

# 2020 Shutesbury Annual Operating Report



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**Operation Conditions:**

1. Should any segment of the perimeter fencing be visible in winter from Reed Road, that visible portion shall be dark green or black in color.

Perimeter fencing is not visible during the winter from Reed Road.

2. Signage shall be provided to identify the operator of the facility and provide a 24-hour emergency contact phone number. Signage at the perimeter fence warning pedestrians is allowable. Signage shall not be used for displaying any advertising.

There is signage at the site's gate that provides a pedestrian warning as well as the name of the operator and the 24/7 emergency contact phone number.



3. A copy of a final Commissioning Report shall be submitted to the Shutesbury Board of Selectmen no less than 30 days following the activation of the facility.

A copy of the Commissioning Report is available in Appendix A.

4. Emergency Preparedness: Applicant shall provide a copy of the Project summary, electrical schematic, and site plan to the Fire Chief, Highway Superintendent, and Emergency Management Director, and identify a responsible owner/operator for public inquiries throughout the life of the installation prior to the commencement of the operation of the Project. Signage shall be attached to the gate providing the emergency contact information and the responsible person. The Fire Department shall be provided with a means to open the gate on the access road to the security fencing around the array and shall have access to emergency shut-offs for the solar array. The project operators shall provide a training session for the Fire Department and other Town officials responsible for emergency response on how to use the emergency cutoff switches, and other operational details.

The training for the Fire Department and Town Officials has not occurred yet due to safety concerns and social distance requirements during the COVID-19 pandemic. This training is being scheduled and will be completed Q3 2021. The Fire Department will be given the combination for the lock, and has permission to cut the lock in case of emergency.

5. The owner or operator of the project shall submit an annual report demonstrating and certifying compliance with an Operation and Maintenance Plan and the approved special permit, including but not limited to compliance with the approved plans and any special permit conditions, continuation of liability insurance, and adequacy of emergency access. The annual report shall also provide information on the maintenance completed during the course of the year, the status of the wildflower meadow planted in and around the arrays, and the amount of electricity generated by the facility. The report shall be submitted to the Planning Board, Select Board, Fire Chief, Emergency Management Director, and Building Inspector no later than 45 days after the end of the calendar year.

## Maintenance completed during 2020:

Work Order ID *	Name	Status	Request Description
89176942	Breakdown - Major-Shutesbury - Inv 3 prod	Completed	TMEIC 1.5MW inverter 3 failed to energize in the morning on 7/30/2020. DAS has not displayed any faults for the unit.
74023448	Corrective Maintenance-Shutesbury - Invs erroneous data	Completed	All three TMEIC Samurai 1.5MW Inverters on site stopped reporting AC current to the DAS at ~11:20AM on 12/30/19. Subsequently, all inverters are displaying OW of power. Site meters indicate that these inverters are all producing. The cause of the breakdown is unknown.
87859151	Breakdown - Major-Shutesbury - Inv 3 fault/late starts	Completed	TMEIC 1.5MW Inverter 3 energized late (~8:00AM) on 7/6/2020 and failed to energize in the morning on 7/7/2020. DAS provided the fault message "Minor Fault Ext Minor Fault - Depending on External Connection of I/O PCB" for this event.
88773212	Breakdown - Major-Shutesbury - UPS active/site down	Completed	AE Smart UPS battery activated at ~7:50PM on 7/22/2020. Site stopped producing at this time. The cause of the breakdown is unknown.
88773306	Breakdown - Major-Shutesbury - Inv 2 prod	Completed	TMEIC 1.5MW inverter 2 failed to reenergize in the morning (~11:06 AM) on 7/23/2020 when the site was reset. DAS has not displayed any faults for the unit.
68921482	Breakdown - Partial-Shutesbury - CB 1.2 Underperformance	Completed	Combiner Box 1.2 began intermittently underperforming by on 10/6/19. Upon energizing in the morning the combiner box underproduces by ~80-90% and returns to normal production later in the day. This occurred on 10/6, 10/11, and 10/14/19. The cause of the breakdown is unknown.
82171184	Breakdown - Major-Shutesbury - No Device Comms/Site Offline	Completed	All system devices associated with the PowerLogger1000 stopped communicating in the morning (~8:45 AM) on 4/23/2020. The cause of the breakdown is unknown and it is unknown if the site is producing due to the lack of data. Cell modem and PowerLogger communication remains intact.
90482035	Breakdown - Partial-Shutesbury	Completed	Excavators dug up a fiber line on 8/15 while excavating for battery pads.
89602411	Breakdown - Major-Shutesbury - SEL Open	Completed	SEL displayed a 'Tripped' status in the evening (~5:02 PM) on 8/4/2020.
90427300	Breakdown - Major-Shutesbury - SEL Open/No Comms, Pad 3 isolated	Completed	SEL displayed a 'Tripped' status mid morning (~11:58AM EDT) on 8/20/2020. Site stopped producing and UPS battery mode activated at this time.
92823086	Breakdown - Major-Shutesbury - Inv 3 fault	Completed	TMEIC 1.5MW Inverter 3 failed to energize on 9/9/2020. DAS provided the fault message "Minor Fault Ext Minor Fault - Depending on External Connection of I/O PCB" for this event.
89176963	Breakdown - Partial-Shutesbury - 3.CB38 underperformance	Completed	Open ticket per TPM. Subcombiner 3.CB38 may be underproducing. The DAS has not triggered any alerts.
93152241	Breakdown - Major-Shutesbury - Inv 3 fault	Completed	TMEIC 1.5MW Inverter 3 failed to energize in the morning on 9/15/2020. DAS displays the fault message "Minor Fault Ext Minor Fault - Depending on External Connection of I/O PCB" for this inverter.
92307547	Breakdown - Partial-Shutesbury - 3.CB39 & 3.CB34: 0 Amps; changed to 2.CB20 and 2.CB24	Completed	3.CB39 and 3.CB34 are reporting 0.000 Amps. The DAS provided a "353 - Zone / string alarm", Amps below limit ~11:03 AM 8/31/2020.
93703474	Breakdown - Major-Shutesbury - Inv 3 fault	Completed	TMEIC 1.5MW Inverter 3 failed to energize in the morning on 9/24/2020. DAS provided the fault message "Minor Fault Ext Minor Fault - Depending on External Connection of I/O PCB" for this event.
96123455	Breakdown - Major-Shutesbury - Inv 2 fault	Completed	TMEIC Inverter 2 failed to energize in the morning on 11/4/2020. DAS displays the fault message "Minor Fault Ext Minor Fault - Depending on External Connection of I/O PCB" for this inverter.
97916307	Breakdown - Major-Shutesbury - Inv 1 fault	Waiting Finance	TMEIC 1.5MW Inverter 1 began producing intermittently on 12/3/2020. At ~11:45AM on the same day, the inverter de-energized and the fault message "Minor Fault Ext Minor Fault - Depending on External Connection of I/O PCB" was displayed.
95069239	Breakdown - Partial-Shutesbury - Subcombiner 2 - Fault	Pre-Approval Customer Hold	Subcombiner 2 faulted on 10/16/2020 at ~6:15 pm EST. The DAS reports error message, "Negative Rail Ground Fault", for this event. Due to low irradiance at the time, it is unclear if production is impacted by this event.
92492226	Data Communications-Shutesbury - SEL comms	Completed	SEL 351 stopped reporting to the DAS at ~8:46AM on 9/1/2020. The cause is unknown. Site is producing at this time.
77198453	Special Project-Shutesbury	Completed	Escort NextEra and Pike
78092472	Preventative Maintenance-Shutesbury	Completed	2020 PM
88719239	Special Project-Shutesbury	Completed	Escort TMEIC for recombiner upgrades.
81577731	2020 Vegetation Abatement	Completed	2020 Vegetation Abatement
90427369	Special Project-Shutesbury	Completed	Shutdown site for auxiliary power tie in.
80314406	Special Project-Shutesbury	Completed	Site visit required to properly order combiner boxes in PowerTrack for accurate monitoring.
93542073	Special Project-Shutesbury	Completed	Site shutdown for BESS install
94130828	2020 Vegetation Abatement October	Completed	2020 Vegetation Abatement October
95182707	Special Project-Shutesbury	Completed	CATL battery training
98955681	Site Maintenance-Shutesbury	Completed	Clear entrance to site to permit access to visiting personnel
93486742	Special Project-Shutesbury	Waiting Project Manager	Onboard BESS

Energy Production per Month:

Site Time	Production meter net energy Kilowatt hours
1/1/2020	236,035
2/1/2020	390,734
3/1/2020	650,839
4/1/2020	622,080
5/1/2020	887,801
6/1/2020	844,511
7/1/2020	810,434
8/1/2020	551,883
9/1/2020	635,325
10/1/2020	411,517
11/1/2020	346,751
12/1/2020	160,983

A copy of the certification of liability insurance is included in Appendix B.

6. Applicant shall use only water, and shall not use any soaps, solvents, or other chemicals, in the cleaning of the PV modules.

No module washing has occurred since construction.

7. The project shall have no permanently-affixed exterior lighting.

Project does not have exterior lighting.

8. Herbicide use is prohibited, except in cases of spot treatments to control invasive species, provided only MDAR-approved herbicides as provided on the Sensitive Area Materials list shall be used. Vegetation control shall be by mechanical means. Mowing in and around the solar arrays shall occur no more than once per year, in October or November only. Occasional cutting of plants that shade the solar arrays is permitted provided it is done by a hand-held machine and not by a mower or tractor.

Herbicide is not used on site. Mechanical mowing occurs in October each year and trimming by hand-held machine is completed as needed as vegetation growth impacts production due to shading.

9. All electric power generated at the Project site shall be from solar energy.

All electric power generated at the project is from solar energy.

10. After the completion of construction and site stabilization, the drainage ditches constructed along either side of the access drive between Pratt Corner Road and the first drainage basin shall be top-dressed with a mixture of wood chips and forest soils from the site. Thereafter, the ditches shall be allowed to re-vegetate from ambient seed sources. No mowing or cutting is permitted except for tree cutting and trimming necessary to maintain the serviceability of the access driveway.

The ditches have re-vegetated from ambient seed sources. The ditches are not mowed unless vegetation impedes access to or within the site.



11. The applicant will ensure that initial wildflower meadow plantings installed after construction are stabilized and established sufficiently by any necessary replacement of plants, reseeding, or application of soil amendments for as many growing seasons as is necessary to cover at least 90 percent of the ground surface with either the plants initially installed, native plants that have filled in, or a combination.

The site's near 90 percent ground surface covered with native vegetation. A site clearing (rocks, branches, etc) was completed June of 2021 and will allow greater coverage of growth at the site. The coverage of the vegetation will be observed throughout the summer and a reseeding will occur if needed in the fall to ensure 90 percent coverage is achieved.



12. All access and internal driveways, fencing, gates, signage, drainage and stormwater infrastructure, solar equipment, and the wildflower meadow shall be maintained and kept in good working order by the owner or operator for the life of the Project.

All of the property and equipment listed above have been maintained and kept in good working order by the operator. The internal driveway is being closely monitored for increased signs of erosion and may require additional maintenance in the future.





# Appendix A



# Photovoltaic Commissioning Checklist

## General Information

Date: \_\_\_\_\_  
Time: \_\_\_\_\_  
Page: \_\_\_\_\_  
Initial: MM

Site Address :	130 Pratt Corner Road, Shutesbury, MA 01072
Inspector's Name :	Mike Methot
Inspector's Company :	Pro Star Electric, Inc.
Project Manager :	Joel Stella

System Size :	5.6 MW
Number of Inverters :	3
Number of Panels :	17,499

Number of AC Disconnects :	3
Number of DC Disconnects :	78
Number of Switch Gear :	1

Currently Producing (Watts) :	n/a
Solar Irradiance (in module plane) :	n/a
Sky Conditions :	

Ambient Temperature (F) :	
Module Temperature (F) :	n/a
Wind Speed (mph) :	



# Photovoltaic Commissioning Checklist

Date: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Page: \_\_\_\_\_  
 Initial: \_\_\_\_\_

## Array Information

Module Manufacturer:	C-SUN	Modules per Array:	17,499
Module Type:	JKM320PP-72-V	Modules per String:	19
Module Manufacturer:		Modules per Array:	
Module Type:		Modules per String:	

Item	Y/N	Comments
PV Modules Inspected with No Damage ?	Y	
PV Modules Secured to Manufacturer's Torque Specifications ?	Y	
PV Module Layout per Engineered Drawings?	Y	
Module Wiring Secure & Marked ?	Y	
PV Module Layout Set-Backs Correct ?	Y	
PV Modules Grounded per Manufacturer's Specification ?	Y	
Array Grounded per Design ?	Y	
Module Connectors Fully Mated ?	Y	
Home-Run Wires Secured to Support Structure ?	Y	
Array Conduit Supported Correctly ?	Y	
Conduit Size as Specified ?	Y	
Strain Reliefs/Cable Clamps or Conduit Used is Listed for the Application and Environment ?	Y	
Module Wiring Connectors are Properly Mated and Secured ?	Y	
Each Module is Grounded, Using a Grounding Point, Identified and per Manufacturer's Instructions ?	Y	
Are Equipment-Grounding Conductors Routed with the Circuit Conductors?	Y	
Has the Correct PV Array Conductor Type Been Used ?	Y	



# Photovoltaic Commissioning Checklist

## DAS Information

Date: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Page: \_\_\_\_\_  
 Initial: MM

**Rev Grade Meter Manufacturer:** Watts On Mark II (W2-E3-5A-DL)

**Serial Number:** 12907

**Site Location:** Pad 1

**Designation:** 1

Item	Y / N	Comments
Conduit Sizes are Correct?	Y	
Wire Sizes are Correct?	Y	
All Conductors are Secured to Terminals?	Y	
Weather Instrumentation is Properly Installed?	Y	
Thermocouple(s) are Properly Adhered to Module?	Y	
Thermocouple(s) are Wired Correctly with Appropriate Splices?	Y	
Pyranometer is Wired Correctly?	Y	
Status Indicator is Green?	N/A	
Internet Connection is Present?	N/A	
Verify Power to DAS	N/A	
Current and Power Verified / Proper CT ratio	N/A	
CTs have Proper Orientation?	Y	
Wind Direction Sensor is Calibrated?	N/A	
Wind Speed Sensor is Counting?	N/A	
Data is Correctly Published to the Website	N/A	
All Devices are Present and Reporting?	N/A	



## Photovoltaic Commissioning Checklist

Date: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Page: \_\_\_\_\_  
 Initial: MM

### Inverter Data

Inverter Designation:

# of Source Circuits:

Inverter Manufacturer:	TMEIC
Inverter Model #:	PVL-L1833GRM
Inverter Serial #:	16570280

Item	Y/N	Comments
Mechanical Connections are Secure:	Y	
Wire Size is Correct:	Y	
Lightning Arrestor Installed:	N/A	
Sized for Fault Duty:	Y	
Inverter is Clean and Damage Free:	Y	
Properly Grounded:	Y	
Inspect for Proper Clearances:	Y	
Inverter & Wiring Properly Labelled:	Y	
Wiring is Properly Terminated:	Y	
Terminals for Properly Torque:	Y	
String Fuses are the Correct Size:	Y	
Inspect and Verify PV Polarity:	Y	



## Photovoltaic Commissioning Checklist

Date: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Page: \_\_\_\_\_  
 Initial: \_\_\_\_\_ MM

### Inverter Data

Inverter Designation:	2	Inverter Manufacturer:	TMEIC
		Inverter Model #:	PVL-L1833GRM
# of Source Circuits:	13	Inverter Serial #:	16570277

Item	Y/N	Comments
Mechanical Connections are Secure:	Y	
Wire Size is Correct:	Y	
Lightning Arrestor Installed:	N/A	
Sized for Fault Duty:	Y	
Inverter is Clean and Damage Free:	Y	
Properly Grounded:	Y	
Inspect for Proper Clearances:	Y	
Inverter & Wiring Properly Labelled:	Y	
Wiring is Properly Terminated:	Y	
Terminals for Properly Torque:	Y	
String Fuses are the Correct Size:	Y	
Inspect and Verify PV Polarity:	Y	



## Photovoltaic Commissioning Checklist

Date: \_\_\_\_\_  
 Time: \_\_\_\_\_  
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 Initial: \_\_\_\_\_ MM

### Inverter Data

Inverter Designation:	3	Inverter Manufacturer:	TMEIC
		Inverter Model #:	PVL-L1833GRM
# of Source Circuits:	13	Inverter Serial #:	16570272

Item	Y/N	Comments
Mechanical Connections are Secure:	Y	
Wire Size is Correct:	Y	
Lightning Arrestor Installed:	N/A	
Sized for Fault Duty:	Y	
Inverter is Clean and Damage Free:	Y	
Properly Grounded:	Y	
Inspect for Proper Clearances:	Y	
Inverter & Wiring Properly Labelled:	Y	
Wiring is Properly Terminated:	Y	
Terminals for Properly Torque:	Y	
String Fuses are the Correct Size:	Y	
Inspect and Verify PV Polarity:	Y	



## Photovoltaic Commissioning Checklist

### AC Disconnect

Date: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Page: \_\_\_\_\_  
 Initial: \_\_\_\_\_ MM

Disconnect Designation :

CB 1
------

Serves Inverter # :

#01
-----

Item	Y/N	Comments
Mechanical Connections are Secure ?	Y	
Wire Size is Correct ?	Y	
Sized for Fault Duty ?	Y	
Disconnect is Clean and Damage Free ?	Y	
Disconnect is Properly Grounded ?	Y	
Inspect Disconnect for Proper Clearances ?	Y	
Proper Phase Indication per Conductor ?	Y	
Wiring is Properly Terminated ?	Y	
Terminals are Properly Torqued ?	Y	

### Disconnect Meg Testing

	Meg Tested to be >40 Ohms	Comments
Phase A - B	N/A	
Phase A - C	N/A	
Phase B - C	N/A	
Phase A - Neutral	N/A	
Phase B - Neutral	N/A	
Phase C - Neutral	N/A	
Phase A - Ground	N/A	
Phase B - Ground	N/A	
Phase C - Ground	N/A	





## Photovoltaic Commissioning Checklist

### AC Disconnect

Date: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Page: \_\_\_\_\_  
 Initial: MM

Disconnect Designation :

CB 2
------

Serves Inverter # :

#02
-----

Item	Y/N	Comments
Mechanical Connections are Secure ?	Y	
Wire Size is Correct ?	Y	
Sized for Fault Duty ?	Y	
Disconnect is Clean and Damage Free ?	Y	
Disconnect is Properly Grounded ?	Y	
Inspect Disconnect for Proper Clearances ?	Y	
Proper Phase Indication per Conductor ?	Y	
Wiring is Properly Terminated ?	Y	
Terminals are Properly Torqued ?	Y	

### Disconnect Meg Testing

	Meg Tested to be >40 Ohms	Comments
Phase A - B	N/A	
Phase A - C	N/A	
Phase B - C	N/A	
Phase A - Neutral	N/A	
Phase B - Neutral	N/A	
Phase C - Neutral	N/A	
Phase A - Ground	N/A	
Phase B - Ground	N/A	
Phase C - Ground	N/A	



## Photovoltaic Commissioning Checklist

### AC Disconnect

Date: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Page: \_\_\_\_\_  
 Initial: MM

Disconnect Designation :

CB 3
------

Serves Inverter # :

#03
-----

Item	Y/N	Comments
Mechanical Connections are Secure ?	Y	
Wire Size is Correct ?	Y	
Sized for Fault Duty ?	Y	
Disconnect is Clean and Damage Free ?	Y	
Disconnect is Properly Grounded ?	Y	
Inspect Disconnect for Proper Clearances ?	Y	
Proper Phase Indication per Conductor ?	Y	
Wiring is Properly Terminated ?	Y	
Terminals are Properly Torqued ?	Y	

### Disconnect Meg Testing

	Meg Tested to be >40 Ohms	Comments
Phase A - B	PASS	
Phase A - C	PASS	
Phase B - C	PASS	
Phase A - Neutral	PASS	
Phase B - Neutral	PASS	
Phase C - Neutral	PASS	
Phase A - Ground	PASS	
Phase B - Ground	PASS	
Phase C - Ground	PASS	



# Photovoltaic Commissioning Report

Date: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Page: \_\_\_\_\_  
 Initials: \_\_\_\_\_

## Transformer Information

Manufacturer:	TMEIC		
Model:	F81X218TJV		
Serial Number:	18JC059670002		
Type:	3 PHASE		
Designation:	Pad Mount Transformer		
Location:	Pad 1		
Primary AC Voltage Rating:	13.8KV	Secondary AC Voltage Rating:	480V
KVA Rating:	1000 KVA	Frequency:	60 HERTZ

Item	Y/N	Comments
Has Transformer been anchored / secured to foundation?	Y	
Has correct sized conductors been used on secondary side?	Y	
All bolted connections are torqued?	Y	
All conductor connections are torqued?	Y	
Transformer is properly grounded?	Y	
Transformer has proper clearances?	Y	
Transformer is free of physical damage?	Y	



# Photovoltaic Commissioning Report

Date: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Page: \_\_\_\_\_  
 Initials: \_\_\_\_\_

## Transformer Information

Manufacturer:	TMEIC		
Model:	F81X218TJV		
Serial Number:	18JC059670003		
Type:	3 PHASE		
Designation:	Pad Mount Transformer		
Location:	Pad 2		
Primary AC Voltage Rating:	13.8KV	Secondary AC Voltage Rating:	480V
KVA Rating:	1000 KVA	Frequency:	60 HERTZ

Item	Y/N	Comments
Has Transformer been anchored / secured to foundation?	Y	
Has correct sized conductors been used on secondary side?	Y	
All bolted connections are torqued?	Y	
All conductor connections are torqued?	Y	
Transformer is properly grounded?	Y	
Transformer has proper clearances?	Y	
Transformer is free of physical damage?	Y	



# Photovoltaic Commissioning Report

## Transformer Information

Date: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Page: \_\_\_\_\_  
 Initials: \_\_\_\_\_

Manufacturer:	TMEIC		
Model:	F81X218TJV		
Serial Number:	18JC059670001		
Type:	3 PHASE		
Designation:	Pad Mount Transformer		
Location:	Pad 3		
Primary AC Voltage Rating:	13.8KV	Secondary AC Voltage Rating:	480V
KVA Rating:	1000 KVA	Frequency:	60 HERTZ

Item	Y/N	Comments
Has Transformer been anchored / secured to foundation?	Y	
Has correct sized conductors been used on secondary side?	Y	
All bolted connections are torqued?	Y	
All conductor connections are torqued?	Y	
Transformer is properly grounded?	Y	
Transformer has proper clearances?	Y	
Transformer is free of physical damage?	Y	



**Photovoltaic Commissioning Checklist**  
**Racking**

Date: \_\_\_\_\_  
Time: \_\_\_\_\_  
Page: \_\_\_\_\_  
Initial: MM

Item	Y/N	Comments
Mounting Hardware and Mechanical Connections are Torqued to Specifications:	Y	
Modules are secured to mounting hardware according to specs:	Y	
Tamper Resistant Hardware Installed Correctly:	N/A	
Ballast Installed Per Design:	N/A	
Framing System Grounded:	Y	

## Insulation Resistance Test Form DC Conductors < 1000V

Project Name: SHUTESBURY

Inverter ID: 1

Fused Input Conductor ID	Positive to Negative MegOhms	Positive to Ground MegOhms	Negative to Ground MegOhms	Notes
Input #1	4000	4000	4000	
Input #2	4000	4000	4000	
Input #3	4000	4000	4000	
Input #4	4000	4000	4000	
Input #5	4000	4000	4000	
Input #6	4000	4000	4000	
Input #7	4000	4000	4000	
Input #8	4000	4000	4000	
Input #9	4000	4000	4000	
Input #10	4000	4000	4000	
Input #11	4000	4000	4000	
Input #12	4000	4000	4000	
Input #13	4000	4000	4000	

Technician Printed Name: MIKE METHOT

Company: Pro Star Electric, Inc.

## Insulation Resistance Test Form DC Conductors < 1000V

Project Name: SHUTESBURY

Inverter ID: 2

Fused Input Conductor ID	Positive to Negative MegOhms	Positive to Ground MegOhms	Negative to Ground MegOhms	Notes
Input #1	4000	4000	4000	
Input #2	4000	4000	4000	
Input #3	4000	4000	4000	
Input #4	4000	4000	4000	
Input #5	4000	4000	4000	
Input #6	4000	4000	4000	
Input #7	4000	4000	4000	
Input #8	4000	4000	4000	
Input #9	4000	4000	4000	
Input #10	4000	4000	4000	
Input #11	4000	4000	4000	
Input #12	4000	4000	4000	
Input #13	4000	4000	4000	

Technician Printed Name: MIKE METHOT

Company: Pro Star Electric, Inc.



## Insulation Resistance Test Form DC Conductors < 1000V

Project Name: SHUTESBURY

Inverter ID: 3

Fused Input Conductor ID	Positive to Negative MegOhms	Positive to Ground MegOhms	Negative to Ground MegOhms	Notes
Input #1	4000	4000	4000	
Input #2	4000	4000	4000	
Input #3	4000	4000	4000	
Input #4	4000	4000	4000	
Input #5	4000	4000	4000	
Input #6	4000	4000	4000	
Input #7	4000	4000	4000	
Input #8	4000	4000	4000	
Input #9	4000	4000	4000	
Input #10	4000	4000	4000	
Input #11	4000	4000	4000	
Input #12	4000	4000	4000	
Input #13	4000	4000	4000	

Technician Printed Name: MIKE METHOT

Company: Pro Star Electric, Inc.

