24. 6 26. 7-505ND 505 46.59 13.20 13.20 13.20 15.36 15.36 17-505ND 1559.54 46.76 15.36 17-505ND 16.58% LNVK-46 13.21 LNVK-46 15.36 13.20 15.36 14.46% 15.36 11.388 34.93 13.17 LNVK-46 15.36 15.36 15.36 17.10 18.88 18.36 1	33 5 56% 22. 588 6 71% 24. 44 7 86% 27.  LINVT-\$10ND 510 46.75 13.98 38.43 13.27 LINVT-\$10ND 565.08 46.92 15.43 LINVT-\$10ND 17.22 536 22.55% 587 24.70% 638 26.85% 60ND LINVK. 4 42 1 13 60ND LINVK. 8 511 60ND LINVK. 9 42 60ND LINVK. 17 60ND LINVK.	38	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 1 4 4 15ND LN 1 1 15ND LN 1 1 15ND LN 1 1 15ND LN 1 1 1 15ND LN 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	23   25   25   27   27   27   27   27   27	599   3.17%   598   3.17%   556   5.37%   7.13   7.58%   546	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% 14.26 39.11 13.55 14.26 39.11 13.55 87.24 47.58 15.74 47.58 15.74 47.58 610 25.67% 663 27.90% K-480ND 43.36 14.16 43.56 43.36 14.16 55.69 13.45 K-480ND 13.45 K-480ND 17.45 504 33.84	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 13.62 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 669 28.16% 669 28.16% 669 28.16% 673 3.52 4.23 5.87 3.352 4.23 5.87 7.33 3.72 5.71 6.485ND 17.53 17.53 17.53	23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 17.74 667 23.88% 621 26.15% 675 28.43% LNVK-490ND 490 43.78 14.30 36.06 13.59 LNVK-490ND 542.92 43.94 15.79 LNVK-490ND 17.62 515 23.75% 564
5%音面暗絵(%)   15%溶面暗絵(Pmax)   15%溶面暗絵(Pmax)   15%溶面暗絵(Pmax)   25%溶面暗絵(%)   25%溶面暗絵(%)   STC: 1000W/m², 25℃、AM1.5G   Pmp [W] /Tolerance±3%   Voc [V] /Tolerance±5%   Isc [Adc] /Tolerance±5%   Vmp [V]   Imax [Adc]   BNPI: GE=1000w/m²+φ*135w/m²   Maximum Power (Pmax)   Open Circuit Voltage (Voc)±5%   Short Circuit Current (Isc)±5%   Isc [Adc] /Tolerance±3%   Voc [V] /Tolerance±5%   Vmp [V]   Imax [Adc]   BNPI: GE=1000w/m²+φ*135w/m   Maximum Power (Pmax)   Open Circuit Voltage (Voc)±5%   Short Circuit Current (Isc)±5%   Short		572 22.15% 627 42.26% 681 26.37%  LNVT-500N 500 46.42 13.84 38.08 13.13 LNVT-500N 552,00 46.52 22.11% 625 22.11% 625 22.11% 625 24.21% 625 24.21% 625 24.21% 625 24.21% 625 24.21% 625 25.11% 575 24.21% 625 26.32%  LNVK-500N 42 13 344 13 344 13 24 15 25 26.32% 42 27 28 28 28 28 28 28 28 28 28 28 28 28 28	578 22.36% 633 24.48% 688 26.61% ND LNV  S  ND LNV  2  4255ND  55  .29  .3.10 -455ND .414 .40 .25 .01 78 06% 23 16%	5 22. 6 24. 6 26. 7-505ND 505 38.26 313.91 38.26 313.91 38.26 15.36 7-505ND 15.954 46.76 15.36 15.36 15.36 15.36 15.36 15.31 14.46% 631 631 6.58% LNVK-46 42.51 13.88 34.99 13.17 LNVK-46 15.33 12.30 15.32 LNVK-46 15.33 15.33 15.34 15.35 15.36 15.3	33 5 56% 22. 58 6 22. 58 6 71% 24. 44 7 786% 27.  LNVT-\$10ND 510 46.75 13.98 38.43 13.27 LNVT-\$10ND 555.08 46.92 15.43 LNVT-\$10ND 17.22 536 22.55% 638 22.55% 638 26.85% 60ND LNVK. 4 42 51 51 60ND LNVK. 50ND LNVK.	38	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 51 1 15ND LN 15ND LN 15ND LN 12 9 1 15ND LN 15ND LN 12 9 1 1 15ND LN 1 1 15ND LN 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	23   25   25   27   27   27   27   27   27	Section	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% 47.41 14.26 39.11 13.55 LNVT-530NI 587.24 47.53 LNVT-530NI 17.57 23.44% 610 25.67% 663 27.90% K-480ND 48.0 43.36 14.16 35.69 13.45 K-480ND 11.563 13.84 43.51 15.63 13.84 43.51 15.63	LNVK 44 44 44 44 44 44 44 44 44 44 44 44 44	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 14.33 39.28 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 662 23.66% 669 28.16% 669 28.16% 689 3.57 4.423 5.87 3.52 5.71 4.433 5.87 3.52 5.71 4.485ND 17.38 3.72 5.71 5.75%	620 23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 17.74 567 23.88% 621 26.15% 675 28.43% LNVK-490ND 43.78 14.30 36.06 13.59 LNVK-490ND 17.79 LNVK-490ND 17.62 515 523.75% 564 26.02%