# I-V Data Analysis Report

Solmetric PV Analyzer

For:

Shutesbury Zone 1

By:

Pro Star Electric Inc  
1370 Main Street  
Millis, MA 02054

# String Statistics

Summary Statistics for String Data

	<b>V<sub>mp</sub></b> <b>Volts</b>	<b>I<sub>mp</sub></b> <b>Amps</b>	<b>P<sub>max</sub></b> <b>Watts</b>	<b>V<sub>oc</sub></b> <b>Volts</b>	<b>I<sub>sc</sub></b> <b>Amps</b>	<b>I<sub>mp</sub> / I<sub>sc</sub></b>	<b>V<sub>mp</sub> / V<sub>oc</sub></b>	<b>FF</b>	<b>PF</b> <b>%</b>	<b>Irradiance</b> <b>(W/m<sup>2</sup>)</b>	<b>Temp.</b> <b>deg C</b>
<b>Max Value</b>	680.4	8.40	5,578	819.9	9.20	0.934	0.840	0.773	114.7	1,010	60.4
<b>Mean Value</b>	642.2	6.52	4,163	793.1	7.12	0.916	0.809	0.741	103.4	760	42.1
<b>Min Value</b>	572.3	4.03	2,652	739.3	4.39	0.880	0.767	0.691	92.4	433	26.6
<b>Std. Dev (<math>\sigma</math>)</b>	24.88	1.172	632.6	18.18	1.279	0.008	0.015	0.015	4.10	135	7.6
<b>2 Std. Dev (<math>2\sigma</math>)</b>	49.77	2.345	1,265.2	36.35	2.559	0.017	0.029	0.030	8.20	269	15.2

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
\\CB1\S1\Inv1-CB1-S1 6-12-2018 10-07 AM.csv	643.8	5.97	3,841	796.1	6.54	0.912	0.809	0.738	96.1	715	32.6	10:07:11 AM
\\CB1\S2\Inv1-CB1-S2 6-12-2018 10-07 AM.csv	645.9	6.06	3,914	791.1	6.63	0.914	0.816	0.746	95.6	726	30.6	10:07:25 AM
\\CB1\S3\Inv1-CB1-S3 6-12-2018 10-07 AM.csv	631.8	6.15	3,886	788.7	6.77	0.909	0.801	0.728	92.4	742	29.5	10:07:33 AM
\\CB1\S4\Inv1-CB1-S4 6-12-2018 10-07 AM.csv	645.6	6.29	4,062	800.1	6.90	0.912	0.807	0.736	98.5	745	34.5	10:07:46 AM
\\CB1\S5\Inv1-CB1-S5 6-12-2018 10-07 AM.csv	650.9	6.18	4,024	798.1	6.71	0.921	0.816	0.751	98.1	738	33.5	10:07:55 AM
\\CB1\S6\Inv1-CB1-S6 6-12-2018 02-26 PM.csv	622.7	7.65	4,761	788.9	8.41	0.909	0.789	0.717	104.6	911	52.4	2:26:31 PM
\\CB1\S7\Inv1-CB1-S7 6-12-2018 02-26 PM.csv	622.6	7.58	4,719	783.9	8.31	0.912	0.794	0.724	103.9	906	51.8	2:26:50 PM
\\CB1\S8\Inv1-CB1-S8 6-12-2018 02-27 PM.csv	621.1	7.47	4,637	782.5	8.26	0.904	0.794	0.717	101.8	904	50.9	2:27:01 PM
\\CB1\S9\Inv1-CB1-S9 6-12-2018 10-08 AM.csv	643.6	6.12	3,936	792.2	6.71	0.912	0.812	0.741	94.0	745	31.0	10:08:45 AM
B1\S10\Inv1-CB1-S10 6-12-2018 10-08 AM.csv	639.4	6.12	3,910	790.9	6.67	0.917	0.808	0.742	93.7	740	30.5	10:08:53 AM
B1\S11\Inv1-CB1-S11 6-12-2018 10-09 AM.csv	651.9	6.28	4,092	796.4	6.84	0.918	0.819	0.751	98.9	743	32.8	10:09:02 AM
B1\S12\Inv1-CB1-S12 6-12-2018 10-09 AM.csv	643.8	6.26	4,030	796.7	6.81	0.919	0.808	0.743	95.8	740	28.9	10:09:14 AM
B1\S13\Inv1-CB1-S13 6-12-2018 10-09 AM.csv	654.1	6.29	4,114	802.2	6.83	0.922	0.815	0.751	95.8	749	26.9	10:09:23 AM
B1\S14\Inv1-CB1-S14 6-12-2018 10-09 AM.csv	648.0	6.36	4,119	797.4	6.86	0.926	0.813	0.753	98.4	753	33.3	10:09:37 AM
B1\S15\Inv1-CB1-S15 6-12-2018 10-09 AM.csv	649.5	6.34	4,119	798.9	6.84	0.927	0.813	0.754	98.4	755	33.9	10:09:48 AM
B1\S16\Inv1-CB1-S16 6-12-2018 10-09 AM.csv	654.1	6.32	4,133	800.9	6.86	0.921	0.817	0.752	97.8	767	34.8	10:09:56 AM
B1\S17\Inv1-CB1-S17 6-12-2018 10-10 AM.csv	656.4	6.32	4,150	805.9	6.84	0.925	0.815	0.753	98.9	770	37.0	10:10:04 AM
B1\S18\Inv1-CB1-S18 6-12-2018 10-10 AM.csv	633.9	6.33	4,013	807.3	6.89	0.918	0.785	0.721	93.7	774	33.8	10:10:13 AM
B1\S19\Inv1-CB1-S19 6-12-2018 10-10 AM.csv	652.0	6.00	3,914	797.1	6.53	0.918	0.818	0.751	97.5	720	33.2	10:10:25 AM
B1\S20\Inv1-CB1-S20 6-12-2018 10-10 AM.csv	650.6	5.83	3,791	793.9	6.46	0.902	0.820	0.739	95.5	707	31.9	10:10:36 AM
B1\S21\Inv1-CB1-S21 6-12-2018 02-27 PM.csv	622.6	7.68	4,783	781.6	8.36	0.919	0.797	0.732	104.3	907	50.4	2:27:19 PM
B1\S22\Inv1-CB1-S22 6-12-2018 10-12 AM.csv	648.7	6.74	4,374	801.1	7.30	0.924	0.810	0.748	98.1	812	34.9	10:12:06 AM
\\CB2\S1\Inv1-CB2-S1 6-12-2018 09-57 AM.csv	656.0	5.87	3,848	801.6	6.38	0.919	0.818	0.752	100.8	688	34.8	9:57:02 AM
\\CB2\S2\Inv1-CB2-S2 6-12-2018 09-57 AM.csv	655.6	5.83	3,824	801.0	6.31	0.924	0.818	0.756	99.5	692	34.8	9:57:20 AM
\\CB2\S3\Inv1-CB2-S3 6-12-2018 09-57 AM.csv	656.8	5.91	3,884	802.5	6.41	0.923	0.818	0.755	101.3	693	35.5	9:57:31 AM
\\CB2\S4\Inv1-CB2-S4 6-12-2018 09-57 AM.csv	657.7	5.92	3,895	804.0	6.40	0.925	0.818	0.757	101.5	696	35.9	9:57:42 AM
\\CB2\S5\Inv1-CB2-S5 6-12-2018 03-42 PM.csv	638.6	6.78	4,329	790.1	7.33	0.924	0.808	0.747	104.7	777	41.8	3:42:27 PM
\\CB2\S6\Inv1-CB2-S6 6-12-2018 02-32 PM.csv	635.2	7.61	4,835	792.9	8.25	0.923	0.801	0.739	105.5	894	47.9	2:32:33 PM
\\CB2\S7\Inv1-CB2-S7 6-12-2018 02-32 PM.csv	637.9	7.70	4,913	795.8	8.32	0.925	0.802	0.742	107.0	895	47.6	2:32:44 PM
\\CB2\S8\Inv1-CB2-S8 6-12-2018 02-32 PM.csv	636.0	7.67	4,881	794.5	8.33	0.921	0.801	0.737	106.2	897	47.7	2:32:56 PM
\\CB2\S9\Inv1-CB2-S9 6-12-2018 03-42 PM.csv	639.4	6.80	4,349	790.9	7.36	0.924	0.808	0.747	104.8	780	41.8	3:42:52 PM
B2\S10\Inv1-CB2-S10 6-12-2018 02-33 PM.csv	634.2	7.56	4,797	791.2	8.22	0.921	0.802	0.738	104.6	897	48.2	2:33:18 PM
B2\S11\Inv1-CB2-S11 6-12-2018 09-59 AM.csv	656.8	5.82	3,823	802.0	6.31	0.923	0.819	0.756	98.2	691	31.7	9:59:28 AM
B2\S12\Inv1-CB2-S12 6-12-2018 09-59 AM.csv	655.6	5.86	3,843	801.1	6.34	0.924	0.818	0.756	95.9	701	28.4	9:59:47 AM
B2\S13\Inv1-CB2-S13 6-12-2018 10-00 AM.csv	651.4	6.05	3,942	799.2	6.50	0.931	0.815	0.759	100.5	704	33.8	10:00:01 AM
B2\S14\Inv1-CB2-S14 6-12-2018 10-00 AM.csv	643.4	5.92	3,811	795.5	6.51	0.910	0.809	0.736	96.4	706	32.4	10:00:11 AM
B2\S15\Inv1-CB2-S15 6-12-2018 10-00 AM.csv	658.6	5.95	3,922	802.2	6.49	0.918	0.821	0.754	100.7	705	35.1	10:00:20 AM
B2\S16\Inv1-CB2-S16 6-12-2018 10-00 AM.csv	659.8	5.92	3,903	805.7	6.38	0.926	0.819	0.759	98.0	705	30.5	10:00:29 AM
B2\S17\Inv1-CB2-S17 6-12-2018 10-00 AM.csv	656.3	5.82	3,819	802.4	6.30	0.923	0.818	0.755	98.1	704	35.2	10:00:41 AM
B2\S18\Inv1-CB2-S18 6-12-2018 10-00 AM.csv	655.1	5.82	3,813	807.7	6.30	0.923	0.811	0.749	94.8	703	28.2	10:00:51 AM
B2\S19\Inv1-CB2-S19 6-12-2018 02-33 PM.csv	636.3	7.81	4,972	796.4	8.46	0.924	0.799	0.738	105.7	920	47.9	2:33:51 PM
B2\S20\Inv1-CB2-S20 6-12-2018 02-34 PM.csv	634.4	7.80	4,948	794.5	8.46	0.922	0.798	0.736	104.4	929	48.2	2:34:06 PM
B2\S21\Inv1-CB2-S21 6-12-2018 10-01 AM.csv	655.0	5.86	3,838	804.5	6.39	0.917	0.814	0.747	94.8	706	27.4	10:01:27 AM

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
B2\S22\Inv1-CB2-S22 6-12-2018 10-01 AM.csv	655.5	5.79	3,795	802.3	6.34	0.913	0.817	0.746	93.2	707	26.6	10:01:35 AM
B2\S23\Inv1-CB2-S23 6-12-2018 10-01 AM.csv	652.9	5.93	3,871	798.9	6.44	0.921	0.817	0.753	96.2	708	29.2	10:01:45 AM
B2\S24\Inv1-CB2-S24 6-12-2018 10-01 AM.csv	649.7	5.92	3,847	797.1	6.43	0.921	0.815	0.750	96.8	712	33.0	10:01:58 AM
\CB3\S1\Inv1-CB3-S1 6-12-2018 09-42 AM.csv	663.1	5.61	3,719	801.4	6.18	0.908	0.827	0.751	101.8	658	35.0	9:42:34 AM
\CB3\S2\Inv1-CB3-S2 6-12-2018 09-43 AM.csv	657.7	5.43	3,570	803.1	5.91	0.919	0.819	0.753	97.6	660	35.8	9:43:01 AM
\CB3\S3\Inv1-CB3-S3 6-12-2018 09-43 AM.csv	658.5	5.51	3,629	803.6	5.98	0.922	0.820	0.755	99.0	662	35.9	9:43:25 AM
\CB3\S4\Inv1-CB3-S4 6-12-2018 09-43 AM.csv	659.3	5.51	3,636	801.0	6.05	0.912	0.823	0.751	98.7	664	35.0	9:43:38 AM
\CB3\S5\Inv1-CB3-S5 6-12-2018 09-43 AM.csv	655.9	5.42	3,558	798.4	5.89	0.920	0.822	0.756	96.1	663	34.1	9:43:50 AM
\CB3\S6\Inv1-CB3-S6 6-12-2018 09-44 AM.csv	655.9	5.45	3,578	800.0	5.92	0.922	0.820	0.756	96.9	663	34.7	9:44:00 AM
\CB3\S7\Inv1-CB3-S7 6-12-2018 09-44 AM.csv	658.4	5.43	3,574	800.9	5.90	0.921	0.822	0.757	96.8	665	35.0	9:44:11 AM
\CB3\S8\Inv1-CB3-S8 6-12-2018 03-42 PM.csv	638.8	6.78	4,332	790.0	7.34	0.925	0.809	0.748	105.3	769	40.8	3:42:15 PM
\CB3\S9\Inv1-CB3-S9 6-12-2018 02-52 PM.csv	631.9	7.59	4,793	790.9	8.27	0.917	0.799	0.732	105.8	880	47.2	2:52:02 PM
B3\S10\Inv1-CB3-S10 6-12-2018 02-52 PM.csv	633.1	7.47	4,726	789.6	8.17	0.914	0.802	0.733	102.1	889	44.6	2:52:24 PM
B3\S11\Inv1-CB3-S11 6-12-2018 02-52 PM.csv	628.7	7.52	4,727	787.5	8.13	0.925	0.798	0.738	103.0	888	46.4	2:52:36 PM
B3\S12\Inv1-CB3-S12 6-12-2018 09-45 AM.csv	659.4	5.42	3,573	800.5	5.88	0.921	0.824	0.759	96.1	669	34.6	9:45:47 AM
B3\S13\Inv1-CB3-S13 6-12-2018 09-45 AM.csv	657.7	5.45	3,583	800.4	5.92	0.920	0.822	0.756	96.1	670	34.6	9:45:57 AM
B3\S14\Inv1-CB3-S14 6-12-2018 09-46 AM.csv	662.1	5.54	3,665	805.0	6.09	0.909	0.822	0.748	99.3	668	36.4	9:46:09 AM
B3\S15\Inv1-CB3-S15 6-12-2018 09-46 AM.csv	660.7	5.52	3,649	803.1	6.07	0.910	0.823	0.748	98.8	667	35.8	9:46:20 AM
B3\S16\Inv1-CB3-S16 6-12-2018 09-46 AM.csv	660.6	5.59	3,691	804.3	6.03	0.926	0.821	0.761	100.2	667	36.3	9:46:32 AM
B3\S17\Inv1-CB3-S17 6-12-2018 09-46 AM.csv	658.1	5.52	3,631	801.0	5.95	0.927	0.822	0.761	98.1	667	35.0	9:46:43 AM
B3\S18\Inv1-CB3-S18 6-12-2018 09-46 AM.csv	656.1	5.60	3,676	802.2	6.04	0.927	0.818	0.759	98.8	672	35.5	9:46:57 AM
B3\S19\Inv1-CB3-S19 6-12-2018 02-53 PM.csv	612.5	7.21	4,419	779.8	8.20	0.880	0.785	0.691	97.4	884	47.6	2:53:24 PM
B3\S20\Inv1-CB3-S20 6-12-2018 09-47 AM.csv	655.7	5.55	3,642	799.3	6.02	0.922	0.820	0.757	96.9	675	34.2	9:47:24 AM
B3\S21\Inv1-CB3-S21 6-12-2018 09-47 AM.csv	656.5	5.55	3,646	800.3	6.03	0.921	0.820	0.755	97.3	675	34.6	9:47:34 AM
B3\S22\Inv1-CB3-S22 6-12-2018 09-47 AM.csv	655.2	5.53	3,620	799.1	5.98	0.924	0.820	0.758	96.8	672	34.2	9:47:47 AM
\CB4\S1\Inv1-CB4-S1 6-11-2018 10-13 AM.csv	654.9	5.17	3,384	796.4	5.59	0.925	0.822	0.761	100.3	604	35.2	10:13:00 AM
\CB4\S2\Inv1-CB4-S2 6-11-2018 10-13 AM.csv	652.1	5.00	3,260	793.6	5.38	0.929	0.822	0.763	99.9	580	34.6	10:13:19 AM
\CB4\S3\Inv1-CB4-S3 6-11-2018 10-13 AM.csv	641.6	5.17	3,318	789.9	5.68	0.910	0.812	0.739	100.9	594	37.5	10:13:34 AM
\CB4\S4\Inv1-CB4-S4 6-11-2018 10-13 AM.csv	649.2	6.09	3,954	798.9	6.72	0.907	0.813	0.737	99.9	721	36.2	10:13:46 AM
\CB4\S5\Inv1-CB4-S5 6-12-2018 03-05 PM.csv	625.9	7.12	4,458	781.6	7.79	0.914	0.801	0.732	102.0	850	47.5	3:05:08 PM
\CB4\S6\Inv1-CB4-S6 6-12-2018 03-03 PM.csv	624.9	7.18	4,488	780.0	7.87	0.912	0.801	0.731	101.9	861	48.3	3:03:20 PM
\CB4\S7\Inv1-CB4-S7 6-12-2018 03-03 PM.csv	627.6	7.36	4,622	786.1	7.99	0.921	0.798	0.736	105.1	858	48.3	3:03:32 PM
\CB4\S8\Inv1-CB4-S8 6-11-2018 10-14 AM.csv	647.3	6.46	4,180	798.3	7.01	0.921	0.811	0.746	100.6	762	37.2	10:14:58 AM
\CB4\S9\Inv1-CB4-S9 6-11-2018 10-15 AM.csv	656.9	6.38	4,193	806.4	6.97	0.916	0.815	0.746	104.1	737	37.3	10:15:13 AM
B4\S10\Inv1-CB4-S10 6-11-2018 10-15 AM.csv	660.0	6.63	4,374	807.6	7.18	0.924	0.817	0.755	105.9	760	37.8	10:15:28 AM
B4\S11\Inv1-CB4-S11 6-11-2018 10-15 AM.csv	656.4	6.44	4,229	801.1	7.07	0.911	0.819	0.746	104.8	739	37.1	10:15:41 AM
B4\S12\Inv1-CB4-S12 6-11-2018 10-15 AM.csv	654.5	6.52	4,267	802.0	7.07	0.922	0.816	0.753	104.3	744	35.7	10:15:55 AM
B4\S13\Inv1-CB4-S13 6-11-2018 10-16 AM.csv	651.8	6.37	4,149	802.8	6.98	0.912	0.812	0.740	104.1	725	35.9	10:16:05 AM
B4\S14\Inv1-CB4-S14 6-11-2018 10-16 AM.csv	646.8	6.84	4,421	802.2	7.41	0.922	0.806	0.744	104.1	782	37.7	10:16:23 AM
B4\S15\Inv1-CB4-S15 6-12-2018 03-03 PM.csv	626.6	7.36	4,609	783.9	8.02	0.917	0.799	0.733	103.4	859	45.9	3:03:44 PM
B4\S16\Inv1-CB4-S16 6-12-2018 09-37 AM.csv	658.5	5.33	3,513	804.5	5.75	0.928	0.819	0.759	96.5	659	36.4	9:37:25 AM
B4\S17\Inv1-CB4-S17 6-12-2018 03-03 PM.csv	618.7	7.41	4,583	778.2	8.02	0.923	0.795	0.734	103.2	859	46.4	3:03:58 PM
B4\S18\Inv1-CB4-S18 6-12-2018 03-04 PM.csv	621.4	7.29	4,528	742.0	7.90	0.923	0.837	0.773	102.5	854	46.4	3:04:10 PM

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
B4\S19\Inv1-CB4-S19 6-12-2018 03-04 PM.csv	620.6	7.23	4,484	777.3	7.82	0.924	0.798	0.738	101.7	856	47.2	3:04:18 PM
B4\S20\Inv1-CB4-S20 6-12-2018 09-39 AM.csv	657.4	5.46	3,587	803.8	5.93	0.920	0.818	0.752	98.3	660	36.3	9:39:11 AM
B4\S21\Inv1-CB4-S21 6-12-2018 09-39 AM.csv	656.6	5.46	3,583	802.7	5.90	0.924	0.818	0.756	97.6	664	35.9	9:39:26 AM
B4\S22\Inv1-CB4-S22 6-12-2018 09-39 AM.csv	660.8	5.40	3,567	802.9	5.86	0.922	0.823	0.759	97.4	661	35.7	9:39:39 AM
B4\S23\Inv1-CB4-S23 6-12-2018 09-39 AM.csv	659.2	5.41	3,565	801.9	5.83	0.928	0.822	0.763	97.2	661	35.5	9:39:51 AM
\CB5\S1\Inv1-CB5-S1 6-11-2018 10-04 AM.csv	658.6	4.03	2,652	795.8	4.39	0.917	0.828	0.759	106.9	433	35.9	10:04:45 AM
\CB5\S2\Inv1-CB5-S2 6-11-2018 10-05 AM.csv	659.6	4.79	3,162	801.5	5.22	0.918	0.823	0.755	103.8	543	36.1	10:05:03 AM
\CB5\S3\Inv1-CB5-S3 6-11-2018 10-05 AM.csv	666.5	5.00	3,332	802.5	5.49	0.910	0.831	0.756	105.0	569	36.2	10:05:14 AM
\CB5\S4\Inv1-CB5-S4 6-11-2018 10-05 AM.csv	664.6	6.18	4,105	811.9	6.68	0.925	0.819	0.757	109.0	694	39.6	10:05:28 AM
\CB5\S5\Inv1-CB5-S5 6-11-2018 10-05 AM.csv	661.0	6.52	4,309	810.6	7.05	0.925	0.815	0.754	107.4	742	39.1	10:05:40 AM
\CB5\S6\Inv1-CB5-S6 6-11-2018 10-05 AM.csv	660.2	6.60	4,356	813.5	7.21	0.916	0.812	0.743	107.0	759	40.3	10:05:49 AM
\CB5\S7\Inv1-CB5-S7 6-11-2018 10-06 AM.csv	661.6	6.46	4,273	815.7	7.06	0.915	0.811	0.743	106.3	752	41.3	10:06:03 AM
\CB5\S8\Inv1-CB5-S8 6-11-2018 10-06 AM.csv	662.6	6.53	4,327	814.8	7.11	0.919	0.813	0.747	106.4	760	40.9	10:06:15 AM
\CB5\S9\Inv1-CB5-S9 6-12-2018 03-11 PM.csv	627.0	7.06	4,428	781.1	7.71	0.916	0.803	0.736	102.6	830	45.6	3:11:08 PM
B5\S10\Inv1-CB5-S10 6-12-2018 03-11 PM.csv	626.0	6.97	4,361	782.0	7.59	0.918	0.800	0.735	102.4	821	46.1	3:11:19 PM
B5\S11\Inv1-CB5-S11 6-12-2018 03-11 PM.csv	623.5	6.90	4,303	780.3	7.50	0.921	0.799	0.736	100.9	824	46.8	3:11:29 PM
B5\S12\Inv1-CB5-S12 6-11-2018 10-07 AM.csv	661.3	5.73	3,790	805.1	6.23	0.920	0.821	0.755	103.7	664	37.0	10:07:38 AM
B5\S13\Inv1-CB5-S13 6-11-2018 10-07 AM.csv	659.2	5.93	3,907	806.6	6.44	0.920	0.817	0.752	103.3	691	37.5	10:07:52 AM
B5\S14\Inv1-CB5-S14 6-11-2018 10-08 AM.csv	660.5	5.92	3,909	808.4	6.41	0.923	0.817	0.754	104.2	687	38.2	10:08:03 AM
B5\S15\Inv1-CB5-S15 6-11-2018 10-08 AM.csv	662.2	6.31	4,175	810.5	6.79	0.929	0.817	0.759	105.1	734	39.1	10:08:14 AM
B5\S16\Inv1-CB5-S16 6-11-2018 10-08 AM.csv	659.4	5.83	3,843	810.0	6.40	0.910	0.814	0.741	107.6	655	38.8	10:08:25 AM
B5\S17\Inv1-CB5-S17 6-11-2018 10-08 AM.csv	658.0	6.58	4,327	814.2	7.15	0.920	0.808	0.744	108.8	741	40.7	10:08:37 AM
B5\S18\Inv1-CB5-S18 6-11-2018 10-08 AM.csv	661.5	6.31	4,173	807.1	6.86	0.920	0.820	0.754	107.1	714	37.7	10:08:49 AM
B5\S19\Inv1-CB5-S19 6-11-2018 10-09 AM.csv	657.1	6.38	4,190	804.9	6.89	0.925	0.816	0.755	105.1	728	36.7	10:09:00 AM
B5\S20\Inv1-CB5-S20 6-11-2018 10-09 AM.csv	657.1	6.38	4,190	806.9	6.86	0.929	0.814	0.756	106.0	724	37.6	10:09:11 AM
B5\S21\Inv1-CB5-S21 6-11-2018 10-09 AM.csv	663.2	6.20	4,111	808.9	6.78	0.915	0.820	0.750	105.2	720	38.4	10:09:20 AM
B5\S22\Inv1-CB5-S22 6-11-2018 10-09 AM.csv	660.3	6.24	4,117	806.3	6.82	0.915	0.819	0.749	103.6	728	37.4	10:09:34 AM
B5\S23\Inv1-CB5-S23 6-11-2018 10-09 AM.csv	658.2	6.30	4,145	805.7	6.89	0.914	0.817	0.747	101.1	751	37.0	10:09:43 AM
B5\S24\Inv1-CB5-S24 6-12-2018 03-11 PM.csv	624.4	7.05	4,401	777.1	7.69	0.917	0.804	0.737	103.0	828	46.9	3:11:41 PM
\CB6\S1\Inv1-CB6-S1 6-11-2018 09-45 AM.csv	660.0	4.47	2,952	800.9	4.90	0.912	0.824	0.751	101.9	513	35.5	9:45:01 AM
\CB6\S2\Inv1-CB6-S2 6-11-2018 09-47 AM.csv	664.6	5.55	3,691	810.4	6.05	0.917	0.820	0.752	103.0	656	38.6	9:47:08 AM
\CB6\S3\Inv1-CB6-S3 6-11-2018 09-47 AM.csv	664.9	5.43	3,612	806.5	5.90	0.920	0.824	0.759	106.8	612	37.1	9:47:21 AM
\CB6\S4\Inv1-CB6-S4 6-12-2018 03-16 PM.csv	629.4	7.27	4,577	782.6	7.95	0.915	0.804	0.736	101.2	869	44.7	3:16:09 PM
\CB6\S5\Inv1-CB6-S5 6-12-2018 03-16 PM.csv	625.2	7.29	4,559	778.1	8.00	0.912	0.804	0.733	101.3	872	46.3	3:16:23 PM
\CB6\S6\Inv1-CB6-S6 6-12-2018 03-16 PM.csv	621.0	7.32	4,544	776.4	7.95	0.920	0.800	0.736	100.1	875	45.4	3:16:33 PM
\CB6\S7\Inv1-CB6-S7 6-12-2018 03-17 PM.csv	627.7	7.39	4,637	780.8	8.09	0.913	0.804	0.734	102.6	873	45.7	3:17:24 PM
\CB6\S8\Inv1-CB6-S8 6-11-2018 09-57 AM.csv	667.5	5.12	3,420	810.5	5.61	0.912	0.824	0.752	103.8	598	38.1	9:57:56 AM
\CB6\S9\Inv1-CB6-S9 6-11-2018 09-58 AM.csv	667.7	5.23	3,491	811.2	5.67	0.922	0.823	0.759	106.4	595	38.4	9:58:05 AM
B6\S10\Inv1-CB6-S10 6-11-2018 09-58 AM.csv	666.9	5.17	3,451	809.0	5.64	0.917	0.824	0.756	108.8	572	37.5	9:58:17 AM
B6\S11\Inv1-CB6-S11 6-11-2018 09-58 AM.csv	665.9	5.14	3,425	810.0	5.67	0.908	0.822	0.746	105.8	587	38.1	9:58:26 AM
B6\S12\Inv1-CB6-S12 6-11-2018 09-58 AM.csv	670.7	5.29	3,545	810.1	5.83	0.906	0.828	0.750	105.4	610	38.0	9:58:44 AM
B6\S13\Inv1-CB6-S13 6-11-2018 09-58 AM.csv	670.5	4.95	3,319	810.0	5.36	0.923	0.828	0.764	105.8	565	37.6	9:58:57 AM
B6\S14\Inv1-CB6-S14 6-11-2018 09-59 AM.csv	663.9	4.24	2,816	801.8	4.65	0.912	0.828	0.755	100.8	492	35.3	9:59:11 AM

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
B6\S15\Inv1-CB6-S15 6-11-2018 09-59 AM.csv	665.1	4.97	3,303	807.8	5.37	0.924	0.823	0.761	102.2	583	37.2	9:59:24 AM
B6\S16\Inv1-CB6-S16 6-11-2018 09-59 AM.csv	662.2	4.22	2,792	799.7	4.58	0.920	0.828	0.762	99.9	492	35.1	9:59:34 AM
B6\S17\Inv1-CB6-S17 6-11-2018 09-59 AM.csv	663.1	4.21	2,790	800.2	4.57	0.921	0.829	0.763	99.5	495	35.4	9:59:47 AM
B6\S18\Inv1-CB6-S18 6-12-2018 03-18 PM.csv	624.6	7.35	4,591	779.6	8.08	0.910	0.801	0.729	102.3	865	45.4	3:18:16 PM
B6\S19\Inv1-CB6-S19 6-11-2018 10-00 AM.csv	664.4	4.45	2,956	799.9	4.87	0.914	0.831	0.759	101.7	513	35.1	10:00:26 AM
B6\S20\Inv1-CB6-S20 6-11-2018 10-00 AM.csv	660.7	4.68	3,093	798.5	5.10	0.919	0.827	0.760	101.5	540	34.9	10:00:48 AM
B6\S21\Inv1-CB6-S21 6-11-2018 10-01 AM.csv	658.0	4.22	2,779	793.2	4.60	0.917	0.830	0.761	100.5	485	34.7	10:01:02 AM
B6\S22\Inv1-CB6-S22 6-12-2018 03-18 PM.csv	619.2	7.36	4,559	774.8	8.01	0.919	0.799	0.735	101.4	868	45.7	3:18:03 PM
\CB7\S1\Inv1-CB7-S1 6-11-2018 09-36 AM.csv	666.6	4.96	3,307	805.9	5.35	0.927	0.827	0.767	105.7	560	36.5	9:36:51 AM
\CB7\S2\Inv1-CB7-S2 6-11-2018 09-37 AM.csv	670.8	5.56	3,732	814.2	6.02	0.924	0.824	0.761	107.7	636	39.8	9:37:13 AM
\CB7\S3\Inv1-CB7-S3 6-11-2018 09-37 AM.csv	671.1	5.62	3,772	813.3	6.12	0.918	0.825	0.757	108.2	639	39.5	9:37:23 AM
\CB7\S4\Inv1-CB7-S4 6-11-2018 09-37 AM.csv	670.2	5.10	3,421	808.4	5.59	0.914	0.829	0.758	105.7	584	37.5	9:37:33 AM
\CB7\S5\Inv1-CB7-S5 6-11-2018 09-37 AM.csv	669.2	5.21	3,488	814.1	5.68	0.917	0.822	0.754	107.1	593	39.3	9:37:44 AM
\CB7\S6\Inv1-CB7-S6 6-11-2018 09-37 AM.csv	667.7	4.99	3,335	809.8	5.49	0.910	0.825	0.750	102.3	590	37.7	9:37:55 AM
\CB7\S7\Inv1-CB7-S7 6-11-2018 09-38 AM.csv	669.4	4.75	3,183	806.7	5.23	0.908	0.830	0.754	103.3	554	37.0	9:38:14 AM
\CB7\S8\Inv1-CB7-S8 6-11-2018 09-38 AM.csv	668.4	4.82	3,221	808.8	5.25	0.917	0.826	0.758	102.3	567	37.4	9:38:27 AM
\CB7\S9\Inv1-CB7-S9 6-11-2018 09-38 AM.csv	664.4	4.62	3,070	803.8	4.99	0.926	0.827	0.765	102.5	532	36.0	9:38:38 AM
B7\S10\Inv1-CB7-S10 6-11-2018 09-38 AM.csv	666.1	4.60	3,062	805.1	4.96	0.926	0.827	0.766	102.1	534	36.2	9:38:51 AM
B7\S11\Inv1-CB7-S11 6-11-2018 09-39 AM.csv	666.3	5.03	3,353	807.8	5.43	0.927	0.825	0.765	104.3	580	37.4	9:39:14 AM
B7\S12\Inv1-CB7-S12 6-11-2018 09-39 AM.csv	665.0	5.10	3,394	806.5	5.46	0.934	0.825	0.770	104.7	583	37.0	9:39:27 AM
B7\S13\Inv1-CB7-S13 6-11-2018 09-39 AM.csv	663.9	5.79	3,845	810.3	6.31	0.918	0.819	0.752	107.1	658	38.7	9:39:35 AM
B7\S14\Inv1-CB7-S14 6-11-2018 09-39 AM.csv	663.6	5.72	3,794	811.4	6.20	0.922	0.818	0.754	107.6	646	39.0	9:39:48 AM
B7\S15\Inv1-CB7-S15 6-11-2018 09-40 AM.csv	673.5	5.23	3,519	811.7	5.76	0.907	0.830	0.752	105.4	609	38.8	9:40:05 AM
B7\S16\Inv1-CB7-S16 6-11-2018 09-40 AM.csv	666.6	5.31	3,537	809.6	5.94	0.894	0.823	0.736	103.1	625	38.3	9:40:20 AM
B7\S17\Inv1-CB7-S17 6-11-2018 09-40 AM.csv	664.5	5.21	3,460	806.7	5.74	0.907	0.824	0.747	104.0	599	37.1	9:40:37 AM
B7\S18\Inv1-CB7-S18 6-11-2018 09-40 AM.csv	661.4	5.53	3,659	807.8	5.96	0.929	0.819	0.761	104.8	635	37.8	9:40:48 AM
B7\S19\Inv1-CB7-S19 6-11-2018 09-40 AM.csv	666.5	5.50	3,665	807.3	6.02	0.914	0.826	0.754	105.5	632	37.7	9:40:59 AM
B7\S20\Inv1-CB7-S20 6-11-2018 09-41 AM.csv	671.6	5.59	3,751	811.6	6.22	0.898	0.828	0.743	104.1	663	39.2	9:41:16 AM
B7\S21\Inv1-CB7-S21 6-11-2018 09-41 AM.csv	668.5	5.12	3,421	807.6	5.69	0.900	0.828	0.745	101.4	612	37.8	9:41:33 AM
B7\S22\Inv1-CB7-S22 6-11-2018 09-41 AM.csv	661.5	5.14	3,399	803.9	5.66	0.907	0.823	0.747	102.9	595	36.6	9:41:43 AM
\CB8\S1\Inv1-CB8-S1 6-11-2018 09-23 AM.csv	671.6	4.98	3,343	813.5	5.47	0.910	0.826	0.751	102.6	584	36.0	9:23:00 AM
\CB8\S2\Inv1-CB8-S2 6-11-2018 09-23 AM.csv	675.6	5.23	3,535	819.9	5.68	0.921	0.824	0.759	101.8	614	32.4	9:23:17 AM
\CB8\S3\Inv1-CB8-S3 6-11-2018 09-23 AM.csv	679.8	5.06	3,437	818.3	5.53	0.915	0.831	0.760	105.5	579	34.5	9:23:28 AM
\CB8\S4\Inv1-CB8-S4 6-11-2018 09-23 AM.csv	674.0	4.99	3,365	813.7	5.42	0.921	0.828	0.763	108.6	557	37.4	9:23:39 AM
\CB8\S5\Inv1-CB8-S5 6-11-2018 09-26 AM.csv	679.3	4.25	2,886	808.8	4.80	0.884	0.840	0.743	103.3	492	34.9	9:26:15 AM
\CB8\S6\Inv1-CB8-S6 6-11-2018 09-26 AM.csv	676.1	4.73	3,197	815.5	5.20	0.910	0.829	0.754	102.0	563	37.3	9:26:28 AM
\CB8\S7\Inv1-CB8-S7 6-11-2018 09-26 AM.csv	673.0	4.47	3,012	809.6	5.02	0.891	0.831	0.741	102.7	520	35.6	9:26:51 AM
\CB8\S8\Inv1-CB8-S8 6-12-2018 03-24 PM.csv	632.3	6.99	4,421	788.6	7.69	0.910	0.802	0.729	104.0	818	46.1	3:24:17 PM
\CB8\S9\Inv1-CB8-S9 6-12-2018 03-24 PM.csv	632.5	6.99	4,423	788.7	7.67	0.911	0.802	0.731	104.6	812	45.6	3:24:25 PM
B8\S10\Inv1-CB8-S10 6-11-2018 09-28 AM.csv	673.5	4.27	2,875	804.6	4.82	0.885	0.837	0.741	100.9	500	34.0	9:28:41 AM
B8\S11\Inv1-CB8-S11 6-11-2018 09-30 AM.csv	679.3	5.04	3,423	816.6	5.68	0.888	0.832	0.739	102.5	602	36.7	9:30:42 AM
B8\S12\Inv1-CB8-S12 6-11-2018 09-30 AM.csv	680.4	5.13	3,491	817.7	5.80	0.885	0.832	0.736	101.3	615	34.4	9:30:53 AM
B8\S13\Inv1-CB8-S13 6-11-2018 09-31 AM.csv	675.1	4.86	3,280	813.0	5.29	0.919	0.830	0.763	103.8	570	37.5	9:31:06 AM

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
B8\S14\Inv1-CB8-S14 6-11-2018 09-31 AM.csv	674.7	4.64	3,133	811.7	5.11	0.908	0.831	0.755	102.4	548	36.9	9:31:19 AM
B8\S15\Inv1-CB8-S15 6-11-2018 09-31 AM.csv	674.2	4.89	3,296	810.9	5.34	0.915	0.831	0.761	103.6	572	37.1	9:31:32 AM
B8\S16\Inv1-CB8-S16 6-11-2018 09-31 AM.csv	679.3	5.00	3,395	813.8	5.61	0.891	0.835	0.744	104.4	589	37.6	9:31:44 AM
B8\S17\Inv1-CB8-S17 6-11-2018 09-31 AM.csv	669.2	5.55	3,714	817.5	6.05	0.917	0.819	0.750	106.2	627	34.9	9:31:53 AM
B8\S18\Inv1-CB8-S18 6-11-2018 09-32 AM.csv	679.0	5.15	3,495	816.2	5.68	0.906	0.832	0.753	107.7	591	38.8	9:32:10 AM
B8\S19\Inv1-CB8-S19 6-11-2018 09-32 AM.csv	672.0	4.96	3,336	817.4	5.41	0.918	0.822	0.754	104.8	580	39.5	9:32:20 AM
B8\S20\Inv1-CB8-S20 6-11-2018 09-32 AM.csv	672.9	4.81	3,237	816.0	5.21	0.923	0.825	0.762	106.2	549	38.4	9:32:29 AM
B8\S21\Inv1-CB8-S21 6-11-2018 09-32 AM.csv	675.3	4.82	3,254	814.8	5.30	0.909	0.829	0.753	104.1	565	38.3	9:32:39 AM
B8\S22\Inv1-CB8-S22 6-11-2018 09-33 AM.csv	676.4	4.78	3,236	810.1	5.37	0.892	0.835	0.744	101.3	576	37.1	9:33:00 AM
\CB9\S1\Inv1-CB9-S1 6-11-2018 09-16 AM.csv	674.9	4.69	3,168	809.2	5.27	0.891	0.834	0.743	100.9	564	36.7	9:16:31 AM
\CB9\S2\Inv1-CB9-S2 6-11-2018 09-16 AM.csv	674.3	4.78	3,221	814.9	5.25	0.909	0.827	0.752	102.4	569	38.4	9:16:54 AM
\CB9\S3\Inv1-CB9-S3 6-11-2018 09-17 AM.csv	671.9	4.94	3,319	813.5	5.35	0.923	0.826	0.762	104.0	577	38.1	9:17:05 AM
\CB9\S4\Inv1-CB9-S4 6-11-2018 09-17 AM.csv	667.3	4.74	3,161	810.2	5.20	0.911	0.824	0.750	103.6	545	36.5	9:17:16 AM
\CB9\S5\Inv1-CB9-S5 6-11-2018 09-17 AM.csv	665.7	4.96	3,303	806.5	5.43	0.914	0.825	0.754	105.5	559	35.7	9:17:29 AM
\CB9\S6\Inv1-CB9-S6 6-11-2018 09-17 AM.csv	673.3	5.27	3,546	811.9	5.78	0.911	0.829	0.756	107.0	601	38.0	9:17:38 AM
1\CB9\S7\Inv1-CB9-S7 6-8-2018 10-53 AM.csv	624.4	7.23	4,513	781.8	7.88	0.918	0.799	0.733	108.5	815	49.5	10:53:40 AM
1\CB9\S8\Inv1-CB9-S8 6-8-2018 10-53 AM.csv	617.0	7.19	4,434	778.6	7.87	0.913	0.792	0.724	107.3	811	49.8	10:53:28 AM
1\CB9\S9\Inv1-CB9-S9 6-8-2018 10-53 AM.csv	620.9	7.02	4,358	777.6	7.72	0.909	0.798	0.726	107.3	797	50.1	10:53:16 AM
ᐁB9\S10\Inv1-CB9-S10 6-8-2018 10-53 AM.csv	621.9	7.02	4,365	779.0	7.69	0.913	0.798	0.729	106.7	805	50.4	10:53:04 AM
ᐁB9\S11\Inv1-CB9-S11 6-8-2018 10-52 AM.csv	620.7	7.07	4,387	777.6	7.75	0.912	0.798	0.728	106.2	809	49.4	10:52:48 AM
ᐁB9\S12\Inv1-CB9-S12 6-8-2018 10-52 AM.csv	622.6	6.95	4,324	778.5	7.62	0.912	0.800	0.729	105.5	804	49.8	10:52:38 AM
ᐁB9\S13\Inv1-CB9-S13 6-8-2018 10-52 AM.csv	622.1	7.01	4,362	778.3	7.66	0.916	0.799	0.732	108.8	783	49.4	10:52:24 AM
ᐁB9\S14\Inv1-CB9-S14 6-8-2018 10-52 AM.csv	618.3	7.05	4,362	779.9	7.72	0.914	0.793	0.725	107.9	787	48.8	10:52:08 AM
ᐁB9\S15\Inv1-CB9-S15 6-8-2018 10-51 AM.csv	619.4	6.99	4,332	776.5	7.67	0.912	0.798	0.727	109.1	779	50.0	10:51:59 AM
ᐁB9\S16\Inv1-CB9-S16 6-8-2018 10-51 AM.csv	625.0	6.84	4,273	777.0	7.48	0.914	0.804	0.735	108.9	770	50.2	10:51:45 AM
ᐁB9\S17\Inv1-CB9-S17 6-8-2018 10-51 AM.csv	621.3	6.89	4,278	780.0	7.51	0.917	0.797	0.731	107.0	782	49.4	10:51:35 AM
ᐁB9\S18\Inv1-CB9-S18 6-8-2018 10-51 AM.csv	625.4	6.77	4,235	779.2	7.48	0.906	0.803	0.727	106.7	777	49.5	10:51:25 AM
ᐁB9\S19\Inv1-CB9-S19 6-8-2018 10-51 AM.csv	622.7	6.79	4,230	777.9	7.41	0.917	0.800	0.734	106.5	777	49.4	10:51:13 AM
ᐁB9\S20\Inv1-CB9-S20 6-8-2018 10-51 AM.csv	622.9	6.72	4,184	777.5	7.33	0.917	0.801	0.734	104.6	783	49.4	10:51:02 AM
ᐁB9\S21\Inv1-CB9-S21 6-8-2018 10-50 AM.csv	621.1	6.80	4,221	775.9	7.46	0.911	0.800	0.730	106.1	773	48.3	10:50:51 AM
ᐁB9\S22\Inv1-CB9-S22 6-8-2018 10-50 AM.csv	618.5	6.82	4,215	777.4	7.45	0.915	0.796	0.728	105.4	780	49.1	10:50:16 AM
ᐁB10\S1\Inv1-CB10-S1 6-8-2018 10-43 AM.csv	621.4	7.28	4,525	774.1	7.97	0.914	0.803	0.734	108.6	826	51.5	10:43:32 AM
ᐁB10\S2\Inv1-CB10-S2 6-8-2018 10-09 AM.csv	648.1	6.25	4,051	792.7	6.81	0.919	0.818	0.751	108.8	696	41.9	10:09:39 AM
ᐁB10\S3\Inv1-CB10-S3 6-8-2018 10-12 AM.csv	642.0	7.37	4,728	803.2	7.92	0.931	0.799	0.744	110.5	816	44.2	10:12:17 AM
ᐁB10\S4\Inv1-CB10-S4 6-8-2018 10-12 AM.csv	647.6	6.80	4,406	799.8	7.51	0.906	0.810	0.733	104.7	800	43.7	10:12:28 AM
ᐁB10\S5\Inv1-CB10-S5 6-8-2018 10-14 AM.csv	644.0	6.63	4,268	792.2	7.23	0.916	0.813	0.745	106.8	762	45.0	10:14:34 AM
ᐁB10\S6\Inv1-CB10-S6 6-8-2018 10-15 AM.csv	643.5	6.66	4,288	792.6	7.28	0.915	0.812	0.743	108.3	758	45.8	10:15:07 AM
ᐁB10\S7\Inv1-CB10-S7 6-8-2018 10-39 AM.csv	622.3	7.17	4,464	776.7	7.88	0.911	0.801	0.730	105.6	822	47.8	10:39:31 AM
ᐁB10\S8\Inv1-CB10-S8 6-8-2018 10-39 AM.csv	625.0	6.74	4,209	775.4	7.43	0.906	0.806	0.730	103.6	791	48.6	10:39:51 AM
ᐁB10\S9\Inv1-CB10-S9 6-8-2018 10-37 AM.csv	623.9	7.12	4,442	776.5	7.82	0.911	0.803	0.732	107.0	813	49.3	10:37:28 AM
10\S10\Inv1-CB10-S10 6-8-2018 10-38 AM.csv	629.4	7.28	4,583	782.4	7.98	0.913	0.804	0.734	110.5	813	49.8	10:38:02 AM
10\S11\Inv1-CB10-S11 6-8-2018 10-38 AM.csv	628.6	7.30	4,589	781.9	8.00	0.913	0.804	0.734	109.6	817	48.8	10:38:24 AM
10\S12\Inv1-CB10-S12 6-8-2018 10-38 AM.csv	624.9	7.31	4,566	780.6	7.95	0.919	0.801	0.735	109.4	813	48.3	10:38:41 AM



## String Data

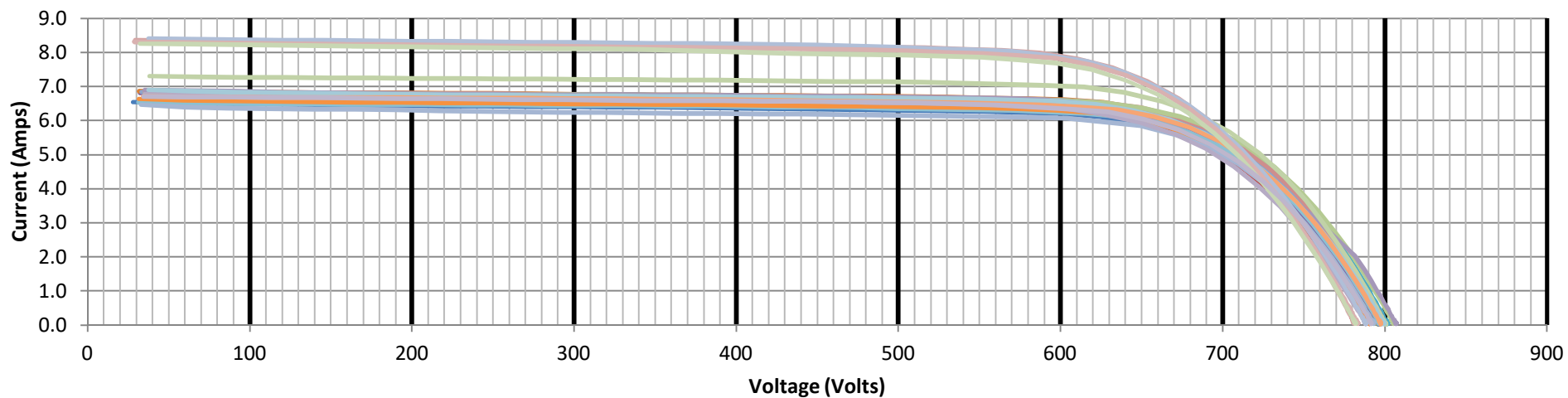
File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
10\S13\Inv1-CB10-S13 6-8-2018 10-39 AM.csv	623.3	7.28	4,536	784.8	7.91	0.920	0.794	0.730	107.6	817	47.4	10:39:01 AM
10\S14\Inv1-CB10-S14 6-8-2018 10-40 AM.csv	625.1	7.27	4,545	783.3	7.91	0.919	0.798	0.734	107.4	828	49.0	10:40:13 AM
10\S15\Inv1-CB10-S15 6-8-2018 10-41 AM.csv	623.5	6.89	4,299	780.6	7.52	0.917	0.799	0.732	104.6	802	49.1	10:41:00 AM
10\S16\Inv1-CB10-S16 6-8-2018 10-41 AM.csv	624.2	7.28	4,546	781.1	7.91	0.920	0.799	0.736	107.3	832	49.7	10:41:14 AM
10\S17\Inv1-CB10-S17 6-8-2018 10-41 AM.csv	626.5	7.14	4,473	782.4	7.76	0.921	0.801	0.737	105.7	825	48.4	10:41:30 AM
10\S18\Inv1-CB10-S18 6-8-2018 10-41 AM.csv	616.7	7.29	4,498	778.9	7.95	0.917	0.792	0.726	106.4	825	48.5	10:41:41 AM
10\S19\Inv1-CB10-S19 6-8-2018 10-41 AM.csv	620.2	7.07	4,385	770.5	7.69	0.919	0.805	0.740	104.7	816	48.3	10:41:53 AM
10\S20\Inv1-CB10-S20 6-8-2018 10-42 AM.csv	619.1	7.25	4,490	770.6	7.91	0.917	0.803	0.737	106.3	826	48.9	10:42:07 AM
10\S21\Inv1-CB10-S21 6-8-2018 10-42 AM.csv	617.2	7.11	4,389	774.1	7.78	0.914	0.797	0.729	106.6	809	50.1	10:42:20 AM
10\S22\Inv1-CB10-S22 6-8-2018 10-42 AM.csv	618.0	7.21	4,458	774.5	7.99	0.903	0.798	0.720	105.4	836	50.8	10:42:32 AM
10\S23\Inv1-CB10-S23 6-8-2018 10-36 AM.csv	624.9	6.98	4,364	775.7	7.70	0.907	0.806	0.731	105.4	811	49.4	10:36:03 AM
10\S24\Inv1-CB10-S24 6-8-2018 10-43 AM.csv	618.4	6.97	4,312	771.1	7.70	0.906	0.802	0.726	103.5	825	51.4	10:43:02 AM
ᐅB11\S1\Inv1-CB11-S1 6-6-2018 10-11 AM.csv	668.2	7.89	5,270	819.0	8.60	0.917	0.816	0.748	107.0	940	42.6	10:11:31 AM
ᐅB11\S2\Inv1-CB11-S2 6-6-2018 10-25 AM.csv	664.9	8.39	5,578	816.1	9.17	0.915	0.815	0.745	104.9	1,010	41.3	10:25:18 AM
ᐅB11\S3\Inv1-CB11-S3 6-6-2018 10-14 AM.csv	650.2	7.76	5,048	803.6	8.37	0.927	0.809	0.750	108.4	896	45.0	10:14:25 AM
ᐅB11\S4\Inv1-CB11-S4 6-6-2018 10-14 AM.csv	652.9	7.89	5,150	813.4	8.55	0.923	0.803	0.741	107.6	899	40.2	10:14:40 AM
ᐅB11\S5\Inv1-CB11-S5 6-6-2018 10-15 AM.csv	649.9	7.83	5,087	808.8	8.48	0.923	0.804	0.742	109.2	903	46.5	10:15:29 AM
ᐅB11\S6\Inv1-CB11-S6 6-6-2018 10-15 AM.csv	652.7	7.61	4,970	803.2	8.39	0.907	0.813	0.737	106.3	907	46.2	10:15:43 AM
ᐅB11\S7\Inv1-CB11-S7 6-6-2018 10-15 AM.csv	652.3	7.50	4,889	801.8	8.30	0.903	0.813	0.734	104.8	905	46.2	10:15:54 AM
ᐅB11\S8\Inv1-CB11-S8 6-6-2018 10-16 AM.csv	650.8	7.64	4,973	805.7	8.30	0.920	0.808	0.743	110.8	871	46.8	10:16:09 AM
ᐅB11\S9\Inv1-CB11-S9 6-6-2018 10-16 AM.csv	648.4	8.02	5,200	809.8	8.68	0.924	0.801	0.740	110.8	912	46.8	10:16:23 AM
11\S10\Inv1-CB11-S10 6-6-2018 10-16 AM.csv	653.2	8.12	5,304	807.7	8.88	0.915	0.809	0.740	112.5	923	47.9	10:16:38 AM
1\S11\Inv1-CB11-S11 6-12-2018 03-41 PM.csv	639.5	6.74	4,313	790.7	7.29	0.925	0.809	0.748	103.2	774	39.1	3:41:15 PM
1\S12\Inv1-CB11-S12 6-12-2018 03-41 PM.csv	644.4	6.63	4,274	792.9	7.19	0.923	0.813	0.750	102.6	773	39.5	3:41:35 PM
1\S13\Inv1-CB11-S13 6-12-2018 03-41 PM.csv	635.6	6.65	4,228	788.6	7.33	0.908	0.806	0.732	102.1	773	40.8	3:41:47 PM
1\S14\Inv1-CB11-S14 6-12-2018 03-42 PM.csv	636.6	6.64	4,227	789.6	7.32	0.908	0.806	0.732	102.5	764	39.1	3:42:02 PM
11\S15\Inv1-CB11-S15 6-6-2018 10-18 AM.csv	646.2	7.82	5,052	800.6	8.47	0.923	0.807	0.745	109.0	907	48.1	10:18:03 AM
11\S16\Inv1-CB11-S16 6-6-2018 10-18 AM.csv	645.2	7.93	5,116	802.6	8.51	0.932	0.804	0.749	110.6	908	48.8	10:18:14 AM
11\S17\Inv1-CB11-S17 6-6-2018 10-18 AM.csv	646.9	7.99	5,171	804.3	8.60	0.929	0.804	0.747	111.4	912	49.0	10:18:25 AM
11\S18\Inv1-CB11-S18 6-6-2018 10-18 AM.csv	650.4	8.00	5,203	808.9	8.61	0.929	0.804	0.747	111.9	917	49.5	10:18:38 AM
11\S19\Inv1-CB11-S19 6-6-2018 10-18 AM.csv	646.8	8.01	5,181	805.4	8.65	0.926	0.803	0.744	111.0	922	49.9	10:18:52 AM
11\S20\Inv1-CB11-S20 6-6-2018 10-19 AM.csv	644.2	7.95	5,119	798.8	8.67	0.917	0.806	0.739	109.4	927	50.1	10:19:07 AM
11\S21\Inv1-CB11-S21 6-6-2018 10-19 AM.csv	642.7	8.00	5,144	799.4	8.75	0.914	0.804	0.735	108.1	935	48.6	10:19:23 AM
11\S22\Inv1-CB11-S22 6-6-2018 10-19 AM.csv	646.0	8.19	5,290	802.9	8.95	0.915	0.804	0.736	110.8	945	49.8	10:19:37 AM
11\S23\Inv1-CB11-S23 6-6-2018 10-19 AM.csv	637.8	8.25	5,261	801.0	8.97	0.919	0.796	0.732	108.5	960	50.0	10:19:49 AM
11\S24\Inv1-CB11-S24 6-6-2018 10-19 AM.csv	639.2	8.40	5,371	799.1	9.06	0.927	0.800	0.742	114.7	925	50.0	10:19:59 AM
ᐅB12\S1\Inv1-CB12-S1 7-3-2018 01-01 PM.csv	584.3	8.30	4,852	748.2	9.17	0.906	0.781	0.707	106.1	938	56.7	1:01:13 PM
ᐅB12\S2\Inv1-CB12-S2 7-3-2018 01-01 PM.csv	585.1	8.39	4,907	748.5	9.15	0.916	0.782	0.716	106.7	940	56.2	1:01:36 PM
ᐅB12\S3\Inv1-CB12-S3 7-3-2018 01-01 PM.csv	584.5	8.39	4,906	746.9	9.15	0.917	0.783	0.718	106.5	942	56.2	1:01:52 PM
ᐅB12\S4\Inv1-CB12-S4 7-3-2018 01-02 PM.csv	572.3	8.34	4,772	740.3	9.12	0.914	0.773	0.707	103.6	943	56.5	1:02:09 PM
ᐅB12\S5\Inv1-CB12-S5 7-3-2018 01-02 PM.csv	580.9	8.29	4,818	745.3	9.09	0.912	0.779	0.711	105.5	942	57.8	1:02:36 PM
ᐅB12\S6\Inv1-CB12-S6 7-3-2018 01-02 PM.csv	580.8	8.27	4,806	745.2	9.04	0.916	0.779	0.714	105.1	943	57.9	1:02:45 PM
ᐅB12\S7\Inv1-CB12-S7 7-3-2018 01-03 PM.csv	584.4	8.30	4,852	747.9	9.07	0.916	0.781	0.716	106.0	944	57.7	1:03:03 PM