5%音面開盤(%)		572 22.15% 627 42.6% 681 26.37%  LNVT-500N 500 46.42 13.84 38.08 13.13 LNVT-500N 554.00 46.52 22.11% 625 22.11% 625 26.32%  LNVK-500N 42 13.84 1	578 22.36% 633 24.48% 688 26.61%  ND LNV   ND LNV    STAND LNV   AU   AU    AU	5 22. 6 24. 6 26. 7-505ND 505 46.59 13.20 13.20 13.20 15.36 15.36 17-505ND 1559.54 46.76 15.36 17-505ND 16.58% LNVK-46 13.21 LNVK-46 15.36 13.20 15.36 14.46% 15.36 11.388 34.93 13.17 LNVK-46 15.36 15.36 15.36 17.10 18.88 18.36 1	33 5 566% 22. 588 6 71% 24. 44 7 86% 27.  LNVT-\$10ND \$10 46.75 13.98 38.43 38.43 13.27 LNVT-\$10ND \$55.08 46.92 15.43 LNVT-\$10ND 17.22 536 22.55% 638 26.85% 60ND LNVK 4 42 1 13 6 13 6 15 6 15 6 15 6 15 6 15 6 15 6 15 6 15	38	593 22.97% 650 25.15% 706 27.34%  15ND LN 2 5 1 1 4 4 15ND LN 1 1 15ND LN 1 1 15ND LN 1 1 15ND LN 1 1 1 15ND LN 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	520 47.08 14.12 38.78 13.41 1VT-5201 520 47.08 14.12 38.78 13.41 1VT-5201 17.40 546 522.99% 598 650 27.37% 670ND I	599   3.17%   598   3.17%   556   5.37%   7.13   7.58%   546	604 23.37% 661 25.60% 719 27.82%	609 23.57% 667 25.82% 725 28.07% 14.26 39.11 13.55 14.26 39.11 13.55 87.24 47.58 15.74 47.58 15.74 47.58 610 25.67% 663 27.90% K-480ND 43.36 14.16 43.56 43.36 14.16 55.69 13.45 K-480ND 13.45 K-480ND 17.45 504 33.84	Color   Colo	614 23.78% 673 26.04% 731 28.31%  VT-535ND 535 47.56 13.62 13.62 VT-535ND 592.78 47.74 15.82 VT-535ND 17.65 669 28.16% 669 28.16% 669 28.16% 673 3.52 4.23 5.87 3.352 4.23 5.87 7.33 3.72 5.71 6.485ND 17.53 17.53 17.53	23.98% 679 26.27% 738 28.55%  LNVT-540ND 540 47.72 14.40 39.44 13.69 LNVT-540ND 17.74 567 23.88% 621 26.15% 675 28.43% LNVT-540ND 490 43.78 14.30 36.06 13.59 LNVK-490ND 542.92 43.94 15.79 LNVK-490ND 17.62 515 523.75% 564

STC: 1000W/m²、25℃、AM1.5G	LNVB-410ND	LNVB-415ND	LNVB-420ND	LNVB-425ND	LNVB-430ND	LNVB-435ND	LNVB-440ND
Pmp [W] /Tolerance±3%	410	415	420	425	430	435	440
Voc [V] /Tolerance±5%	38.01	38.25	38.49	38.73	38.96	39.19	39.42
Isc [Adc] /Tolerance±5%	13.85	13.92	13.99	14.06	14.13	14.20	14.27
Vmp [V]	31.20	31.42	31.63	31.84	32.04	32.25	32.45
Imax [Adc]	13.14	13.21	13.28	13.35	13.42	13.49	13.56
BNPI: GE=1000w/m <sup>2</sup> +φ*135w/m <sup>2</sup>	LNVB-410ND	LNVB-415ND	LNVB-420ND	LNVB-425ND	LNVB-430ND	LNVB-435ND	LNVB-440ND
Maximum Power (Pmax)	454.28	459.82	465.36	470.90	476.44	481.98	487.52
Open Circuit Voltage (Voc)±5%	38.14	38.38	38.62	38.86	39.10	39.33	39.56
Short Circuit Current (Isc)±5%	15.29	15.37	15.44	15.52	15.60	15.68	15.75
BSI: GE=1000w/m <sup>2</sup> +φ*300w/m <sup>2</sup>	LNVB-410ND	LNVB-415ND	LNVB-420ND	LNVB-425ND	LNVB-430ND	LNVB-435ND	LNVB-440ND
Short Circuit Current (Isc)±5%	17.06	17.15	17.24	17.32	17.41	17.49	17.58
5%背面增益 (Pmax)	431	436	441	446	452	457	462
5%背面增益 (%)	22.05%	22.31%	22.58%	22.85%	23.12%	23.39%	23.66%
15%背面增益 (Pmax)	472	477	483	489	495	500	506
15%背面增益 (%)	24.15%	24.44%	24.73%	25.03%	25.32%	25.62%	25.91%
25%背面增益 (Pmax)	513	519	525	531	538	544	550
25%背面增益 (%)	26.25%	26.57%	26.89%	27.21%	27.53%	27.85%	28.17%

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