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
CB12\S8\Inv1-CB12-S8 7-3-2018 01-03 PM.csv	588.3	8.35	4,914	753.9	9.19	0.909	0.780	0.710	107.7	942	58.0	1:03:24 PM
CB12\S9\Inv1-CB12-S9 7-3-2018 01-03 PM.csv	590.7	8.30	4,904	754.2	9.12	0.910	0.783	0.713	107.1	945	57.8	1:03:39 PM
12\S10\Inv1-CB12-S10 7-3-2018 01-04 PM.csv	579.4	8.30	4,811	739.3	9.10	0.912	0.784	0.715	105.8	942	58.7	1:04:03 PM
12\S11\Inv1-CB12-S11 7-3-2018 01-04 PM.csv	579.8	8.23	4,773	743.6	9.01	0.914	0.780	0.712	105.4	941	59.1	1:04:19 PM
12\S12\Inv1-CB12-S12 7-3-2018 01-04 PM.csv	577.9	8.27	4,781	741.8	9.09	0.910	0.779	0.709	105.6	941	59.3	1:04:38 PM
12\S13\Inv1-CB12-S13 7-3-2018 01-04 PM.csv	583.8	8.17	4,767	745.1	9.01	0.907	0.784	0.710	105.3	939	58.7	1:04:53 PM
12\S14\Inv1-CB12-S14 7-3-2018 01-05 PM.csv	582.4	8.09	4,712	743.8	8.94	0.905	0.783	0.709	104.6	939	59.6	1:05:11 PM
12\S15\Inv1-CB12-S15 7-3-2018 01-05 PM.csv	588.1	8.17	4,807	750.7	9.02	0.906	0.783	0.710	106.7	938	59.6	1:05:26 PM
12\S16\Inv1-CB12-S16 7-3-2018 01-06 PM.csv	596.2	8.34	4,972	764.6	9.16	0.911	0.780	0.710	110.1	940	59.6	1:06:35 PM
12\S17\Inv1-CB12-S17 7-3-2018 01-06 PM.csv	588.6	8.40	4,945	760.7	9.20	0.913	0.774	0.707	108.9	942	59.0	1:06:48 PM
12\S18\Inv1-CB12-S18 7-3-2018 01-06 PM.csv	573.1	8.33	4,776	740.8	9.14	0.912	0.774	0.705	105.1	942	58.7	1:06:59 PM
12\S19\Inv1-CB12-S19 7-3-2018 01-07 PM.csv	584.8	8.23	4,815	744.3	8.98	0.917	0.786	0.721	106.1	942	58.9	1:07:08 PM
12\S20\Inv1-CB12-S20 7-3-2018 01-07 PM.csv	581.2	8.29	4,818	745.3	9.06	0.915	0.780	0.714	106.4	942	59.4	1:07:19 PM
12\S21\Inv1-CB12-S21 7-3-2018 01-07 PM.csv	574.5	8.37	4,809	749.1	9.17	0.913	0.767	0.700	106.2	942	59.5	1:07:31 PM
12\S22\Inv1-CB12-S22 7-3-2018 01-07 PM.csv	583.8	8.22	4,796	748.8	9.07	0.906	0.780	0.706	106.1	942	59.6	1:07:43 PM
12\S23\Inv1-CB12-S23 7-3-2018 01-07 PM.csv	583.2	8.16	4,756	747.9	9.04	0.902	0.780	0.703	105.4	942	59.8	1:07:54 PM
12\S24\Inv1-CB12-S24 7-3-2018 01-08 PM.csv	589.6	8.23	4,852	756.8	9.07	0.907	0.779	0.706	107.7	943	60.4	1:08:04 PM
B13\S1\Inv1-CB13-S1 6-12-2018 02-10 PM.csv	622.1	7.89	4,911	785.9	8.72	0.906	0.792	0.717	100.5	939	43.9	2:10:01 PM
B13\S2\Inv1-CB13-S2 6-12-2018 02-10 PM.csv	628.0	8.01	5,032	791.3	8.74	0.917	0.794	0.728	102.9	936	43.6	2:10:57 PM
B13\S3\Inv1-CB13-S3 6-12-2018 02-11 PM.csv	622.9	8.06	5,018	785.7	8.71	0.925	0.793	0.734	102.3	936	43.1	2:11:12 PM
B13\S4\Inv1-CB13-S4 6-12-2018 02-11 PM.csv	631.3	7.98	5,037	789.1	8.62	0.925	0.800	0.740	104.0	935	45.3	2:11:22 PM
B13\S5\Inv1-CB13-S5 6-12-2018 02-11 PM.csv	625.8	7.85	4,916	786.1	8.53	0.921	0.796	0.733	101.8	933	45.4	2:11:34 PM
B13\S6\Inv1-CB13-S6 6-12-2018 02-11 PM.csv	622.1	7.72	4,805	781.2	8.39	0.920	0.796	0.733	99.1	930	43.9	2:11:46 PM
B13\S7\Inv1-CB13-S7 6-12-2018 02-11 PM.csv	618.5	7.73	4,783	783.6	8.41	0.920	0.789	0.726	98.5	927	43.1	2:11:55 PM
B13\S8\Inv1-CB13-S8 6-12-2018 02-12 PM.csv	622.6	7.70	4,791	782.8	8.36	0.921	0.795	0.732	98.9	926	43.3	2:12:09 PM
B13\S9\Inv1-CB13-S9 6-12-2018 02-12 PM.csv	617.6	7.64	4,719	780.0	8.29	0.922	0.792	0.730	97.4	926	43.3	2:12:17 PM
3\S10\Inv1-CB13-S10 6-12-2018 02-12 PM.csv	627.5	7.81	4,902	786.9	8.55	0.913	0.797	0.728	101.5	924	43.3	2:12:25 PM
3\S11\Inv1-CB13-S11 6-12-2018 02-12 PM.csv	625.7	7.86	4,915	787.7	8.56	0.918	0.794	0.729	101.7	926	43.9	2:12:35 PM
3\S12\Inv1-CB13-S12 6-12-2018 02-12 PM.csv	630.8	7.88	4,970	788.3	8.60	0.916	0.800	0.733	102.3	926	42.7	2:12:45 PM
3\S13\Inv1-CB13-S13 6-12-2018 02-12 PM.csv	633.2	7.89	4,994	789.2	8.61	0.916	0.802	0.735	102.7	927	42.7	2:12:55 PM
3\S14\Inv1-CB13-S14 6-12-2018 02-13 PM.csv	626.7	7.78	4,876	788.1	8.52	0.913	0.795	0.726	99.9	928	42.5	2:13:13 PM
3\S15\Inv1-CB13-S15 6-12-2018 02-13 PM.csv	628.3	7.80	4,900	788.1	8.55	0.912	0.797	0.727	100.8	929	43.1	2:13:24 PM
3\S16\Inv1-CB13-S16 6-12-2018 02-13 PM.csv	621.8	7.57	4,710	781.2	8.32	0.910	0.796	0.725	96.7	928	42.7	2:13:33 PM
3\S17\Inv1-CB13-S17 6-12-2018 02-13 PM.csv	615.0	7.63	4,694	780.0	8.34	0.915	0.788	0.722	95.9	928	41.8	2:13:44 PM
3\S18\Inv1-CB13-S18 6-12-2018 02-13 PM.csv	620.6	7.66	4,753	783.3	8.44	0.908	0.792	0.719	97.2	930	42.3	2:13:52 PM
3\S19\Inv1-CB13-S19 6-12-2018 02-14 PM.csv	629.0	7.82	4,918	787.5	8.58	0.911	0.799	0.728	100.5	931	42.3	2:14:00 PM
3\S20\Inv1-CB13-S20 6-12-2018 02-14 PM.csv	632.2	7.81	4,939	790.6	8.54	0.915	0.800	0.732	100.8	929	41.6	2:14:12 PM
3\S21\Inv1-CB13-S21 6-12-2018 02-14 PM.csv	618.9	7.59	4,700	780.6	8.36	0.908	0.793	0.720	95.7	928	40.9	2:14:24 PM
3\S22\Inv1-CB13-S22 6-12-2018 02-14 PM.csv	635.1	7.87	4,996	791.7	8.57	0.918	0.802	0.736	101.9	926	40.8	2:14:41 PM
3\S23\Inv1-CB13-S23 6-12-2018 02-14 PM.csv	637.6	8.01	5,108	796.5	8.72	0.918	0.800	0.735	103.6	927	40.2	2:14:54 PM
3\S24\Inv1-CB13-S24 6-12-2018 02-15 PM.csv	630.7	7.92	4,995	795.5	8.66	0.914	0.793	0.725	101.7	927	40.7	2:15:04 PM

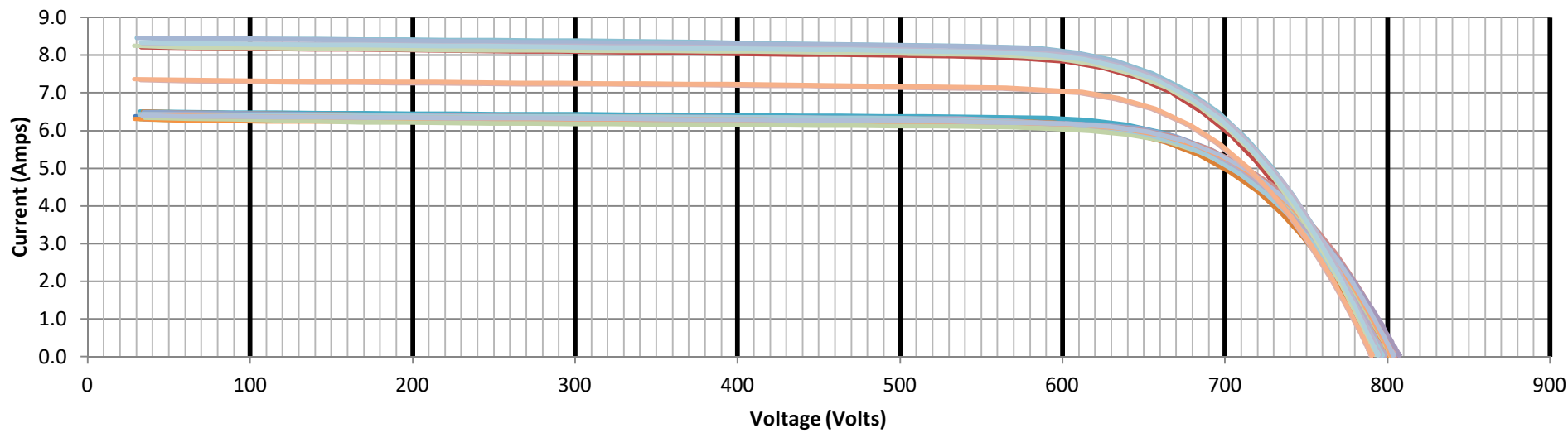
# I-V Curves for System Inv1 CB1

Inv1: CB1



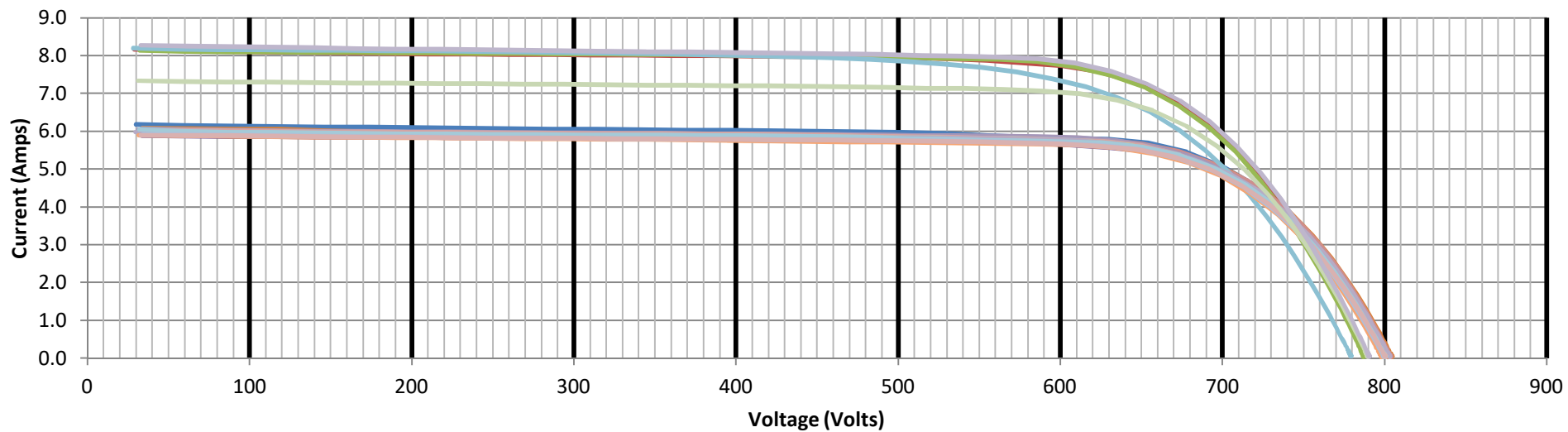
# I-V Curves for System Inv1 CB2

Inv1: CB2



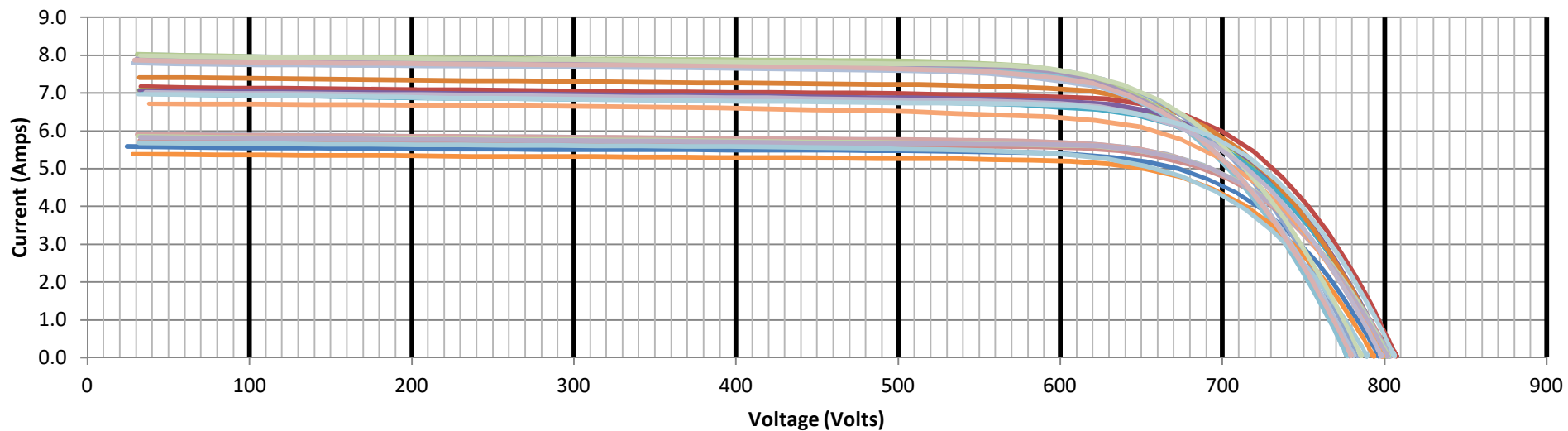
# I-V Curves for System Inv1 CB3

Inv1: CB3



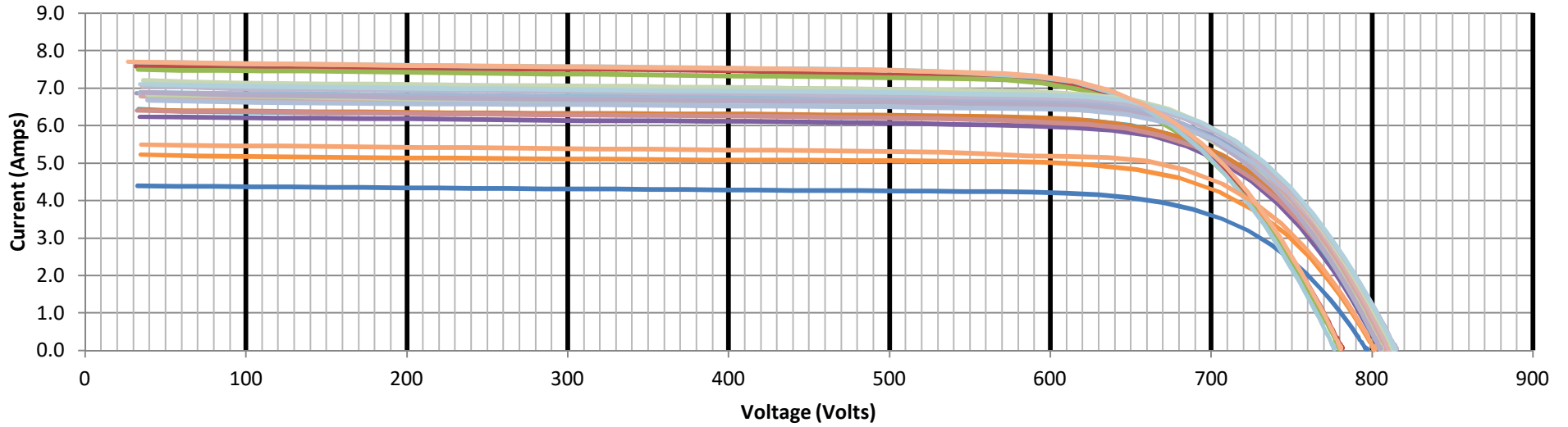
# I-V Curves for System Inv1 CB4

Inv1: CB4



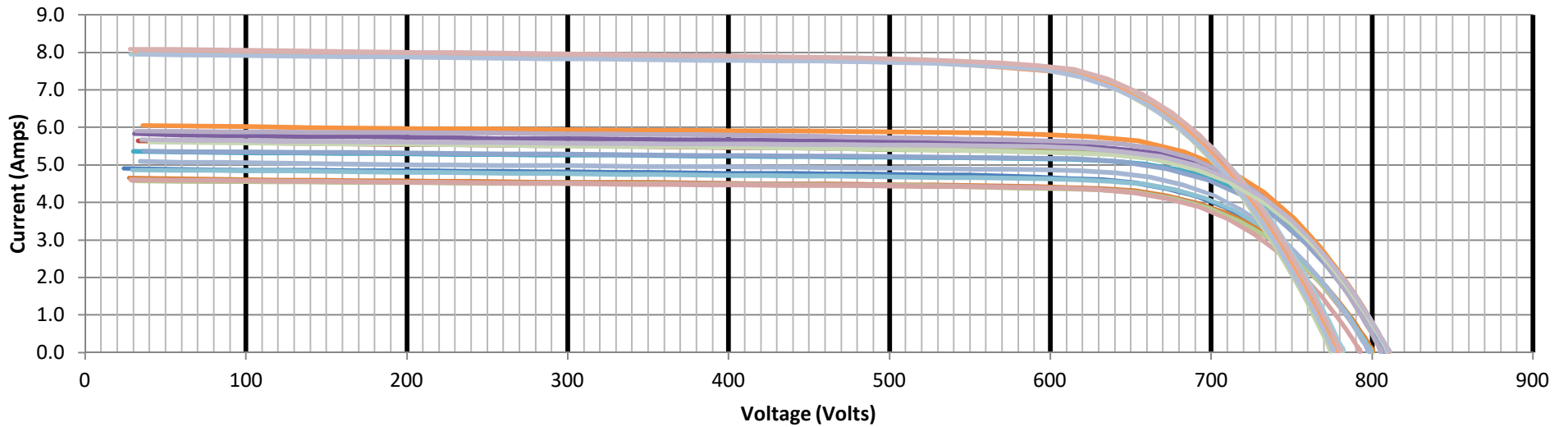
# I-V Curves for System Inv1 CB5

Inv1: CB5



# I-V Curves for System Inv1 CB6

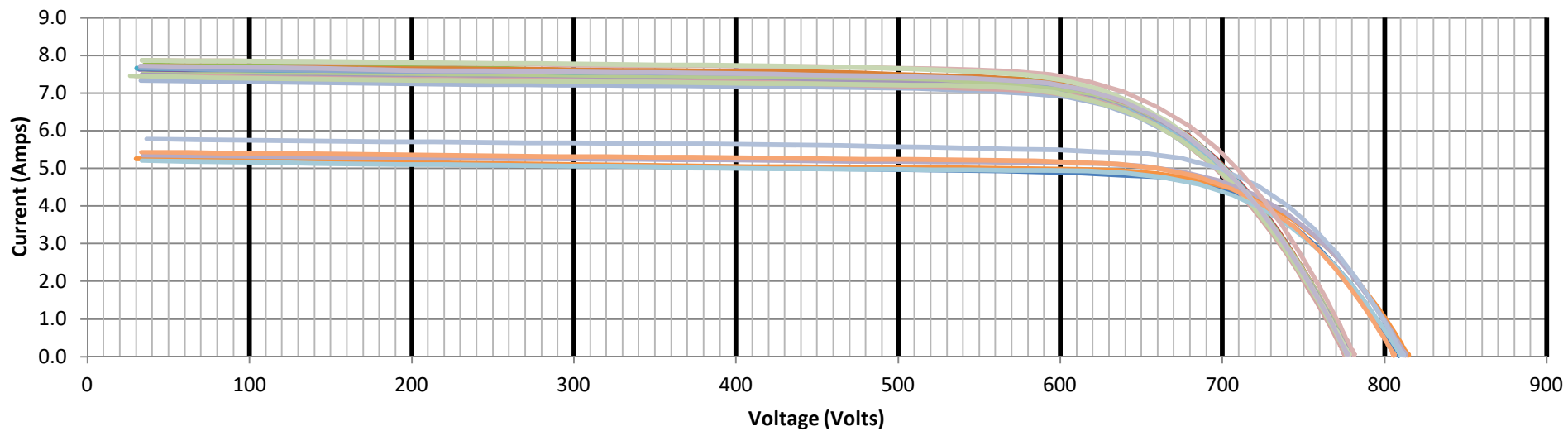
Inv1: CB6





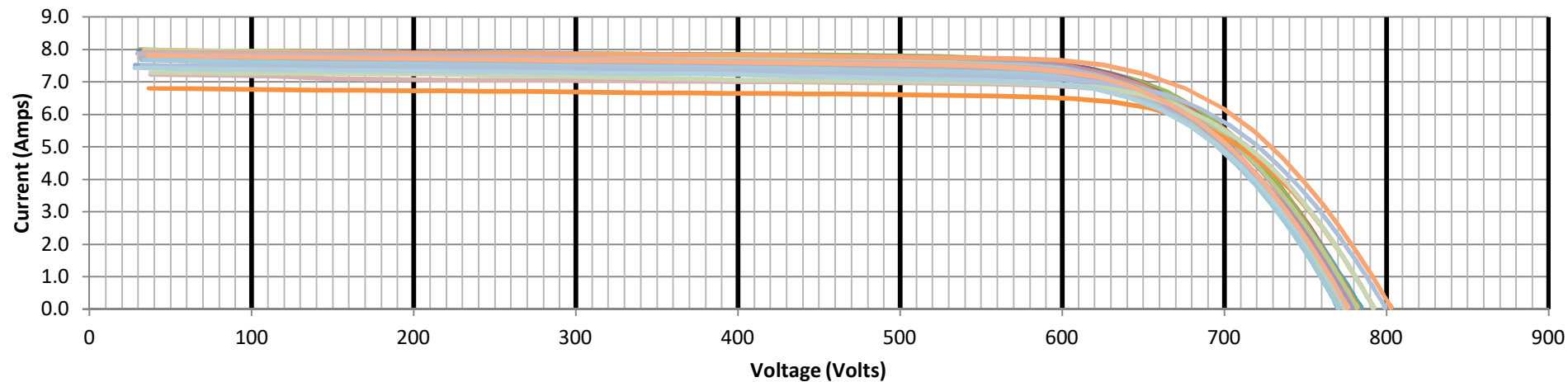
# I-V Curves for System Inv1 CB9

Inv1: CB9



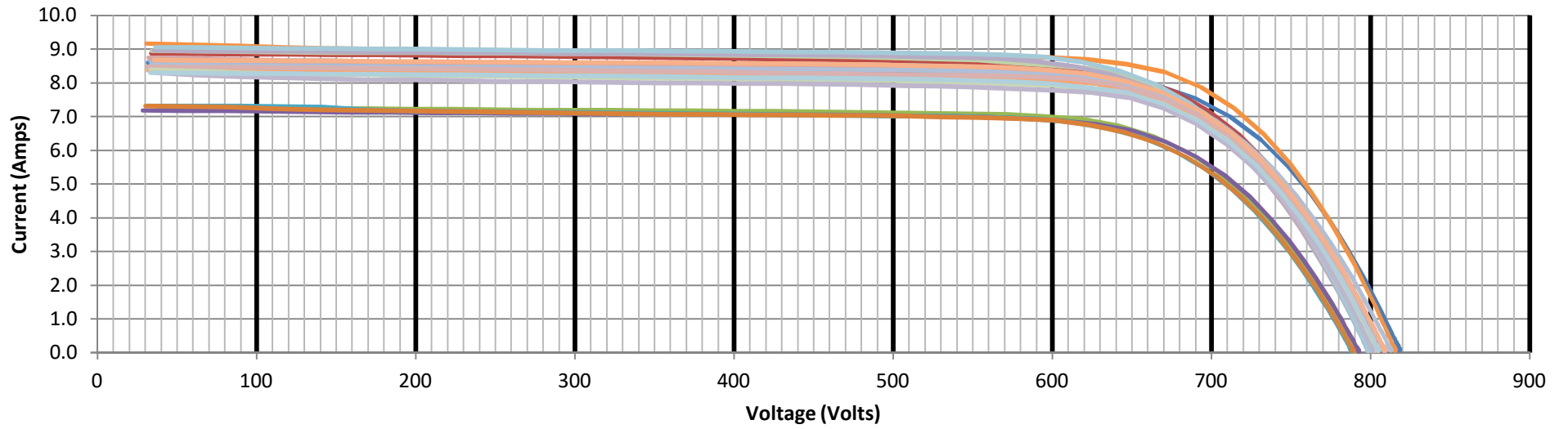
# I-V Curves for System Inv1 CB10

Inv1: CB10



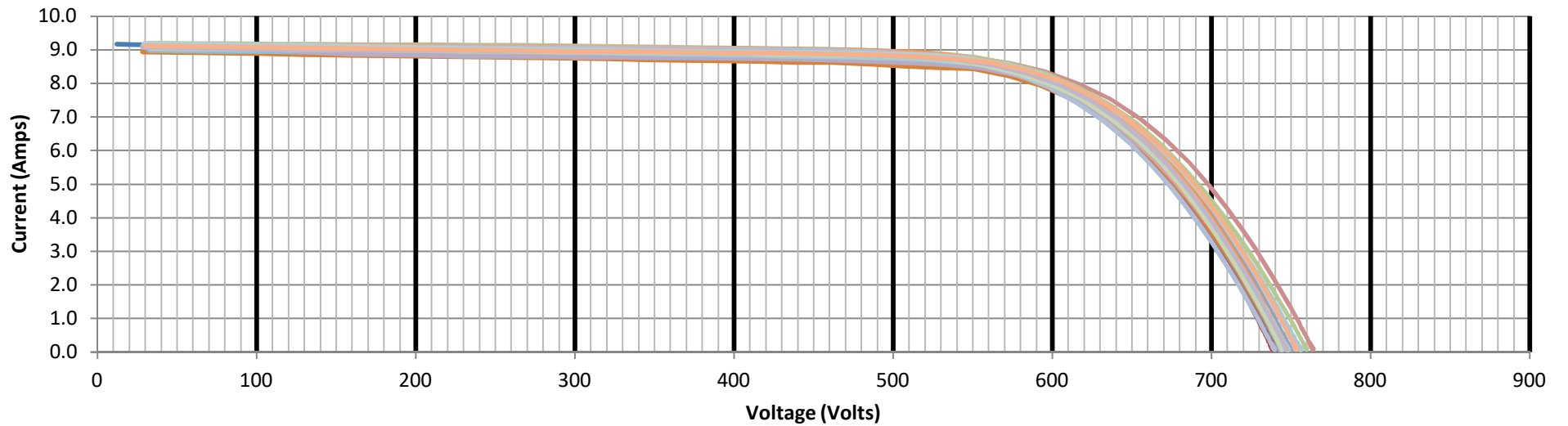
# I-V Curves for System Inv1 CB11

Inv1: CB11



# I-V Curves for System Inv1 CB12

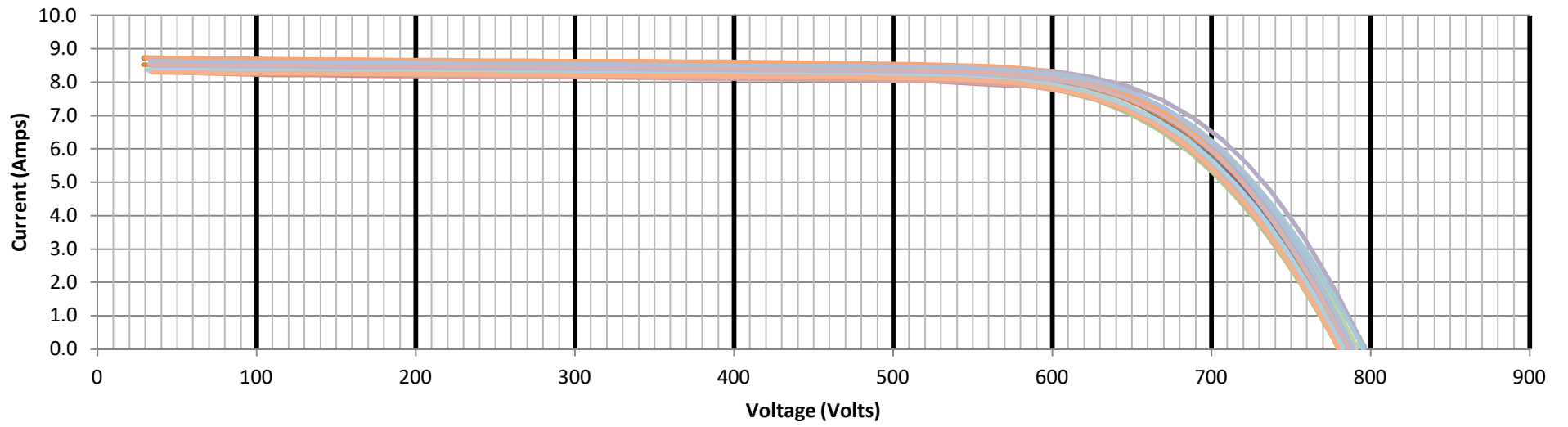
Inv1: CB12





# I-V Curves for System Inv1 CB13

Inv1: CB13



# I-V Data Analysis Report

Solmetric PV Analyzer

For:

Shutesbury Zone 2  
S&C Electric

By:

Pro Star Electric  
1370 Main Street  
Millis, MA 02054

# String Statistics

Summary Statistics for String Data

**Max Value**  
**Mean Value**  
**Min Value**  
**Std. Dev ( $\sigma$ )**  
**2 Std. Dev ( $2\sigma$ )**

<b>V<sub>mp</sub></b>	<b>I<sub>mp</sub></b>	<b>P<sub>max</sub></b>	<b>V<sub>oc</sub></b>	<b>I<sub>sc</sub></b>	<b>I<sub>mp</sub> / I<sub>sc</sub></b>	<b>V<sub>mp</sub> / V<sub>oc</sub></b>	<b>FF</b>	<b>PF</b>	<b>Irradiance</b>	<b>Temp.</b>
<b>Volts</b>	<b>Amps</b>	<b>Watts</b>	<b>Volts</b>	<b>Amps</b>				<b>%</b>	<b>(W/m<sup>2</sup>)</b>	<b>deg C</b>
669.9	9.55	6,049	826.2	10.41	0.931	0.833	0.765	116.3	1,069	47.8
640.2	6.77	4,338	794.0	7.40	0.915	0.806	0.738	106.1	762	39.5
603.4	4.01	2,570	754.8	4.49	0.870	0.785	0.712	94.9	450	22.9
14.78	0.920	609.6	14.81	0.992	0.010	0.008	0.010	4.05	109	5.5
29.56	1.841	1,219.2	29.63	1.984	0.020	0.016	0.019	8.09	219	11.0

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
:B14\S1\Inv1-CB14-S1 6-18-2018 11-20 AM.csv	633.2	6.32	4,000	780.6	6.97	0.907	0.811	0.735	106.4	719	45.4	11:20:21 AM
:B14\S2\Inv1-CB14-S2 6-18-2018 11-20 AM.csv	632.8	6.54	4,136	781.2	7.28	0.898	0.810	0.728	107.5	739	45.8	11:20:49 AM
:B14\S3\Inv1-CB14-S3 6-18-2018 11-21 AM.csv	617.5	6.88	4,247	780.7	7.46	0.922	0.791	0.729	110.8	735	45.7	11:21:01 AM
:B14\S4\Inv1-CB14-S4 6-18-2018 11-21 AM.csv	609.6	6.94	4,230	771.6	7.59	0.915	0.790	0.723	109.0	747	46.4	11:21:18 AM
:B14\S5\Inv1-CB14-S5 6-18-2018 11-21 AM.csv	603.4	6.97	4,206	765.7	7.59	0.918	0.788	0.724	107.9	749	46.0	11:21:34 AM
:B14\S6\Inv1-CB14-S6 6-18-2018 11-21 AM.csv	610.8	6.76	4,130	772.0	7.39	0.914	0.791	0.723	108.9	727	45.9	11:21:44 AM
:B14\S7\Inv1-CB14-S7 6-18-2018 11-21 AM.csv	612.0	6.69	4,095	770.0	7.38	0.907	0.795	0.721	109.9	715	46.1	11:21:53 AM
:B14\S8\Inv1-CB14-S8 6-18-2018 11-22 AM.csv	626.6	6.49	4,066	780.2	7.01	0.925	0.803	0.743	109.7	714	47.0	11:22:05 AM
:B14\S9\Inv1-CB14-S9 6-18-2018 11-22 AM.csv	615.0	6.28	3,862	769.3	6.89	0.911	0.800	0.728	106.8	694	46.8	11:22:12 AM
4\S10\Inv1-CB14-S10 6-18-2018 11-22 AM.csv	616.7	6.25	3,854	773.7	6.75	0.926	0.797	0.738	109.5	675	46.9	11:22:20 AM
4\S11\Inv1-CB14-S11 6-18-2018 11-22 AM.csv	617.1	6.13	3,785	774.3	6.67	0.920	0.797	0.733	111.4	648	46.4	11:22:31 AM
4\S12\Inv1-CB14-S12 6-18-2018 11-22 AM.csv	613.0	6.10	3,739	771.3	6.65	0.917	0.795	0.729	109.8	650	46.7	11:22:43 AM
4\S13\Inv1-CB14-S13 6-18-2018 11-22 AM.csv	607.7	6.23	3,787	765.6	6.82	0.914	0.794	0.725	110.9	651	46.1	11:22:53 AM
4\S14\Inv1-CB14-S14 6-18-2018 11-23 AM.csv	608.0	6.22	3,784	765.1	6.80	0.915	0.795	0.727	108.3	666	45.8	11:23:04 AM
4\S15\Inv1-CB14-S15 6-18-2018 11-23 AM.csv	612.2	6.44	3,941	771.6	7.05	0.913	0.793	0.725	110.4	683	46.3	11:23:15 AM
4\S16\Inv1-CB14-S16 6-18-2018 11-23 AM.csv	611.5	6.29	3,846	769.1	6.88	0.914	0.795	0.727	107.2	689	46.9	11:23:25 AM
4\S17\Inv1-CB14-S17 6-18-2018 11-23 AM.csv	620.3	5.96	3,694	769.9	6.69	0.891	0.806	0.717	110.9	636	46.7	11:23:35 AM
4\S18\Inv1-CB14-S18 6-18-2018 11-23 AM.csv	616.4	5.92	3,647	769.6	6.51	0.909	0.801	0.728	106.5	656	46.9	11:23:45 AM
4\S19\Inv1-CB14-S19 6-18-2018 11-23 AM.csv	624.5	5.55	3,464	772.9	6.08	0.913	0.808	0.738	105.9	623	46.5	11:23:55 AM
4\S20\Inv1-CB14-S20 6-18-2018 11-24 AM.csv	615.7	5.74	3,536	765.1	6.28	0.914	0.805	0.736	111.2	605	46.7	11:24:03 AM
4\S21\Inv1-CB14-S21 6-18-2018 11-24 AM.csv	622.4	5.76	3,584	769.3	6.30	0.914	0.809	0.739	112.3	610	47.5	11:24:15 AM
4\S22\Inv1-CB14-S22 6-18-2018 11-24 AM.csv	621.3	5.71	3,548	771.3	6.19	0.923	0.805	0.743	108.5	624	47.1	11:24:24 AM
4\S23\Inv1-CB14-S23 6-18-2018 11-24 AM.csv	621.4	5.73	3,559	769.7	6.25	0.917	0.807	0.740	106.9	638	47.3	11:24:34 AM
4\S24\Inv1-CB14-S24 6-18-2018 11-25 AM.csv	621.1	5.56	3,453	770.4	6.02	0.923	0.806	0.744	110.4	595	47.4	11:25:11 AM
:B15\S1\Inv1-CB15-S1 6-18-2018 11-10 AM.csv	644.7	7.58	4,885	807.0	8.22	0.922	0.799	0.736	106.3	849	37.4	11:10:32 AM
:B15\S2\Inv1-CB15-S2 6-18-2018 11-10 AM.csv	645.0	7.87	5,075	803.6	8.63	0.912	0.803	0.732	108.0	868	35.9	11:10:47 AM
:B15\S3\Inv1-CB15-S3 6-18-2018 11-10 AM.csv	637.9	7.71	4,918	805.4	8.37	0.921	0.792	0.730	106.7	853	36.7	11:10:58 AM
:B15\S4\Inv1-CB15-S4 6-18-2018 11-11 AM.csv	639.2	7.33	4,687	800.7	8.10	0.905	0.798	0.722	105.1	825	36.7	11:11:06 AM
:B15\S5\Inv1-CB15-S5 6-18-2018 11-11 AM.csv	634.9	7.55	4,791	797.8	8.25	0.915	0.796	0.728	109.4	828	41.3	11:11:53 AM
:B15\S6\Inv1-CB15-S6 6-18-2018 11-12 AM.csv	643.1	7.67	4,935	802.8	8.37	0.917	0.801	0.735	105.5	873	38.0	11:12:01 AM
:B15\S7\Inv1-CB15-S7 6-18-2018 11-12 AM.csv	642.7	7.73	4,968	802.6	8.45	0.915	0.801	0.733	106.4	875	39.0	11:12:10 AM
:B15\S8\Inv1-CB15-S8 6-18-2018 11-12 AM.csv	643.1	7.60	4,889	801.6	8.32	0.914	0.802	0.733	105.6	870	39.7	11:12:20 AM
:B15\S9\Inv1-CB15-S9 6-18-2018 11-12 AM.csv	644.4	7.48	4,818	797.5	8.19	0.913	0.808	0.737	106.6	860	42.0	11:12:28 AM
15\S10\Inv1-CB15-S10 6-18-2018 11-12 AM.csv	635.0	7.47	4,746	788.6	8.15	0.917	0.805	0.738	106.9	845	42.5	11:12:42 AM
15\S11\Inv1-CB15-S11 6-18-2018 11-12 AM.csv	631.6	7.06	4,458	782.3	7.63	0.926	0.807	0.747	105.2	805	42.7	11:12:52 AM
15\S12\Inv1-CB15-S12 6-18-2018 11-13 AM.csv	640.2	7.52	4,815	792.8	8.26	0.911	0.808	0.736	109.0	843	42.8	11:13:00 AM
15\S13\Inv1-CB15-S13 6-18-2018 11-13 AM.csv	632.3	7.60	4,806	786.7	8.35	0.910	0.804	0.731	108.3	847	42.8	11:13:06 AM
15\S14\Inv1-CB15-S14 6-18-2018 11-13 AM.csv	637.2	7.68	4,896	789.1	8.54	0.900	0.808	0.727	107.9	867	42.9	11:13:14 AM
15\S15\Inv1-CB15-S15 6-18-2018 11-13 AM.csv	626.5	7.75	4,854	784.5	8.56	0.905	0.799	0.723	113.1	821	43.7	11:13:30 AM
15\S16\Inv1-CB15-S16 6-18-2018 11-13 AM.csv	640.7	7.08	4,534	791.3	7.71	0.918	0.810	0.743	107.6	805	43.7	11:13:42 AM
15\S17\Inv1-CB15-S17 6-18-2018 11-13 AM.csv	621.2	7.25	4,504	776.8	7.86	0.922	0.800	0.738	108.3	791	43.3	11:13:57 AM
15\S18\Inv1-CB15-S18 6-18-2018 11-14 AM.csv	639.1	6.83	4,363	787.4	7.45	0.917	0.812	0.744	104.6	793	43.0	11:14:11 AM
15\S19\Inv1-CB15-S19 6-18-2018 11-14 AM.csv	632.1	6.65	4,201	780.8	7.38	0.901	0.810	0.729	105.8	754	43.2	11:14:19 AM

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
I5\S20\Inv1-CB15-S20 6-18-2018 11-14 AM.csv	623.2	6.56	4,087	774.1	7.14	0.918	0.805	0.739	107.1	721	43.0	11:14:29 AM
I5\S21\Inv1-CB15-S21 6-18-2018 11-14 AM.csv	623.6	6.23	3,888	770.9	6.90	0.904	0.809	0.731	105.9	692	42.9	11:14:37 AM
I5\S22\Inv1-CB15-S22 6-18-2018 11-14 AM.csv	665.9	6.52	4,343	826.2	7.18	0.909	0.806	0.733	112.3	743	45.9	11:14:45 AM
I5\S23\Inv1-CB15-S23 6-18-2018 11-14 AM.csv	630.9	6.30	3,975	780.1	6.90	0.913	0.809	0.738	104.5	719	43.0	11:14:54 AM
I5\S24\Inv1-CB15-S24 6-18-2018 11-15 AM.csv	628.8	5.75	3,615	775.7	6.36	0.904	0.811	0.733	102.1	665	42.9	11:15:09 AM
:B16\S1\Inv1-CB16-S1 6-18-2018 10-46 AM.csv	628.9	6.01	3,779	772.6	6.69	0.899	0.814	0.731	108.2	662	44.6	10:46:28 AM
:B16\S2\Inv1-CB16-S2 6-18-2018 10-46 AM.csv	621.9	6.32	3,930	774.8	6.86	0.922	0.803	0.740	110.5	672	44.1	10:46:50 AM
:B16\S3\Inv1-CB16-S3 6-18-2018 10-47 AM.csv	622.4	6.29	3,913	774.0	6.87	0.915	0.804	0.736	111.4	664	44.2	10:47:00 AM
:B16\S4\Inv1-CB16-S4 6-18-2018 10-47 AM.csv	618.2	6.38	3,943	775.4	6.93	0.920	0.797	0.733	111.4	668	43.8	10:47:11 AM
:B16\S5\Inv1-CB16-S5 6-18-2018 10-47 AM.csv	612.8	6.51	3,989	774.4	7.08	0.919	0.791	0.727	113.2	664	43.7	10:47:20 AM
:B16\S6\Inv1-CB16-S6 6-18-2018 10-47 AM.csv	616.0	6.49	4,000	772.2	7.08	0.918	0.798	0.732	115.0	655	43.9	10:47:31 AM
:B16\S7\Inv1-CB16-S7 6-18-2018 10-48 AM.csv	628.7	6.10	3,838	776.9	6.75	0.905	0.809	0.732	109.5	663	44.1	10:48:09 AM
:B16\S8\Inv1-CB16-S8 6-18-2018 10-49 AM.csv	624.9	6.38	3,985	777.7	6.96	0.916	0.804	0.736	108.4	698	44.4	10:49:02 AM
:B16\S9\Inv1-CB16-S9 6-18-2018 10-49 AM.csv	618.4	6.73	4,164	777.7	7.39	0.911	0.795	0.725	111.8	708	44.5	10:49:22 AM
I6\S10\Inv1-CB16-S10 6-18-2018 10-49 AM.csv	617.3	6.97	4,304	777.8	7.64	0.912	0.794	0.724	111.2	740	44.9	10:49:56 AM
I6\S11\Inv1-CB16-S11 6-18-2018 10-50 AM.csv	625.0	5.10	3,190	772.3	5.55	0.921	0.809	0.745	102.3	584	44.1	10:50:31 AM
I6\S12\Inv1-CB16-S12 6-18-2018 10-50 AM.csv	627.5	6.21	3,899	779.1	6.83	0.910	0.805	0.733	103.4	715	43.8	10:50:53 AM
I6\S13\Inv1-CB16-S13 6-18-2018 10-51 AM.csv	628.1	6.07	3,814	773.7	6.71	0.905	0.812	0.735	105.4	687	44.4	10:51:04 AM
I6\S14\Inv1-CB16-S14 6-18-2018 10-51 AM.csv	622.7	5.95	3,704	773.6	6.51	0.913	0.805	0.735	104.5	670	44.2	10:51:22 AM
I6\S15\Inv1-CB16-S15 6-18-2018 10-51 AM.csv	623.5	7.07	4,407	775.5	7.69	0.919	0.804	0.739	106.2	794	44.2	10:51:32 AM
I6\S16\Inv1-CB16-S16 6-18-2018 10-51 AM.csv	619.3	7.49	4,641	777.7	8.13	0.922	0.796	0.734	110.1	810	44.9	10:51:52 AM
I6\S17\Inv1-CB16-S17 6-18-2018 10-52 AM.csv	626.9	7.22	4,529	779.7	7.96	0.907	0.804	0.729	111.6	782	45.7	10:52:20 AM
I6\S18\Inv1-CB16-S18 6-18-2018 10-52 AM.csv	616.4	7.29	4,495	772.3	7.92	0.921	0.798	0.735	112.1	772	45.8	10:52:32 AM
I6\S19\Inv1-CB16-S19 6-18-2018 10-52 AM.csv	621.4	7.53	4,679	779.0	8.23	0.915	0.798	0.730	116.3	776	46.1	10:52:48 AM
I6\S20\Inv1-CB16-S20 6-18-2018 10-52 AM.csv	629.4	6.64	4,180	780.1	7.34	0.905	0.807	0.730	103.5	779	45.9	10:52:59 AM
I6\S21\Inv1-CB16-S21 6-18-2018 10-53 AM.csv	617.7	7.00	4,323	773.0	7.63	0.917	0.799	0.733	108.6	764	45.4	10:53:07 AM
I6\S22\Inv1-CB16-S22 6-18-2018 10-53 AM.csv	617.1	6.28	3,876	765.9	6.91	0.909	0.806	0.733	105.2	701	44.7	10:53:19 AM
I6\S23\Inv1-CB16-S23 6-18-2018 10-53 AM.csv	622.1	7.03	4,372	776.1	7.68	0.916	0.802	0.734	107.8	777	44.8	10:53:28 AM
I6\S24\Inv1-CB16-S24 6-18-2018 11-15 AM.csv	629.1	6.04	3,797	777.8	6.67	0.905	0.809	0.732	102.4	699	42.8	11:15:02 AM
:B17\S1\Inv1-CB17-S1 6-18-2018 10-36 AM.csv	636.1	6.22	3,956	782.3	6.97	0.893	0.813	0.726	101.4	738	42.9	10:36:40 AM
:B17\S2\Inv1-CB17-S2 6-18-2018 10-36 AM.csv	634.4	6.44	4,088	786.9	7.11	0.907	0.806	0.731	104.7	739	43.4	10:36:55 AM
:B17\S3\Inv1-CB17-S3 6-18-2018 10-37 AM.csv	631.8	6.49	4,100	783.8	7.08	0.916	0.806	0.739	104.4	745	43.4	10:37:05 AM
:B17\S4\Inv1-CB17-S4 6-18-2018 11-25 AM.csv	621.4	5.72	3,552	771.5	6.20	0.921	0.805	0.742	112.7	601	47.5	11:25:05 AM
:B17\S5\Inv1-CB17-S5 6-18-2018 10-38 AM.csv	621.5	6.70	4,162	777.1	7.35	0.912	0.800	0.729	108.3	725	42.9	10:38:19 AM
:B17\S6\Inv1-CB17-S6 6-18-2018 10-38 AM.csv	613.1	6.80	4,169	774.0	7.40	0.919	0.792	0.728	108.2	728	42.9	10:38:30 AM
:B17\S7\Inv1-CB17-S7 6-18-2018 10-38 AM.csv	614.0	6.61	4,057	768.4	7.26	0.910	0.799	0.727	108.3	706	42.9	10:38:44 AM
:B17\S8\Inv1-CB17-S8 6-18-2018 10-38 AM.csv	605.8	6.73	4,080	754.8	7.39	0.911	0.803	0.731	108.2	711	42.8	10:38:55 AM
:B17\S9\Inv1-CB17-S9 6-18-2018 10-39 AM.csv	615.9	6.77	4,172	771.6	7.42	0.912	0.798	0.728	114.7	684	42.8	10:39:09 AM
I7\S10\Inv1-CB17-S10 6-18-2018 10-39 AM.csv	607.5	6.59	4,004	766.1	7.20	0.915	0.793	0.726	110.5	684	43.4	10:39:40 AM
I7\S11\Inv1-CB17-S11 6-18-2018 10-39 AM.csv	620.1	6.81	4,221	774.9	7.40	0.919	0.800	0.736	115.9	689	43.8	10:39:50 AM
I7\S12\Inv1-CB17-S12 6-18-2018 10-40 AM.csv	639.6	5.94	3,799	785.4	6.55	0.907	0.814	0.739	104.2	689	43.7	10:40:03 AM
I7\S13\Inv1-CB17-S13 6-18-2018 10-40 AM.csv	631.2	5.99	3,782	778.1	6.79	0.882	0.811	0.716	105.0	682	44.1	10:40:26 AM
I7\S14\Inv1-CB17-S14 6-18-2018 11-24 AM.csv	621.6	5.84	3,631	769.7	6.41	0.911	0.808	0.736	109.2	639	47.8	11:24:44 AM

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
I7\S15\Inv1-CB17-S15 6-18-2018 10-41 AM.csv	615.7	5.96	3,667	765.5	6.63	0.899	0.804	0.723	109.4	633	44.6	10:41:03 AM
I7\S16\Inv1-CB17-S16 6-18-2018 10-41 AM.csv	615.6	5.28	3,253	761.6	5.88	0.898	0.808	0.726	107.5	565	44.3	10:41:14 AM
I7\S17\Inv1-CB17-S17 6-18-2018 10-41 AM.csv	616.0	6.25	3,850	769.5	6.84	0.913	0.801	0.731	110.1	664	45.1	10:41:26 AM
I7\S18\Inv1-CB17-S18 6-18-2018 10-41 AM.csv	614.5	6.53	4,015	770.1	7.16	0.913	0.798	0.729	110.9	690	45.3	10:41:35 AM
I7\S19\Inv1-CB17-S19 6-18-2018 10-41 AM.csv	625.7	6.35	3,971	776.7	6.97	0.910	0.806	0.733	110.2	686	45.2	10:41:46 AM
I7\S20\Inv1-CB17-S20 6-18-2018 10-41 AM.csv	623.3	6.22	3,877	771.8	6.87	0.906	0.808	0.732	109.8	671	45.0	10:41:57 AM
I7\S21\Inv1-CB17-S21 6-18-2018 10-42 AM.csv	618.7	6.53	4,037	773.1	7.14	0.914	0.800	0.731	112.6	683	45.2	10:42:15 AM
I7\S22\Inv1-CB17-S22 6-18-2018 10-42 AM.csv	618.7	6.61	4,091	773.3	7.27	0.909	0.800	0.728	111.9	697	45.1	10:42:28 AM
I7\S23\Inv1-CB17-S23 6-18-2018 10-42 AM.csv	618.6	6.96	4,307	775.2	7.61	0.915	0.798	0.730	115.2	713	45.1	10:42:44 AM
I7\S24\Inv1-CB17-S24 6-18-2018 10-43 AM.csv	617.1	7.13	4,397	777.1	7.74	0.920	0.794	0.731	115.7	730	46.0	10:43:01 AM
:B18\S1\Inv1-CB18-S1 6-18-2018 10-11 AM.csv	642.0	5.12	3,285	788.8	5.51	0.929	0.814	0.756	106.2	557	37.5	10:11:14 AM
:B18\S2\Inv1-CB18-S2 6-18-2018 10-12 AM.csv	641.1	4.01	2,570	775.7	4.51	0.889	0.827	0.734	101.0	450	37.2	10:12:01 AM
:B18\S3\Inv1-CB18-S3 6-18-2018 10-12 AM.csv	632.6	4.12	2,604	773.0	4.49	0.916	0.818	0.750	96.0	478	35.4	10:12:10 AM
:B18\S4\Inv1-CB18-S4 6-18-2018 10-12 AM.csv	641.1	4.86	3,118	784.8	5.39	0.902	0.817	0.737	100.7	568	40.8	10:12:34 AM
:B18\S5\Inv1-CB18-S5 6-18-2018 10-12 AM.csv	639.9	4.85	3,104	784.1	5.31	0.914	0.816	0.746	103.1	547	39.3	10:12:50 AM
:B18\S6\Inv1-CB18-S6 6-18-2018 10-13 AM.csv	639.3	4.84	3,095	781.8	5.35	0.906	0.818	0.741	107.5	516	37.5	10:13:01 AM
:B18\S7\Inv1-CB18-S7 6-18-2018 10-13 AM.csv	644.9	5.13	3,307	787.5	5.74	0.894	0.819	0.732	102.7	591	40.1	10:13:30 AM
:B18\S8\Inv1-CB18-S8 6-18-2018 10-30 AM.csv	637.4	6.36	4,055	789.5	6.97	0.913	0.807	0.737	103.7	742	43.6	10:30:37 AM
:B18\S9\Inv1-CB18-S9 6-18-2018 10-30 AM.csv	637.4	5.98	3,811	787.4	6.56	0.911	0.809	0.737	101.3	712	43.4	10:30:26 AM
I8\S10\Inv1-CB18-S10 6-18-2018 10-24 AM.csv	653.2	4.74	3,098	787.9	5.38	0.881	0.829	0.731	101.3	543	34.5	10:24:38 AM
I8\S11\Inv1-CB18-S11 6-18-2018 10-25 AM.csv	646.0	5.32	3,434	790.3	5.83	0.912	0.817	0.746	105.3	596	38.7	10:25:34 AM
I8\S12\Inv1-CB18-S12 6-18-2018 10-25 AM.csv	634.9	5.57	3,536	789.2	6.09	0.914	0.805	0.735	104.3	627	40.7	10:25:49 AM
I8\S13\Inv1-CB18-S13 6-18-2018 10-26 AM.csv	645.6	5.53	3,570	794.1	6.18	0.895	0.813	0.728	102.1	644	39.5	10:26:06 AM
I8\S14\Inv1-CB18-S14 6-18-2018 10-26 AM.csv	639.5	5.46	3,491	783.7	5.89	0.926	0.816	0.756	102.4	630	40.5	10:26:20 AM
I8\S15\Inv1-CB18-S15 6-18-2018 10-26 AM.csv	641.8	4.77	3,061	782.7	5.29	0.901	0.820	0.739	103.7	534	38.8	10:26:33 AM
I8\S16\Inv1-CB18-S16 6-18-2018 10-26 AM.csv	647.0	6.17	3,991	796.5	6.73	0.916	0.812	0.744	107.2	694	40.8	10:26:47 AM
I8\S17\Inv1-CB18-S17 6-18-2018 10-27 AM.csv	644.0	5.64	3,634	788.7	6.23	0.906	0.816	0.740	104.0	651	41.5	10:27:12 AM
I8\S18\Inv1-CB18-S18 6-18-2018 10-28 AM.csv	636.0	5.99	3,809	789.1	6.51	0.919	0.806	0.741	106.8	668	42.4	10:28:03 AM
I8\S19\Inv1-CB18-S19 6-18-2018 10-28 AM.csv	638.1	4.77	3,043	780.6	5.23	0.913	0.817	0.746	100.5	557	41.6	10:28:28 AM
I8\S20\Inv1-CB18-S20 6-18-2018 10-28 AM.csv	636.0	5.72	3,637	787.9	6.21	0.921	0.807	0.743	106.1	638	41.8	10:28:38 AM
I8\S21\Inv1-CB18-S21 6-18-2018 10-28 AM.csv	636.4	5.37	3,417	787.8	5.89	0.912	0.808	0.737	103.2	615	41.7	10:28:53 AM
I8\S22\Inv1-CB18-S22 6-18-2018 10-29 AM.csv	639.4	5.43	3,471	787.1	5.90	0.920	0.812	0.747	101.6	636	41.8	10:29:04 AM
I8\S23\Inv1-CB18-S23 6-18-2018 10-30 AM.csv	637.9	6.19	3,947	788.5	6.84	0.904	0.809	0.731	100.9	743	43.5	10:30:31 AM
I8\S24\Inv1-CB18-S24 6-18-2018 10-30 AM.csv	637.4	6.27	3,998	788.6	6.86	0.914	0.808	0.739	103.5	733	43.5	10:30:43 AM
:B19\S1\Inv1-CB19-S1 6-18-2018 10-02 AM.csv	637.8	5.50	3,505	782.5	6.15	0.894	0.815	0.728	104.6	613	38.8	10:02:49 AM
:B19\S2\Inv1-CB19-S2 6-18-2018 10-03 AM.csv	631.5	5.90	3,724	780.7	6.53	0.902	0.809	0.730	109.0	627	39.0	10:03:20 AM
:B19\S3\Inv1-CB19-S3 6-18-2018 10-03 AM.csv	638.6	5.41	3,453	780.8	6.07	0.891	0.818	0.729	101.3	626	39.0	10:03:40 AM
:B19\S4\Inv1-CB19-S4 6-18-2018 10-03 AM.csv	634.3	5.66	3,590	779.6	6.31	0.897	0.814	0.730	107.6	613	39.4	10:03:58 AM
:B19\S5\Inv1-CB19-S5 6-18-2018 10-04 AM.csv	641.8	5.68	3,647	791.4	6.18	0.920	0.811	0.746	106.4	621	36.8	10:04:16 AM
:B19\S6\Inv1-CB19-S6 6-18-2018 10-04 AM.csv	640.0	5.81	3,720	785.3	6.39	0.910	0.815	0.742	108.9	629	39.6	10:04:28 AM
:B19\S7\Inv1-CB19-S7 6-18-2018 10-04 AM.csv	637.9	5.72	3,649	785.2	6.20	0.922	0.812	0.749	109.3	614	39.8	10:04:54 AM
:B19\S8\Inv1-CB19-S8 6-18-2018 10-05 AM.csv	635.2	5.82	3,695	785.0	6.31	0.921	0.809	0.746	111.4	609	39.7	10:05:04 AM
:B19\S9\Inv1-CB19-S9 6-18-2018 10-05 AM.csv	625.8	5.98	3,740	784.1	6.53	0.915	0.798	0.730	111.5	616	39.6	10:05:15 AM

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
I9\S10\Inv1-CB19-S10 6-18-2018 10-05 AM.csv	620.3	5.84	3,625	775.2	6.34	0.921	0.800	0.737	108.6	611	39.1	10:05:27 AM
I9\S11\Inv1-CB19-S11 6-18-2018 10-05 AM.csv	640.8	5.52	3,540	786.8	6.06	0.912	0.814	0.742	105.5	614	38.9	10:05:39 AM
I9\S12\Inv1-CB19-S12 6-18-2018 10-05 AM.csv	627.9	5.86	3,678	781.3	6.40	0.914	0.804	0.735	105.4	641	39.0	10:05:49 AM
I9\S13\Inv1-CB19-S13 6-18-2018 10-05 AM.csv	641.7	5.76	3,694	788.2	6.33	0.909	0.814	0.740	103.9	655	39.2	10:05:59 AM
I9\S14\Inv1-CB19-S14 6-18-2018 10-06 AM.csv	627.4	6.13	3,843	782.4	6.75	0.907	0.802	0.727	106.2	670	39.7	10:06:15 AM
I9\S15\Inv1-CB19-S15 6-18-2018 10-06 AM.csv	639.9	6.05	3,869	793.1	6.54	0.925	0.807	0.746	106.4	667	38.2	10:06:25 AM
I9\S16\Inv1-CB19-S16 6-18-2018 10-06 AM.csv	637.0	6.00	3,819	790.4	6.57	0.912	0.806	0.735	105.4	671	39.9	10:06:38 AM
I9\S17\Inv1-CB19-S17 6-18-2018 10-06 AM.csv	630.4	6.33	3,988	784.3	6.88	0.919	0.804	0.739	108.3	684	40.1	10:06:48 AM
I9\S18\Inv1-CB19-S18 6-18-2018 10-06 AM.csv	627.4	6.22	3,901	786.0	6.74	0.922	0.798	0.736	107.8	670	40.0	10:06:57 AM
I9\S19\Inv1-CB19-S19 6-18-2018 10-07 AM.csv	621.7	6.53	4,062	785.2	7.02	0.931	0.792	0.737	111.1	679	40.2	10:07:07 AM
I9\S20\Inv1-CB19-S20 6-18-2018 10-07 AM.csv	616.1	6.53	4,020	777.5	7.09	0.921	0.792	0.730	107.3	696	40.1	10:07:21 AM
I9\S21\Inv1-CB19-S21 6-18-2018 10-07 AM.csv	634.2	6.31	4,005	789.3	6.88	0.917	0.804	0.737	105.3	706	39.9	10:07:36 AM
I9\S22\Inv1-CB19-S22 6-18-2018 10-07 AM.csv	622.4	6.73	4,190	783.8	7.36	0.915	0.794	0.727	110.1	707	39.8	10:07:50 AM
I9\S23\Inv1-CB19-S23 6-18-2018 10-07 AM.csv	634.3	6.15	3,901	787.3	6.72	0.916	0.806	0.738	105.6	684	39.9	10:07:59 AM
I9\S24\Inv1-CB19-S24 6-18-2018 10-08 AM.csv	623.3	6.21	3,872	779.4	6.87	0.904	0.800	0.723	109.8	653	40.1	10:08:09 AM
:B20\S1\Inv1-CB20-S1 6-14-2018 11-23 AM.csv	650.3	7.97	5,182	811.4	8.63	0.924	0.801	0.740	107.2	909	39.3	11:23:30 AM
:B20\S2\Inv1-CB20-S2 6-14-2018 11-23 AM.csv	652.7	8.11	5,296	817.0	8.75	0.928	0.799	0.741	111.0	909	41.8	11:23:02 AM
:B20\S3\Inv1-CB20-S3 6-14-2018 11-39 AM.csv	647.1	8.47	5,480	810.8	9.17	0.923	0.798	0.737	106.9	965	39.0	11:39:16 AM
:B20\S4\Inv1-CB20-S4 6-14-2018 11-40 AM.csv	646.2	8.30	5,362	810.2	9.03	0.919	0.798	0.733	106.3	950	38.7	11:40:58 AM
:B20\S5\Inv1-CB20-S5 6-14-2018 11-41 AM.csv	645.3	8.23	5,313	809.0	8.94	0.921	0.798	0.735	105.5	945	38.2	11:41:12 AM
:B20\S6\Inv1-CB20-S6 6-14-2018 11-41 AM.csv	642.3	8.38	5,382	811.8	9.11	0.919	0.791	0.728	107.5	944	39.5	11:41:26 AM
:B20\S7\Inv1-CB20-S7 6-14-2018 11-41 AM.csv	646.6	8.32	5,382	809.9	9.12	0.912	0.798	0.728	107.2	944	38.6	11:41:42 AM
:B20\S8\Inv1-CB20-S8 6-14-2018 11-42 AM.csv	650.0	8.21	5,337	810.5	8.89	0.923	0.802	0.740	105.9	948	38.9	11:42:18 AM
:B20\S9\Inv1-CB20-S9 6-14-2018 11-42 AM.csv	654.0	8.23	5,384	813.9	8.93	0.922	0.804	0.741	107.6	949	40.4	11:42:38 AM
:0\S10\Inv1-CB20-S10 6-14-2018 11-42 AM.csv	651.5	8.28	5,397	812.8	9.08	0.912	0.802	0.731	107.5	949	39.9	11:42:53 AM
:0\S11\Inv1-CB20-S11 6-14-2018 11-43 AM.csv	644.4	8.27	5,330	807.9	9.14	0.905	0.798	0.722	105.7	949	38.5	11:43:11 AM
:0\S12\Inv1-CB20-S12 6-14-2018 11-43 AM.csv	637.8	8.49	5,414	808.9	9.14	0.929	0.789	0.732	107.0	949	38.2	11:43:26 AM
:0\S13\Inv1-CB20-S13 6-14-2018 11-44 AM.csv	642.1	8.66	5,559	811.7	9.33	0.928	0.791	0.734	108.1	972	39.4	11:44:11 AM
:0\S14\Inv1-CB20-S14 6-14-2018 11-44 AM.csv	641.4	8.69	5,576	806.1	9.46	0.919	0.796	0.731	110.3	966	41.8	11:44:33 AM
:0\S15\Inv1-CB20-S15 6-14-2018 11-44 AM.csv	636.8	8.68	5,528	800.8	9.44	0.920	0.795	0.731	110.1	965	42.9	11:44:50 AM
:0\S16\Inv1-CB20-S16 6-14-2018 11-45 AM.csv	637.9	8.54	5,447	803.8	9.52	0.897	0.794	0.712	106.7	971	40.7	11:45:09 AM
:0\S17\Inv1-CB20-S17 6-14-2018 11-45 AM.csv	628.8	8.79	5,526	796.8	9.59	0.917	0.789	0.723	107.7	987	42.7	11:45:31 AM
:0\S18\Inv1-CB20-S18 6-14-2018 11-45 AM.csv	645.6	9.04	5,836	808.9	10.10	0.895	0.798	0.714	103.1	1,069	38.9	11:45:57 AM
:0\S19\Inv1-CB20-S19 6-14-2018 11-47 AM.csv	644.0	8.97	5,776	810.0	9.85	0.911	0.795	0.724	105.2	1,034	38.6	11:47:41 AM
:0\S20\Inv1-CB20-S20 6-14-2018 11-48 AM.csv	634.4	9.13	5,793	806.3	9.87	0.925	0.787	0.728	108.2	1,031	42.9	11:48:00 AM
:0\S21\Inv1-CB20-S21 6-14-2018 11-48 AM.csv	629.8	9.24	5,820	799.1	10.06	0.919	0.788	0.724	108.8	1,039	44.5	11:48:13 AM
:0\S22\Inv1-CB20-S22 6-14-2018 11-48 AM.csv	639.4	9.07	5,800	808.3	9.94	0.913	0.791	0.722	106.1	1,059	44.0	11:48:23 AM
:0\S23\Inv1-CB20-S23 6-14-2018 11-48 AM.csv	633.0	9.55	6,044	806.8	10.34	0.924	0.785	0.725	111.5	1,056	45.3	11:48:36 AM
:0\S24\Inv1-CB20-S24 6-14-2018 11-49 AM.csv	637.3	9.49	6,049	805.1	10.41	0.912	0.792	0.722	110.5	1,056	43.0	11:49:20 AM
:B21\S1\Inv1-CB21-S1 6-14-2018 11-04 AM.csv	651.9	7.77	5,063	806.2	8.43	0.921	0.809	0.745	107.7	873	37.0	11:04:56 AM
:B21\S2\Inv1-CB21-S2 6-14-2018 11-05 AM.csv	652.6	7.68	5,011	806.6	8.41	0.913	0.809	0.739	106.3	877	37.2	11:05:21 AM
:B21\S3\Inv1-CB21-S3 6-14-2018 11-05 AM.csv	640.7	7.61	4,873	794.3	8.36	0.910	0.807	0.734	103.7	876	37.8	11:05:44 AM
:B21\S4\Inv1-CB21-S4 6-14-2018 11-06 AM.csv	648.7	7.67	4,977	803.9	8.43	0.910	0.807	0.734	104.5	881	36.0	11:06:10 AM

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
:B21\S5\Inv1-CB21-S5 6-14-2018 11-06 AM.csv	650.9	7.65	4,981	804.5	8.44	0.907	0.809	0.734	104.4	884	36.3	11:06:24 AM
:B21\S6\Inv1-CB21-S6 6-14-2018 11-17 AM.csv	653.9	7.84	5,126	811.5	8.49	0.924	0.806	0.744	107.4	899	39.4	11:17:56 AM
:B21\S7\Inv1-CB21-S7 6-14-2018 11-06 AM.csv	655.8	7.81	5,122	812.7	8.44	0.926	0.807	0.747	108.9	886	39.9	11:06:59 AM
:B21\S8\Inv1-CB21-S8 6-14-2018 11-07 AM.csv	647.4	7.58	4,909	804.5	8.37	0.906	0.805	0.729	102.7	886	36.3	11:07:23 AM
:B21\S9\Inv1-CB21-S9 6-14-2018 11-07 AM.csv	650.9	7.58	4,936	808.6	8.21	0.923	0.805	0.743	104.4	884	38.1	11:07:35 AM
?1\S10\Inv1-CB21-S10 6-14-2018 11-08 AM.csv	658.0	7.46	4,910	809.4	8.21	0.909	0.813	0.739	104.2	883	38.5	11:08:34 AM
?1\S11\Inv1-CB21-S11 6-14-2018 11-08 AM.csv	647.7	7.56	4,898	806.9	8.27	0.915	0.803	0.734	103.4	881	37.4	11:08:48 AM
?1\S12\Inv1-CB21-S12 6-14-2018 11-17 AM.csv	653.8	7.84	5,129	811.6	8.49	0.924	0.806	0.744	107.6	897	39.4	11:17:51 AM
?1\S13\Inv1-CB21-S13 6-14-2018 11-17 AM.csv	653.8	7.86	5,137	811.5	8.51	0.923	0.806	0.744	107.3	896	39.4	11:17:44 AM
?1\S14\Inv1-CB21-S14 6-14-2018 11-09 AM.csv	649.8	7.76	5,042	807.1	8.40	0.924	0.805	0.743	105.8	887	37.4	11:09:53 AM
?1\S15\Inv1-CB21-S15 6-14-2018 11-12 AM.csv	654.8	7.92	5,188	811.4	8.77	0.903	0.807	0.729	109.5	892	39.3	11:12:03 AM
?1\S16\Inv1-CB21-S16 6-14-2018 11-12 AM.csv	652.5	8.22	5,362	812.7	8.88	0.925	0.803	0.743	112.7	892	39.9	11:12:39 AM
?1\S17\Inv1-CB21-S17 6-14-2018 11-14 AM.csv	650.3	8.22	5,343	812.8	8.90	0.923	0.800	0.739	112.5	896	40.0	11:14:23 AM
?1\S18\Inv1-CB21-S18 6-14-2018 11-14 AM.csv	641.9	8.26	5,301	811.3	8.99	0.919	0.791	0.727	111.1	897	39.3	11:14:52 AM
?1\S19\Inv1-CB21-S19 6-14-2018 11-15 AM.csv	648.2	7.72	5,005	808.2	8.59	0.899	0.802	0.721	103.9	900	37.9	11:15:10 AM
?1\S20\Inv1-CB21-S20 6-14-2018 11-15 AM.csv	653.0	7.85	5,129	810.1	8.62	0.911	0.806	0.734	107.3	898	38.8	11:15:29 AM
?1\S21\Inv1-CB21-S21 6-14-2018 11-15 AM.csv	647.8	8.15	5,282	811.8	8.86	0.921	0.798	0.735	110.9	896	39.5	11:15:48 AM
?1\S22\Inv1-CB21-S22 6-14-2018 11-16 AM.csv	652.8	7.59	4,954	808.0	8.48	0.895	0.808	0.723	103.3	896	37.8	11:16:00 AM
?1\S23\Inv1-CB21-S23 6-14-2018 11-16 AM.csv	651.0	7.82	5,088	809.3	8.60	0.909	0.804	0.731	106.3	897	38.4	11:16:15 AM
?1\S24\Inv1-CB21-S24 6-14-2018 11-18 AM.csv	653.9	7.85	5,136	811.6	8.50	0.924	0.806	0.744	107.5	899	39.4	11:18:01 AM
:B22\S1\Inv1-CB22-S1 6-14-2018 10-38 AM.csv	657.2	7.31	4,807	806.0	8.09	0.905	0.815	0.738	102.4	834	28.9	10:38:24 AM
:B22\S2\Inv1-CB22-S2 6-14-2018 10-51 AM.csv	648.2	7.38	4,787	806.0	7.96	0.928	0.804	0.746	96.7	861	23.8	10:51:47 AM
:B22\S3\Inv1-CB22-S3 6-14-2018 10-39 AM.csv	652.3	7.28	4,746	802.0	7.93	0.917	0.813	0.746	98.0	841	23.2	10:39:24 AM
:B22\S4\Inv1-CB22-S4 6-14-2018 10-51 AM.csv	648.0	7.38	4,784	806.0	7.95	0.928	0.804	0.746	96.6	862	23.7	10:51:42 AM
:B22\S5\Inv1-CB22-S5 6-14-2018 10-42 AM.csv	643.5	7.13	4,585	798.0	7.84	0.909	0.806	0.733	94.9	841	23.6	10:42:46 AM
:B22\S6\Inv1-CB22-S6 6-14-2018 10-44 AM.csv	649.3	7.25	4,710	797.3	8.00	0.907	0.814	0.738	96.9	845	23.4	10:44:43 AM
:B22\S7\Inv1-CB22-S7 6-14-2018 10-51 AM.csv	648.5	7.38	4,789	805.9	7.96	0.927	0.805	0.746	96.5	862	23.3	10:51:36 AM
:B22\S8\Inv1-CB22-S8 6-14-2018 10-45 AM.csv	648.6	7.26	4,707	805.7	7.82	0.929	0.805	0.748	96.4	847	23.1	10:45:34 AM
:B22\S9\Inv1-CB22-S9 6-14-2018 10-46 AM.csv	646.4	7.34	4,746	805.2	7.93	0.926	0.803	0.743	97.8	851	25.7	10:46:32 AM
?2\S10\Inv1-CB22-S10 6-14-2018 10-46 AM.csv	649.0	7.46	4,842	806.8	8.06	0.926	0.804	0.745	99.0	850	23.7	10:46:45 AM
?2\S11\Inv1-CB22-S11 6-14-2018 10-47 AM.csv	648.7	7.51	4,872	807.4	8.08	0.930	0.803	0.747	99.3	850	22.9	10:47:04 AM
?2\S12\Inv1-CB22-S12 6-14-2018 10-47 AM.csv	645.2	7.51	4,848	802.4	8.20	0.917	0.804	0.737	99.2	850	23.7	10:47:14 AM
?2\S13\Inv1-CB22-S13 6-14-2018 10-47 AM.csv	643.5	7.48	4,811	799.9	8.12	0.920	0.805	0.741	99.4	848	25.1	10:47:32 AM
?2\S14\Inv1-CB22-S14 6-14-2018 10-48 AM.csv	643.6	7.50	4,828	796.9	8.21	0.914	0.808	0.738	98.7	849	22.9	10:48:12 AM
?2\S15\Inv1-CB22-S15 6-14-2018 10-48 AM.csv	640.9	7.71	4,944	797.7	8.43	0.916	0.803	0.736	101.3	849	23.6	10:48:24 AM
?2\S16\Inv1-CB22-S16 6-14-2018 10-48 AM.csv	631.7	7.79	4,920	798.2	8.52	0.914	0.791	0.723	101.3	850	24.8	10:48:52 AM
?2\S17\Inv1-CB22-S17 6-14-2018 10-49 AM.csv	641.9	7.37	4,731	799.4	8.03	0.918	0.803	0.737	96.5	852	23.8	10:49:21 AM
?2\S18\Inv1-CB22-S18 6-14-2018 10-49 AM.csv	648.5	7.29	4,730	802.9	7.97	0.915	0.808	0.739	96.7	855	24.4	10:49:34 AM
?2\S19\Inv1-CB22-S19 6-14-2018 10-49 AM.csv	643.8	7.52	4,839	800.8	8.18	0.919	0.804	0.739	98.9	856	24.8	10:49:45 AM
?2\S20\Inv1-CB22-S20 6-14-2018 10-49 AM.csv	635.5	7.73	4,913	796.9	8.54	0.905	0.797	0.722	100.3	856	24.6	10:49:58 AM
?2\S21\Inv1-CB22-S21 6-14-2018 10-50 AM.csv	641.5	7.39	4,738	798.2	8.09	0.912	0.804	0.733	96.2	860	24.4	10:50:18 AM
?2\S22\Inv1-CB22-S22 6-14-2018 10-50 AM.csv	644.9	7.39	4,769	802.7	8.00	0.925	0.803	0.743	96.6	861	24.2	10:50:37 AM
?2\S23\Inv1-CB22-S23 6-14-2018 10-50 AM.csv	642.1	7.52	4,828	799.7	8.18	0.920	0.803	0.739	97.4	862	23.4	10:50:51 AM



## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
2\2\S24\Inv1-CB22-S24 6-14-2018 10-51 AM.csv	648.0	7.38	4,781	805.7	7.95	0.928	0.804	0.746	96.6	861	23.5	10:51:30 AM
:B23\S1\Inv1-CB23-S1 6-14-2018 10-22 AM.csv	641.6	7.18	4,604	800.7	7.80	0.920	0.801	0.737	106.4	813	40.4	10:22:59 AM
:B23\S2\Inv1-CB23-S2 6-14-2018 10-23 AM.csv	641.0	7.12	4,565	797.7	7.69	0.926	0.804	0.744	106.8	806	41.1	10:23:38 AM
:B23\S3\Inv1-CB23-S3 6-14-2018 10-23 AM.csv	643.9	6.98	4,496	797.8	7.70	0.907	0.807	0.732	105.4	803	40.8	10:23:52 AM
:B23\S4\Inv1-CB23-S4 6-14-2018 10-24 AM.csv	646.5	7.01	4,529	800.6	7.65	0.916	0.807	0.740	104.7	802	37.8	10:24:11 AM
:B23\S5\Inv1-CB23-S5 6-14-2018 10-24 AM.csv	648.9	6.87	4,459	799.6	7.55	0.910	0.812	0.738	104.0	801	39.3	10:24:33 AM
:B23\S6\Inv1-CB23-S6 6-14-2018 10-24 AM.csv	641.9	6.87	4,409	798.2	7.44	0.923	0.804	0.742	103.9	801	41.6	10:24:58 AM
:B23\S7\Inv1-CB23-S7 6-14-2018 10-25 AM.csv	637.6	7.07	4,505	796.1	7.65	0.924	0.801	0.740	106.2	803	42.1	10:25:30 AM
:B23\S8\Inv1-CB23-S8 6-14-2018 10-26 AM.csv	637.1	7.02	4,471	795.8	7.61	0.922	0.801	0.738	105.4	802	41.9	10:26:05 AM
:B23\S9\Inv1-CB23-S9 6-14-2018 10-26 AM.csv	644.1	6.84	4,405	796.8	7.46	0.916	0.808	0.741	103.7	800	40.9	10:26:28 AM
23\S10\Inv1-CB23-S10 6-14-2018 10-27 AM.csv	647.4	7.07	4,574	799.8	7.68	0.920	0.809	0.745	108.2	803	42.7	10:27:04 AM
23\S11\Inv1-CB23-S11 6-14-2018 10-27 AM.csv	644.3	7.11	4,583	795.4	7.71	0.923	0.810	0.747	108.0	803	42.0	10:27:29 AM
23\S12\Inv1-CB23-S12 6-14-2018 10-28 AM.csv	644.0	7.13	4,589	793.9	7.71	0.925	0.811	0.750	104.8	813	37.7	10:28:27 AM
23\S13\Inv1-CB23-S13 6-14-2018 10-28 AM.csv	649.9	7.11	4,620	802.6	7.67	0.928	0.810	0.751	104.1	815	35.6	10:28:55 AM
23\S14\Inv1-CB23-S14 6-14-2018 10-29 AM.csv	654.0	7.15	4,679	807.4	7.71	0.928	0.810	0.752	106.2	816	37.6	10:29:11 AM
23\S15\Inv1-CB23-S15 6-14-2018 10-29 AM.csv	656.7	7.02	4,608	807.8	7.70	0.911	0.813	0.741	104.6	818	37.8	10:29:30 AM
23\S16\Inv1-CB23-S16 6-14-2018 10-29 AM.csv	655.6	6.96	4,563	808.4	7.48	0.930	0.811	0.754	103.2	821	38.1	10:29:59 AM
23\S17\Inv1-CB23-S17 6-14-2018 10-30 AM.csv	655.7	7.07	4,638	809.1	7.69	0.920	0.810	0.745	105.1	821	38.4	10:30:21 AM
23\S18\Inv1-CB23-S18 6-14-2018 10-30 AM.csv	654.6	7.20	4,711	809.7	7.75	0.929	0.808	0.751	106.2	827	38.6	10:30:55 AM
23\S19\Inv1-CB23-S19 6-14-2018 10-31 AM.csv	645.8	7.08	4,575	800.9	7.71	0.919	0.806	0.741	101.7	823	34.8	10:31:22 AM
23\S20\Inv1-CB23-S20 6-14-2018 10-31 AM.csv	644.8	7.00	4,517	799.2	7.66	0.914	0.807	0.738	100.3	822	34.1	10:31:35 AM
23\S21\Inv1-CB23-S21 6-14-2018 10-31 AM.csv	648.0	7.18	4,653	799.4	7.78	0.923	0.811	0.749	103.5	820	34.1	10:31:59 AM
23\S22\Inv1-CB23-S22 6-14-2018 10-32 AM.csv	646.3	7.15	4,619	797.7	7.74	0.923	0.810	0.748	104.4	818	36.9	10:32:42 AM
23\S23\Inv1-CB23-S23 6-14-2018 10-33 AM.csv	649.4	7.05	4,575	801.4	7.67	0.918	0.810	0.744	102.4	818	35.0	10:33:19 AM
23\S24\Inv1-CB23-S24 6-14-2018 10-34 AM.csv	649.1	7.05	4,576	801.2	7.68	0.919	0.810	0.744	102.5	817	34.9	10:34:18 AM
:B24\S1\Inv1-CB24-S1 6-14-2018 10-04 AM.csv	657.7	6.75	4,442	810.9	7.26	0.930	0.811	0.754	106.2	779	39.2	10:04:11 AM
:B24\S2\Inv1-CB24-S2 6-14-2018 10-04 AM.csv	655.0	6.88	4,506	808.5	7.48	0.920	0.810	0.745	107.1	780	38.2	10:04:38 AM
:B24\S3\Inv1-CB24-S3 6-14-2018 10-04 AM.csv	649.9	6.96	4,527	801.2	7.55	0.922	0.811	0.748	108.6	788	41.7	10:04:52 AM
:B24\S4\Inv1-CB24-S4 6-14-2018 10-05 AM.csv	650.0	6.89	4,480	800.2	7.52	0.916	0.812	0.744	106.8	793	41.5	10:05:07 AM
:B24\S5\Inv1-CB24-S5 6-14-2018 10-05 AM.csv	654.5	6.98	4,570	807.2	7.64	0.914	0.811	0.741	108.4	780	37.6	10:05:26 AM
:B24\S6\Inv1-CB24-S6 6-14-2018 10-05 AM.csv	648.7	7.27	4,713	806.5	7.86	0.924	0.804	0.743	111.8	778	37.3	10:05:42 AM
:B24\S7\Inv1-CB24-S7 6-14-2018 10-06 AM.csv	656.6	6.63	4,356	807.2	7.27	0.912	0.813	0.742	102.8	784	37.6	10:06:09 AM
:B24\S8\Inv1-CB24-S8 6-14-2018 10-06 AM.csv	651.3	6.90	4,495	804.0	7.55	0.915	0.810	0.741	105.6	792	38.7	10:06:29 AM
:B24\S9\Inv1-CB24-S9 6-14-2018 10-18 AM.csv	645.6	7.07	4,565	801.0	7.78	0.909	0.806	0.733	109.6	786	41.4	10:18:04 AM
24\S10\Inv1-CB24-S10 6-14-2018 10-09 AM.csv	656.7	6.98	4,582	808.1	7.65	0.912	0.813	0.741	103.0	827	37.9	10:09:05 AM
24\S11\Inv1-CB24-S11 6-14-2018 10-09 AM.csv	647.0	7.10	4,592	801.9	7.75	0.916	0.807	0.739	107.5	813	43.0	10:09:15 AM
24\S12\Inv1-CB24-S12 6-14-2018 10-18 AM.csv	645.2	7.13	4,598	801.0	7.84	0.909	0.806	0.732	110.0	794	42.4	10:18:38 AM
24\S13\Inv1-CB24-S13 6-14-2018 10-10 AM.csv	654.0	6.92	4,529	807.9	7.47	0.928	0.810	0.751	107.6	789	40.3	10:10:47 AM
24\S14\Inv1-CB24-S14 6-14-2018 10-11 AM.csv	650.5	6.91	4,496	807.1	7.46	0.926	0.806	0.747	104.4	802	38.9	10:11:25 AM
24\S15\Inv1-CB24-S15 6-14-2018 10-15 AM.csv	651.2	7.13	4,646	807.7	7.76	0.919	0.806	0.741	107.7	800	37.8	10:15:11 AM
24\S16\Inv1-CB24-S16 6-14-2018 10-15 AM.csv	644.0	7.16	4,611	801.7	7.76	0.922	0.803	0.741	108.6	796	40.0	10:15:26 AM
24\S17\Inv1-CB24-S17 6-14-2018 10-15 AM.csv	646.6	7.27	4,699	805.8	7.89	0.921	0.802	0.739	110.1	788	37.4	10:15:58 AM
24\S18\Inv1-CB24-S18 6-14-2018 10-16 AM.csv	641.8	7.25	4,650	802.4	7.82	0.927	0.800	0.741	111.5	780	40.2	10:16:51 AM

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
24\S19\Inv1-CB24-S19 6-14-2018 10-17 AM.csv	652.3	6.84	4,463	807.0	7.51	0.911	0.808	0.737	105.6	781	37.5	10:17:10 AM
24\S20\Inv1-CB24-S20 6-14-2018 10-17 AM.csv	646.2	7.11	4,592	802.5	7.78	0.913	0.805	0.735	110.4	780	40.5	10:17:23 AM
24\S21\Inv1-CB24-S21 6-14-2018 10-17 AM.csv	650.8	6.79	4,422	806.4	7.57	0.898	0.807	0.725	104.3	784	37.5	10:17:39 AM
24\S22\Inv1-CB24-S22 6-14-2018 10-18 AM.csv	645.7	7.11	4,590	801.4	7.82	0.909	0.806	0.732	109.8	793	42.5	10:18:19 AM
:B25\S1\Inv1-CB25-S1 6-14-2018 09-54 AM.csv	646.4	6.34	4,100	801.4	6.88	0.922	0.807	0.743	101.0	739	35.2	9:54:20 AM
:B25\S2\Inv1-CB25-S2 6-14-2018 09-54 AM.csv	657.1	6.27	4,119	806.3	6.73	0.931	0.815	0.759	103.3	733	37.3	9:54:49 AM
:B25\S3\Inv1-CB25-S3 6-14-2018 09-55 AM.csv	657.9	6.25	4,112	807.7	6.84	0.914	0.814	0.745	103.1	735	37.9	9:55:06 AM
:B25\S4\Inv1-CB25-S4 6-14-2018 09-55 AM.csv	654.0	6.42	4,198	807.3	7.06	0.909	0.810	0.736	105.5	734	37.7	9:55:21 AM
:B25\S5\Inv1-CB25-S5 6-14-2018 09-55 AM.csv	653.2	6.57	4,289	805.1	7.11	0.924	0.811	0.750	106.9	736	36.8	9:55:31 AM
:B25\S6\Inv1-CB25-S6 6-14-2018 09-55 AM.csv	658.4	6.51	4,283	807.4	7.00	0.929	0.815	0.758	107.6	734	37.8	9:55:39 AM
:B25\S7\Inv1-CB25-S7 6-14-2018 09-55 AM.csv	659.6	6.47	4,269	807.2	7.05	0.918	0.817	0.750	107.2	734	37.7	9:55:50 AM
:B25\S8\Inv1-CB25-S8 6-14-2018 10-00 AM.csv	653.5	6.38	4,172	804.6	6.86	0.930	0.812	0.755	102.0	752	37.2	10:00:38 AM
:B25\S9\Inv1-CB25-S9 6-14-2018 09-56 AM.csv	662.1	6.20	4,102	807.1	6.79	0.912	0.820	0.748	103.1	733	37.7	9:56:13 AM
25\S10\Inv1-CB25-S10 6-14-2018 09-56 AM.csv	656.6	6.16	4,043	804.5	6.73	0.915	0.816	0.746	100.8	735	36.6	9:56:27 AM
25\S11\Inv1-CB25-S11 6-14-2018 09-56 AM.csv	655.5	6.11	4,006	805.1	6.57	0.930	0.814	0.757	99.7	737	36.8	9:56:41 AM
25\S12\Inv1-CB25-S12 6-14-2018 10-00 AM.csv	653.3	6.40	4,179	805.0	6.88	0.930	0.812	0.755	101.9	753	36.8	10:00:32 AM
25\S13\Inv1-CB25-S13 6-14-2018 09-57 AM.csv	651.6	6.30	4,103	802.8	6.81	0.924	0.812	0.750	100.7	744	35.8	9:57:14 AM
25\S14\Inv1-CB25-S14 6-14-2018 09-57 AM.csv	657.3	6.46	4,245	805.5	7.08	0.913	0.816	0.745	104.9	745	36.9	9:57:25 AM
25\S15\Inv1-CB25-S15 6-14-2018 10-00 AM.csv	654.2	6.39	4,180	805.3	6.88	0.929	0.812	0.755	102.0	753	36.9	10:00:27 AM
25\S16\Inv1-CB25-S16 6-14-2018 10-00 AM.csv	654.4	6.40	4,187	805.6	6.89	0.929	0.812	0.754	102.0	754	37.0	10:00:21 AM
25\S17\Inv1-CB25-S17 6-14-2018 09-58 AM.csv	652.1	6.31	4,113	802.2	6.84	0.922	0.813	0.749	99.9	751	35.5	9:58:22 AM
25\S18\Inv1-CB25-S18 6-14-2018 09-58 AM.csv	652.1	6.55	4,271	805.0	7.07	0.927	0.810	0.751	104.5	750	36.7	9:58:32 AM
25\S19\Inv1-CB25-S19 6-14-2018 09-58 AM.csv	661.0	6.33	4,187	805.2	6.97	0.908	0.821	0.746	102.5	751	36.8	9:58:46 AM
25\S20\Inv1-CB25-S20 6-14-2018 09-59 AM.csv	657.6	6.64	4,369	805.7	7.15	0.929	0.816	0.758	106.0	759	37.0	9:59:51 AM
25\S21\Inv1-CB25-S21 6-14-2018 09-59 AM.csv	654.4	6.40	4,188	805.8	6.88	0.930	0.812	0.755	102.2	753	37.1	9:59:14 AM
25\S22\Inv1-CB25-S22 6-14-2018 09-59 AM.csv	651.3	6.36	4,139	801.8	6.95	0.915	0.812	0.743	100.1	755	35.3	9:59:25 AM
25\S23\Inv1-CB25-S23 6-14-2018 09-59 AM.csv	648.4	6.58	4,265	807.0	7.13	0.922	0.803	0.741	103.9	757	37.6	9:59:40 AM
25\S24\Inv1-CB25-S24 6-14-2018 10-00 AM.csv	652.4	6.37	4,158	804.0	6.85	0.930	0.811	0.755	102.1	751	37.8	10:00:48 AM
:B26\S1\Inv1-CB26-S1 6-14-2018 09-43 AM.csv	658.9	6.09	4,011	803.6	6.56	0.928	0.820	0.761	105.6	693	36.3	9:43:17 AM
:B26\S2\Inv1-CB26-S2 6-14-2018 09-43 AM.csv	665.1	6.08	4,042	806.3	6.79	0.895	0.825	0.738	106.5	696	37.4	9:43:40 AM
:B26\S3\Inv1-CB26-S3 6-14-2018 09-43 AM.csv	664.4	6.27	4,165	797.5	6.83	0.918	0.833	0.765	107.4	699	33.8	9:43:52 AM
:B26\S4\Inv1-CB26-S4 6-14-2018 09-44 AM.csv	662.2	6.17	4,087	811.1	6.70	0.921	0.816	0.752	108.1	700	39.3	9:44:04 AM
:B26\S5\Inv1-CB26-S5 6-14-2018 09-44 AM.csv	662.7	5.92	3,920	807.3	6.60	0.896	0.821	0.736	102.8	701	37.8	9:44:23 AM
:B26\S6\Inv1-CB26-S6 6-14-2018 09-44 AM.csv	664.6	5.82	3,867	810.0	6.38	0.912	0.821	0.749	102.4	698	38.9	9:44:42 AM
:B26\S7\Inv1-CB26-S7 6-14-2018 09-44 AM.csv	665.9	5.91	3,936	814.3	6.41	0.922	0.818	0.754	104.9	698	40.6	9:44:53 AM
:B26\S8\Inv1-CB26-S8 6-14-2018 09-45 AM.csv	662.1	6.02	3,987	811.9	6.52	0.923	0.816	0.753	105.6	700	39.7	9:45:06 AM
:B26\S9\Inv1-CB26-S9 6-14-2018 09-45 AM.csv	664.8	6.04	4,014	813.2	6.51	0.927	0.818	0.758	107.0	697	40.2	9:45:21 AM
26\S10\Inv1-CB26-S10 6-14-2018 09-45 AM.csv	667.4	6.05	4,038	815.6	6.53	0.927	0.818	0.758	108.6	694	41.1	9:45:36 AM
26\S11\Inv1-CB26-S11 6-14-2018 09-45 AM.csv	668.4	6.22	4,154	815.3	6.86	0.906	0.820	0.743	111.9	693	41.0	9:45:53 AM
26\S12\Inv1-CB26-S12 6-14-2018 09-46 AM.csv	650.6	6.45	4,197	809.1	6.93	0.931	0.804	0.749	111.6	693	38.6	9:46:04 AM
26\S13\Inv1-CB26-S13 6-14-2018 09-46 AM.csv	654.8	6.43	4,210	803.3	7.08	0.908	0.815	0.740	110.9	692	36.2	9:46:15 AM
26\S14\Inv1-CB26-S14 6-14-2018 09-46 AM.csv	653.4	6.57	4,291	808.8	7.11	0.924	0.808	0.747	114.2	692	38.5	9:46:27 AM
26\S15\Inv1-CB26-S15 6-14-2018 09-50 AM.csv	664.0	6.12	4,064	812.7	6.61	0.926	0.817	0.757	107.2	705	40.1	9:50:17 AM

## String Data

<b>File Folder</b>	<b>V<sub>mp</sub></b> <b>Volts</b>	<b>I<sub>mp</sub></b> <b>Amps</b>	<b>P<sub>max</sub></b> <b>Watts</b>	<b>V<sub>oc</sub></b> <b>Volts</b>	<b>I<sub>sc</sub></b> <b>Amps</b>	<b>I<sub>mp</sub> / I<sub>sc</sub></b>	<b>V<sub>mp</sub> / V<sub>oc</sub></b>	<b>FF</b>	<b>PF</b> <b>%</b>	<b>Irradiance</b> <b>(W/m<sup>2</sup>)</b>	<b>Temp.</b> <b>deg C</b>	<b>Time</b>
z6\S16\Inv1-CB26-S16 6-14-2018 09-50 AM.csv	664.2	6.12	4,065	812.8	6.60	0.927	0.817	0.758	107.3	704	40.1	9:50:23 AM
z6\S17\Inv1-CB26-S17 6-14-2018 09-47 AM.csv	666.9	5.81	3,877	809.9	6.40	0.908	0.823	0.748	103.6	692	38.9	9:47:36 AM
z6\S18\Inv1-CB26-S18 6-14-2018 09-49 AM.csv	664.3	6.08	4,040	812.8	6.56	0.927	0.817	0.757	107.4	699	40.1	9:49:50 AM
z6\S19\Inv1-CB26-S19 6-14-2018 09-49 AM.csv	664.1	6.08	4,041	812.6	6.56	0.927	0.817	0.758	107.1	701	40.0	9:49:58 AM
z6\S20\Inv1-CB26-S20 6-14-2018 09-48 AM.csv	663.9	5.95	3,949	803.7	6.63	0.897	0.826	0.741	104.0	694	36.4	9:48:22 AM
z6\S21\Inv1-CB26-S21 6-14-2018 09-48 AM.csv	669.9	5.82	3,899	806.8	6.69	0.870	0.830	0.722	103.0	695	37.7	9:48:33 AM
z6\S22\Inv1-CB26-S22 6-14-2018 09-48 AM.csv	665.5	5.71	3,798	808.4	6.43	0.888	0.823	0.731	100.8	693	38.3	9:48:44 AM
z6\S23\Inv1-CB26-S23 6-14-2018 09-50 AM.csv	664.1	6.11	4,055	812.6	6.59	0.927	0.817	0.758	107.1	703	40.1	9:50:05 AM
z6\S24\Inv1-CB26-S24 6-14-2018 09-50 AM.csv	664.1	6.13	4,074	812.9	6.62	0.927	0.817	0.757	107.4	705	40.2	9:50:36 AM

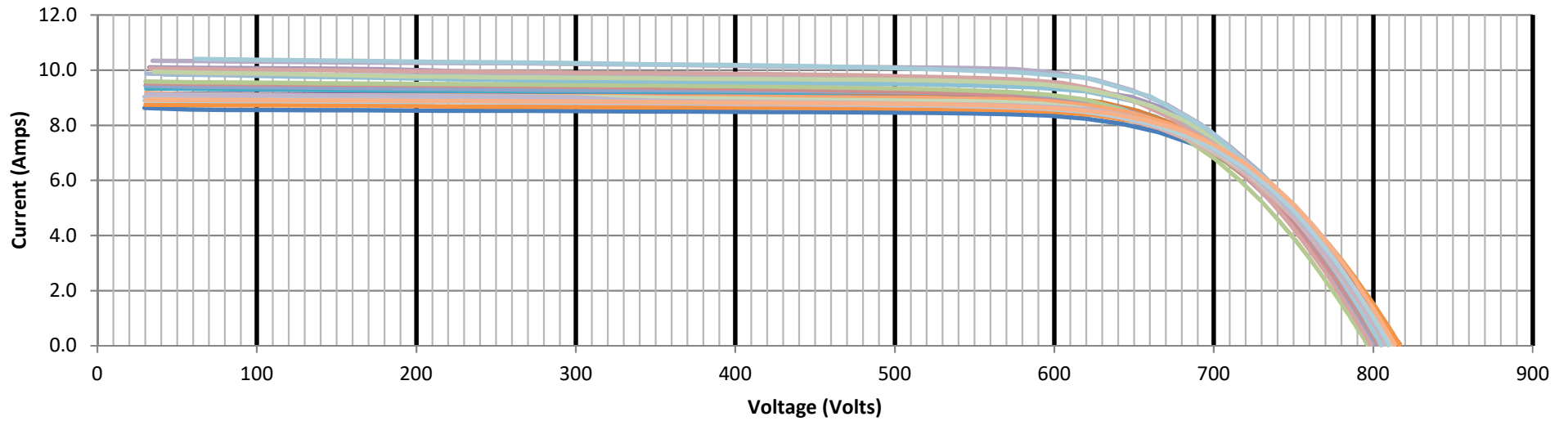






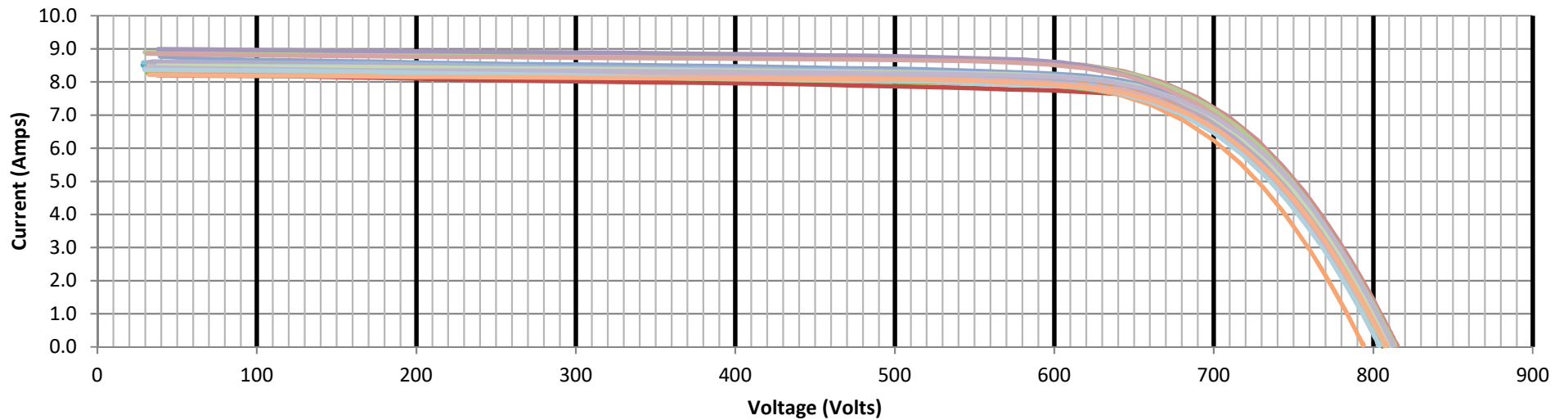
## I-V Curves for System Inv1 CB20

Inv1: CB20



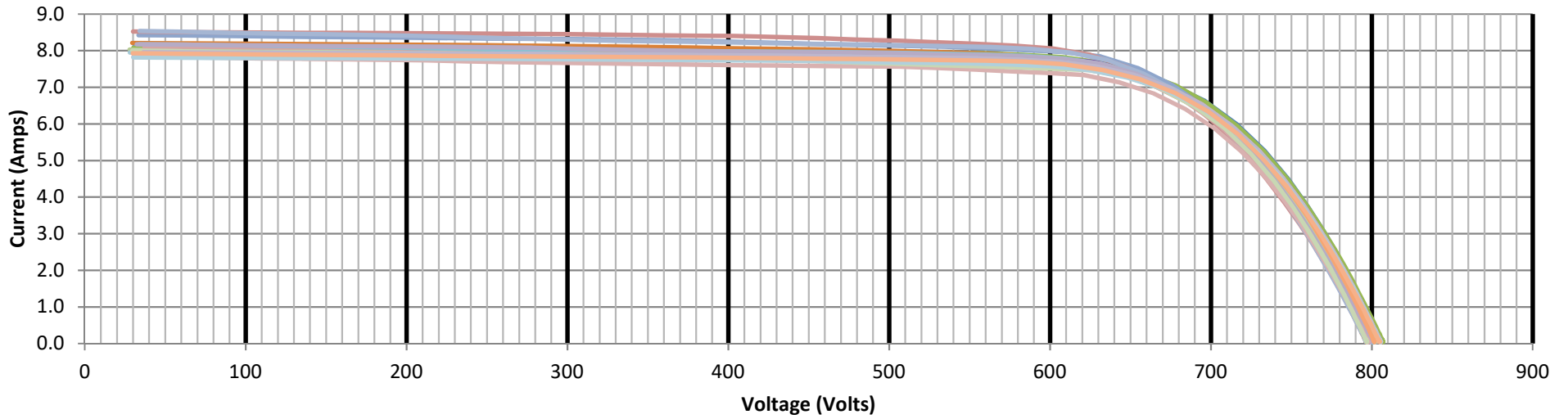
## I-V Curves for System Inv1 CB21

Inv1: CB21



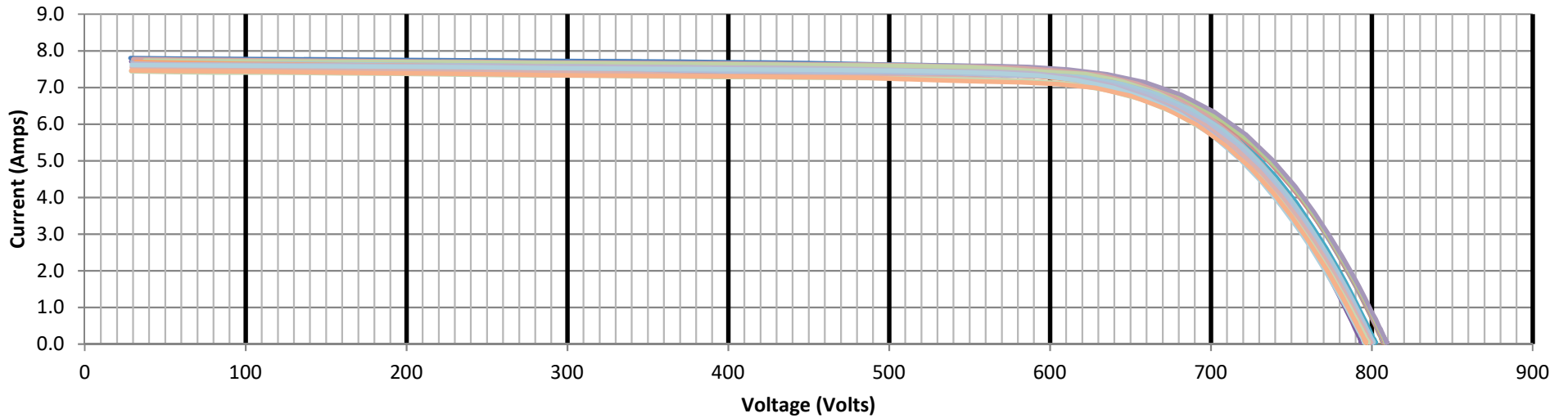
# I-V Curves for System Inv1 CB22

Inv1: CB22



# I-V Curves for System Inv1 CB23

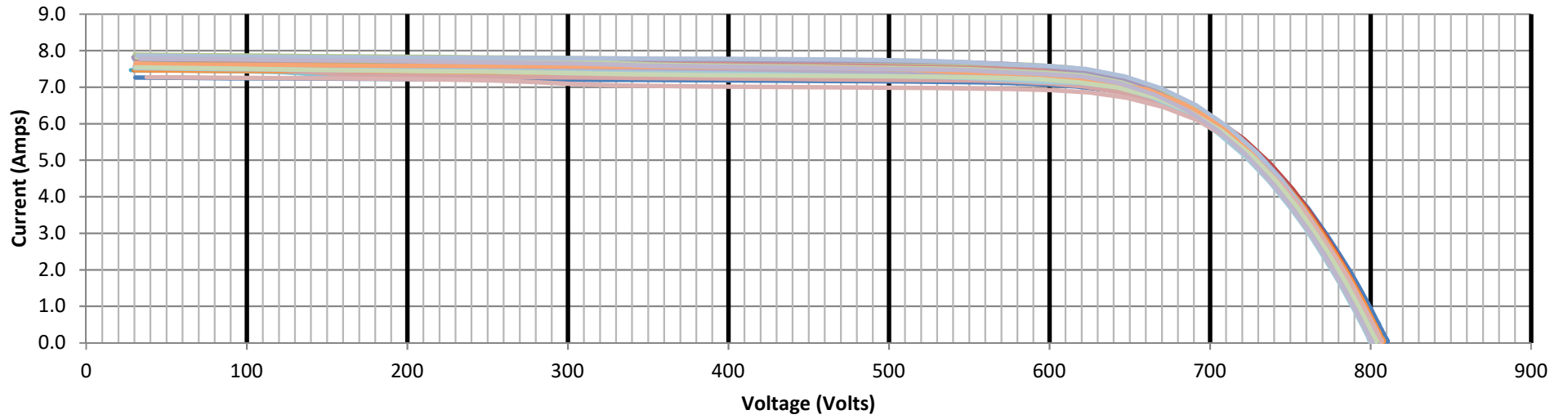
Inv1: CB23





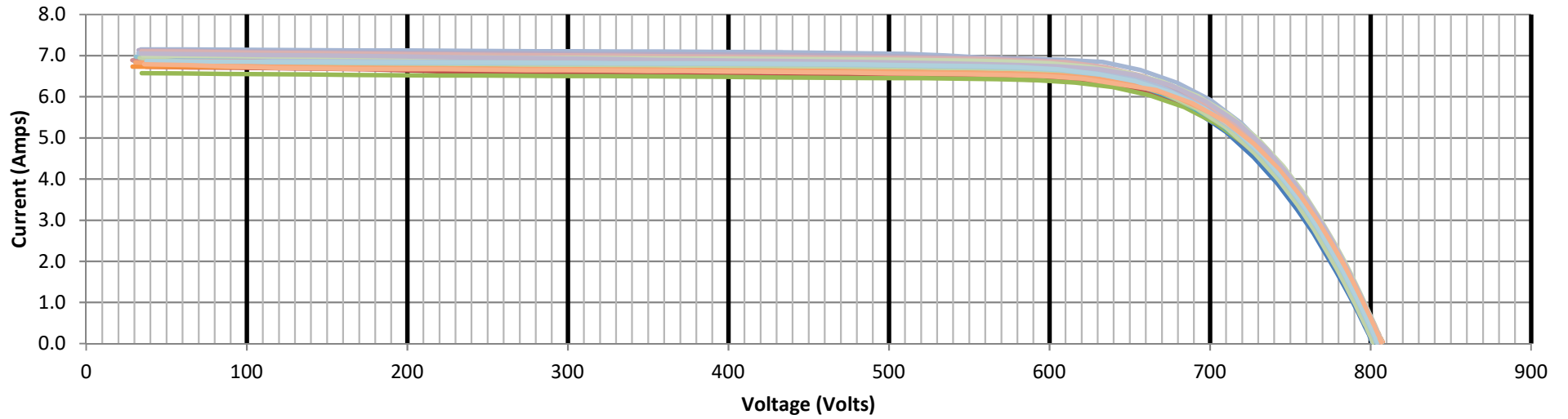
# I-V Curves for System Inv1 CB24

Inv1: CB24



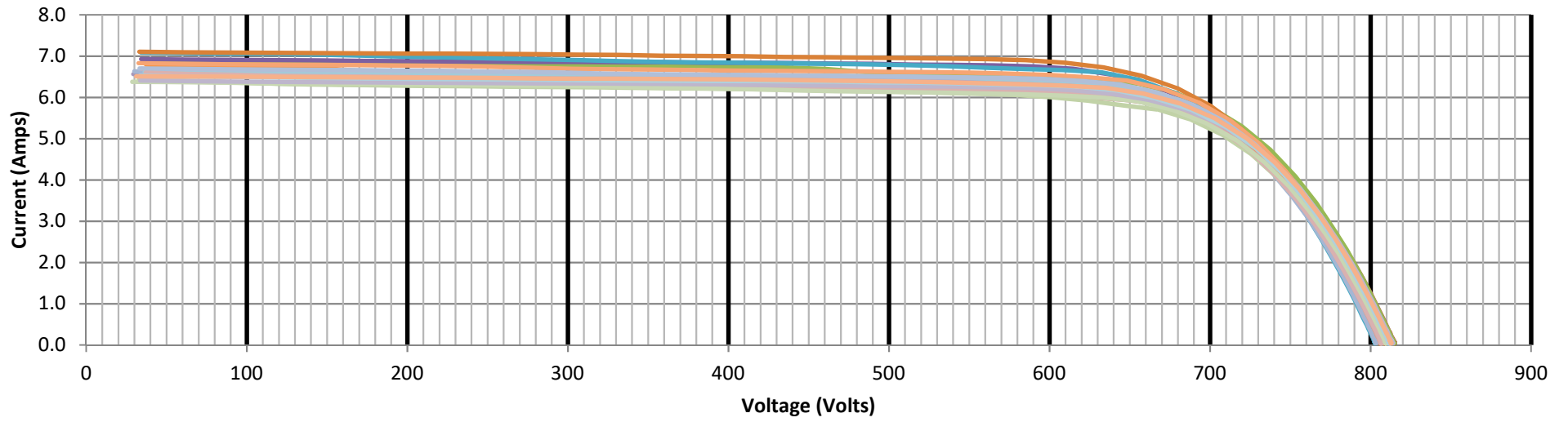
# I-V Curves for System Inv1 CB25

Inv1: CB25



# I-V Curves for System Inv1 CB26

Inv1: CB26



# I-V Data Analysis Report

Solmetric PV Analyzer

For:

Shutesbury Zone 3  
S&C Electric

By:

Pro Star Electric  
1370 Main Street  
Millis, MA 02054

# String Statistics

Summary Statistics for String Data

	<b>V<sub>mp</sub></b> <b>Volts</b>	<b>I<sub>mp</sub></b> <b>Amps</b>	<b>P<sub>max</sub></b> <b>Watts</b>	<b>V<sub>oc</sub></b> <b>Volts</b>	<b>I<sub>sc</sub></b> <b>Amps</b>	<b>I<sub>mp</sub> / I<sub>sc</sub></b>	<b>V<sub>mp</sub> / V<sub>oc</sub></b>	<b>FF</b>	<b>PF</b> <b>%</b>	<b>Irradiance</b> <b>(W/m<sup>2</sup>)</b>	<b>Temp.</b> <b>deg C</b>
<b>Max Value</b>	648.1	8.92	5,550	803.6	9.80	0.931	0.819	0.749	113.8	1,010	54.5
<b>Mean Value</b>	626.8	7.81	4,891	789.0	8.55	0.913	0.794	0.726	105.5	905	44.4
<b>Min Value</b>	600.8	5.86	3,759	761.9	6.42	0.876	0.772	0.696	96.7	698	21.4
<b>Std. Dev (σ)</b>	10.08	0.712	388.4	6.50	0.788	0.009	0.009	0.011	2.99	78	6.1
<b>2 Std. Dev (2σ)</b>	20.16	1.424	776.8	13.00	1.576	0.018	0.017	0.022	5.99	156	12.1

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
:B27\S1\Inv1-CB27-S1 6-12-2018 12-10 PM.csv	622.2	8.23	5,123	781.8	8.93	0.923	0.796	0.734	107.5	949	48.0	12:10:08 PM
:B27\S2\Inv1-CB27-S2 6-12-2018 12-10 PM.csv	617.7	8.25	5,097	779.9	8.94	0.923	0.792	0.731	107.8	948	49.3	12:10:34 PM
:B27\S3\Inv1-CB27-S3 6-12-2018 12-10 PM.csv	619.5	8.24	5,103	780.2	8.95	0.921	0.794	0.731	107.5	945	48.1	12:10:44 PM
:B27\S4\Inv1-CB27-S4 6-12-2018 12-10 PM.csv	617.9	8.17	5,047	779.7	8.92	0.915	0.792	0.725	106.5	944	47.8	12:10:52 PM
:B27\S5\Inv1-CB27-S5 6-12-2018 12-11 PM.csv	617.9	8.28	5,117	780.6	9.01	0.920	0.792	0.728	108.0	946	48.5	12:11:05 PM
:B27\S6\Inv1-CB27-S6 6-12-2018 12-11 PM.csv	620.3	8.27	5,128	781.9	9.00	0.919	0.793	0.729	107.7	947	47.6	12:11:14 PM
:B27\S7\Inv1-CB27-S7 6-12-2018 12-11 PM.csv	618.8	8.31	5,141	782.8	9.03	0.921	0.790	0.728	107.6	951	47.9	12:11:22 PM
:B27\S8\Inv1-CB27-S8 6-12-2018 12-11 PM.csv	622.1	8.27	5,142	786.5	9.02	0.916	0.791	0.725	108.6	944	48.1	12:11:35 PM
:B27\S9\Inv1-CB27-S9 6-12-2018 12-13 PM.csv	624.3	7.95	4,962	784.1	9.08	0.876	0.796	0.697	104.2	959	50.2	12:13:33 PM
?7\S10\Inv1-CB27-S10 6-12-2018 12-12 PM.csv	620.7	8.23	5,110	787.3	9.03	0.912	0.788	0.719	107.9	954	50.0	12:12:02 PM
?7\S11\Inv1-CB27-S11 6-12-2018 12-12 PM.csv	612.9	8.20	5,029	784.0	8.99	0.913	0.782	0.714	106.2	952	49.7	12:12:11 PM
?7\S12\Inv1-CB27-S12 6-12-2018 12-12 PM.csv	611.7	8.32	5,092	780.9	9.05	0.920	0.783	0.721	107.2	956	49.9	12:12:19 PM
?7\S13\Inv1-CB27-S13 6-12-2018 12-12 PM.csv	617.6	8.33	5,143	783.8	9.13	0.912	0.788	0.719	108.3	956	50.0	12:12:28 PM
?7\S14\Inv1-CB27-S14 6-12-2018 12-12 PM.csv	621.6	8.31	5,166	788.8	9.06	0.917	0.788	0.723	108.9	954	49.7	12:12:36 PM
?7\S15\Inv1-CB27-S15 6-12-2018 12-12 PM.csv	624.0	8.26	5,151	790.7	9.01	0.916	0.789	0.723	108.4	957	50.0	12:12:44 PM
?7\S16\Inv1-CB27-S16 6-12-2018 12-12 PM.csv	620.3	8.25	5,115	788.3	9.09	0.907	0.787	0.714	107.4	956	49.4	12:12:53 PM
?7\S17\Inv1-CB27-S17 6-12-2018 12-13 PM.csv	617.0	8.39	5,176	786.5	9.20	0.912	0.784	0.715	109.0	957	50.0	12:13:01 PM
?7\S18\Inv1-CB27-S18 6-12-2018 12-13 PM.csv	616.1	8.37	5,154	785.4	9.20	0.910	0.784	0.714	108.6	954	49.8	12:13:09 PM
?7\S19\Inv1-CB27-S19 6-12-2018 12-13 PM.csv	624.1	8.02	5,005	785.8	9.09	0.882	0.794	0.701	105.3	956	50.2	12:13:16 PM
?7\S20\Inv1-CB27-S20 6-12-2018 12-13 PM.csv	624.5	7.94	4,961	784.2	9.07	0.876	0.796	0.697	104.2	958	50.0	12:13:26 PM
?7\S21\Inv1-CB27-S21 6-12-2018 12-13 PM.csv	623.9	8.26	5,154	790.1	9.02	0.915	0.790	0.723	107.9	956	49.0	12:13:41 PM
?7\S22\Inv1-CB27-S22 6-12-2018 12-13 PM.csv	620.8	8.23	5,112	786.4	9.02	0.913	0.789	0.721	107.4	954	49.0	12:13:49 PM
?7\S23\Inv1-CB27-S23 6-12-2018 12-13 PM.csv	622.2	8.31	5,169	785.7	9.12	0.911	0.792	0.722	107.7	958	48.4	12:13:56 PM
?7\S24\Inv1-CB27-S24 6-12-2018 12-14 PM.csv	619.3	8.26	5,114	783.1	9.03	0.915	0.791	0.723	106.9	956	48.6	12:14:04 PM
:B28\S1\Inv1-CB28-S1 6-12-2018 12-02 PM.csv	625.1	8.15	5,096	785.9	8.86	0.920	0.795	0.732	105.3	947	44.4	12:02:53 PM
:B28\S2\Inv1-CB28-S2 6-12-2018 12-03 PM.csv	624.9	8.15	5,091	785.9	8.82	0.923	0.795	0.734	105.8	945	45.3	12:03:07 PM
:B28\S3\Inv1-CB28-S3 6-12-2018 12-03 PM.csv	621.2	8.19	5,090	783.8	8.90	0.920	0.792	0.729	105.7	944	44.9	12:03:15 PM
:B28\S4\Inv1-CB28-S4 6-12-2018 12-03 PM.csv	619.3	8.19	5,075	782.8	8.87	0.924	0.791	0.731	105.2	942	44.3	12:03:23 PM
:B28\S5\Inv1-CB28-S5 6-12-2018 12-03 PM.csv	623.9	8.09	5,048	786.9	8.88	0.911	0.793	0.722	104.4	942	43.8	12:03:32 PM
:B28\S6\Inv1-CB28-S6 6-12-2018 12-03 PM.csv	619.3	8.12	5,025	784.5	8.84	0.918	0.789	0.725	104.6	941	44.6	12:03:39 PM
:B28\S7\Inv1-CB28-S7 6-12-2018 12-03 PM.csv	616.2	8.08	4,979	785.8	8.79	0.919	0.784	0.721	103.6	943	45.0	12:03:50 PM
:B28\S8\Inv1-CB28-S8 6-12-2018 12-04 PM.csv	616.9	8.12	5,012	786.5	8.87	0.916	0.784	0.718	104.5	944	45.7	12:04:00 PM
:B28\S9\Inv1-CB28-S9 6-12-2018 12-04 PM.csv	629.6	8.34	5,248	793.0	9.03	0.923	0.794	0.733	109.2	943	45.0	12:04:09 PM
?8\S10\Inv1-CB28-S10 6-12-2018 12-04 PM.csv	628.2	8.34	5,239	791.5	9.01	0.925	0.794	0.734	109.5	942	45.9	12:04:18 PM
?8\S11\Inv1-CB28-S11 6-12-2018 12-04 PM.csv	626.1	8.26	5,172	791.7	8.95	0.923	0.791	0.730	107.5	944	45.0	12:04:26 PM
?8\S12\Inv1-CB28-S12 6-12-2018 12-04 PM.csv	621.7	8.28	5,150	789.8	8.98	0.923	0.787	0.726	106.9	944	44.7	12:04:34 PM
?8\S13\Inv1-CB28-S13 6-12-2018 12-04 PM.csv	625.3	8.20	5,124	790.6	8.97	0.914	0.791	0.723	106.9	940	45.0	12:04:53 PM
?8\S14\Inv1-CB28-S14 6-12-2018 12-05 PM.csv	628.7	8.21	5,159	792.9	8.96	0.916	0.793	0.726	107.9	940	45.4	12:05:03 PM
?8\S15\Inv1-CB28-S15 6-12-2018 12-05 PM.csv	633.7	8.11	5,140	797.3	8.96	0.905	0.795	0.719	107.2	941	45.1	12:05:11 PM
?8\S16\Inv1-CB28-S16 6-12-2018 12-05 PM.csv	631.4	8.10	5,113	796.9	8.80	0.920	0.792	0.729	107.2	939	45.8	12:05:20 PM
?8\S17\Inv1-CB28-S17 6-12-2018 12-05 PM.csv	630.5	8.14	5,131	795.0	8.86	0.918	0.793	0.728	108.0	937	46.1	12:05:28 PM
?8\S18\Inv1-CB28-S18 6-12-2018 12-05 PM.csv	623.9	8.34	5,201	791.3	9.12	0.914	0.788	0.721	109.3	938	46.1	12:05:38 PM
?8\S19\Inv1-CB28-S19 6-12-2018 12-05 PM.csv	619.9	8.35	5,179	787.9	9.13	0.915	0.787	0.720	108.7	938	45.7	12:05:46 PM

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
28\S20\Inv1-CB28-S20 6-12-2018 12-05 PM.csv	618.8	8.23	5,095	785.1	9.19	0.896	0.788	0.707	107.3	940	46.4	12:05:54 PM
28\S21\Inv1-CB28-S21 6-12-2018 12-06 PM.csv	617.5	8.35	5,154	786.6	9.09	0.918	0.785	0.720	108.4	939	46.5	12:06:02 PM
28\S22\Inv1-CB28-S22 6-12-2018 12-06 PM.csv	614.7	8.31	5,107	783.8	9.07	0.916	0.784	0.719	107.7	938	46.8	12:06:08 PM
28\S23\Inv1-CB28-S23 6-12-2018 12-06 PM.csv	628.9	8.12	5,107	793.6	8.83	0.919	0.792	0.729	107.8	939	47.2	12:06:16 PM
28\S24\Inv1-CB28-S24 6-12-2018 12-06 PM.csv	625.5	8.12	5,079	790.2	8.92	0.910	0.792	0.720	106.6	942	46.7	12:06:30 PM
:B29\S1\Inv1-CB29-S1 6-12-2018 11-56 AM.csv	617.0	8.42	5,198	779.5	9.15	0.920	0.792	0.728	107.0	971	48.5	11:56:20 AM
:B29\S2\Inv1-CB29-S2 6-12-2018 11-56 AM.csv	621.2	8.41	5,226	787.4	9.21	0.913	0.789	0.720	107.2	974	48.4	11:56:37 AM
:B29\S3\Inv1-CB29-S3 6-12-2018 11-56 AM.csv	631.3	8.43	5,323	788.2	9.22	0.915	0.801	0.733	109.6	972	48.4	11:56:46 AM
:B29\S4\Inv1-CB29-S4 6-12-2018 11-56 AM.csv	624.9	8.23	5,143	783.9	8.91	0.923	0.797	0.736	106.1	964	47.4	11:56:54 AM
:B29\S5\Inv1-CB29-S5 6-12-2018 11-57 AM.csv	621.6	8.27	5,141	786.1	9.07	0.912	0.791	0.721	106.6	961	47.7	11:57:05 AM
:B29\S6\Inv1-CB29-S6 6-12-2018 11-57 AM.csv	629.8	8.53	5,372	791.3	9.32	0.915	0.796	0.728	110.8	962	46.8	11:57:13 AM
:B29\S7\Inv1-CB29-S7 6-12-2018 11-57 AM.csv	623.2	8.46	5,270	788.3	9.18	0.921	0.791	0.728	109.1	964	48.3	11:57:23 AM
:B29\S8\Inv1-CB29-S8 6-12-2018 11-57 AM.csv	623.4	8.38	5,226	786.3	9.15	0.916	0.793	0.726	108.0	962	47.5	11:57:45 AM
:B29\S9\Inv1-CB29-S9 6-12-2018 11-57 AM.csv	624.4	8.21	5,130	785.2	9.13	0.900	0.795	0.715	106.8	962	48.4	11:57:57 AM
29\S10\Inv1-CB29-S10 6-12-2018 11-58 AM.csv	620.8	8.29	5,149	785.3	9.11	0.910	0.791	0.719	107.2	961	48.5	11:58:06 AM
29\S11\Inv1-CB29-S11 6-12-2018 11-58 AM.csv	622.2	8.30	5,167	784.5	9.17	0.906	0.793	0.718	107.3	966	48.9	11:58:17 AM
29\S12\Inv1-CB29-S12 6-12-2018 11-58 AM.csv	624.6	8.22	5,135	783.4	9.12	0.901	0.797	0.718	106.4	964	48.1	11:58:27 AM
29\S13\Inv1-CB29-S13 6-12-2018 11-58 AM.csv	622.0	8.27	5,142	782.5	9.11	0.908	0.795	0.722	106.5	964	48.1	11:58:38 AM
29\S14\Inv1-CB29-S14 6-12-2018 11-58 AM.csv	618.0	8.28	5,116	780.6	9.06	0.914	0.792	0.723	105.6	964	47.8	11:58:47 AM
29\S15\Inv1-CB29-S15 6-12-2018 11-58 AM.csv	620.3	8.08	5,010	780.1	9.07	0.890	0.795	0.708	104.0	964	48.5	11:58:55 AM
29\S16\Inv1-CB29-S16 6-12-2018 11-59 AM.csv	610.7	8.39	5,126	780.5	9.14	0.918	0.782	0.718	106.6	963	49.0	11:59:06 AM
29\S17\Inv1-CB29-S17 6-12-2018 11-59 AM.csv	615.7	8.36	5,148	781.6	9.20	0.909	0.788	0.716	107.2	962	48.7	11:59:17 AM
29\S18\Inv1-CB29-S18 6-12-2018 11-59 AM.csv	614.3	8.43	5,177	784.6	9.29	0.907	0.783	0.710	107.5	961	48.0	11:59:27 AM
29\S19\Inv1-CB29-S19 6-12-2018 11-59 AM.csv	616.4	8.28	5,106	776.7	9.04	0.916	0.794	0.727	105.5	964	47.7	11:59:37 AM
29\S20\Inv1-CB29-S20 6-12-2018 11-59 AM.csv	613.0	8.46	5,187	784.2	9.25	0.915	0.782	0.715	107.6	958	47.6	11:59:50 AM
29\S21\Inv1-CB29-S21 6-12-2018 12-00 PM.csv	610.7	8.41	5,137	781.2	9.23	0.912	0.782	0.713	105.9	965	47.6	12:00:01 PM
29\S22\Inv1-CB29-S22 6-12-2018 12-00 PM.csv	609.6	8.35	5,089	779.7	9.19	0.909	0.782	0.710	105.1	965	47.8	12:00:10 PM
29\S23\Inv1-CB29-S23 6-12-2018 12-00 PM.csv	617.4	8.22	5,074	778.5	9.10	0.903	0.793	0.716	105.1	965	48.4	12:00:22 PM
29\S24\Inv1-CB29-S24 6-12-2018 12-00 PM.csv	613.7	8.28	5,081	777.6	9.08	0.912	0.789	0.719	105.6	965	49.1	12:00:31 PM
:B30\S1\Inv1-CB30-S1 6-12-2018 11-46 AM.csv	629.2	7.95	5,000	786.2	8.76	0.907	0.800	0.726	105.6	926	44.5	11:46:58 AM
:B30\S2\Inv1-CB30-S2 6-12-2018 11-47 AM.csv	620.1	8.04	4,986	785.6	8.77	0.917	0.789	0.724	105.7	921	44.2	11:47:18 AM
:B30\S3\Inv1-CB30-S3 6-12-2018 11-47 AM.csv	624.0	8.03	5,009	791.4	8.81	0.911	0.789	0.718	107.1	915	44.9	11:47:33 AM
:B30\S4\Inv1-CB30-S4 6-12-2018 11-47 AM.csv	629.2	7.92	4,984	789.1	8.71	0.909	0.797	0.725	107.4	913	45.6	11:47:43 AM
:B30\S5\Inv1-CB30-S5 6-12-2018 11-47 AM.csv	622.3	8.08	5,027	792.7	8.80	0.918	0.785	0.721	107.5	921	46.1	11:47:52 AM
:B30\S6\Inv1-CB30-S6 6-12-2018 11-48 AM.csv	623.0	8.21	5,114	795.3	8.89	0.923	0.783	0.723	109.3	923	46.4	11:48:01 AM
:B30\S7\Inv1-CB30-S7 6-12-2018 11-48 AM.csv	621.3	8.15	5,061	794.1	8.83	0.922	0.782	0.721	107.8	927	46.5	11:48:17 AM
:B30\S8\Inv1-CB30-S8 6-12-2018 11-48 AM.csv	620.5	8.21	5,097	792.4	8.95	0.918	0.783	0.719	107.3	937	46.2	11:48:33 AM
:B30\S9\Inv1-CB30-S9 6-12-2018 11-48 AM.csv	620.0	8.17	5,065	792.1	8.83	0.925	0.783	0.724	106.9	934	46.1	11:48:45 AM
30\S10\Inv1-CB30-S10 6-12-2018 11-48 AM.csv	630.2	8.14	5,132	796.9	8.81	0.924	0.791	0.731	108.4	935	46.6	11:48:53 AM
30\S11\Inv1-CB30-S11 6-12-2018 11-49 AM.csv	633.0	8.15	5,158	797.4	8.84	0.922	0.794	0.732	108.7	933	45.8	11:49:01 AM
30\S12\Inv1-CB30-S12 6-12-2018 11-49 AM.csv	634.3	8.09	5,130	797.6	8.88	0.910	0.795	0.724	108.2	931	45.5	11:49:09 AM
30\S13\Inv1-CB30-S13 6-12-2018 11-49 AM.csv	631.5	8.06	5,093	795.6	8.79	0.917	0.794	0.728	107.7	928	45.2	11:49:18 AM
30\S14\Inv1-CB30-S14 6-12-2018 11-49 AM.csv	629.3	8.01	5,044	793.6	8.73	0.918	0.793	0.728	106.0	929	44.4	11:49:26 AM

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
30\S15\Inv1-CB30-S15 6-12-2018 11-49 AM.csv	628.4	7.94	4,991	792.8	8.72	0.911	0.793	0.722	105.3	933	45.6	11:49:35 AM
30\S16\Inv1-CB30-S16 6-12-2018 11-49 AM.csv	621.2	8.17	5,073	790.9	8.84	0.924	0.786	0.726	106.9	930	45.0	11:49:45 AM
30\S17\Inv1-CB30-S17 6-12-2018 11-50 AM.csv	621.1	8.09	5,027	785.8	8.87	0.913	0.790	0.721	105.7	933	45.1	11:50:17 AM
30\S18\Inv1-CB30-S18 6-12-2018 11-50 AM.csv	624.6	8.01	5,001	787.5	8.84	0.906	0.793	0.719	105.6	934	45.9	11:50:33 AM
30\S19\Inv1-CB30-S19 6-12-2018 11-50 AM.csv	628.0	7.85	4,932	787.4	8.75	0.898	0.798	0.716	104.6	932	46.1	11:50:49 AM
30\S20\Inv1-CB30-S20 6-12-2018 11-51 AM.csv	620.1	8.22	5,099	788.1	9.21	0.893	0.787	0.702	108.6	931	47.0	11:51:03 AM
30\S21\Inv1-CB30-S21 6-12-2018 11-51 AM.csv	617.1	8.43	5,200	784.4	9.29	0.907	0.787	0.714	109.9	936	46.8	11:51:16 AM
30\S22\Inv1-CB30-S22 6-12-2018 11-51 AM.csv	609.3	8.24	5,022	779.4	9.09	0.907	0.782	0.709	105.0	942	45.6	11:51:26 AM
30\S23\Inv1-CB30-S23 6-12-2018 11-51 AM.csv	613.5	8.11	4,974	780.4	9.10	0.891	0.786	0.701	104.1	945	46.3	11:51:36 AM
30\S24\Inv1-CB30-S24 6-12-2018 04-05 PM.csv	640.5	5.97	3,822	792.0	6.53	0.914	0.809	0.739	101.6	712	41.3	4:05:49 PM
:B31\S1\Inv1-CB31-S1 6-12-2018 11-38 AM.csv	628.9	8.08	5,081	788.5	8.92	0.905	0.798	0.722	105.6	945	45.1	11:38:29 AM
:B31\S2\Inv1-CB31-S2 6-12-2018 11-38 AM.csv	626.6	8.07	5,057	785.3	8.86	0.911	0.798	0.727	104.0	953	44.7	11:38:41 AM
:B31\S3\Inv1-CB31-S3 6-12-2018 11-38 AM.csv	631.6	8.09	5,108	789.5	8.91	0.907	0.800	0.726	105.4	949	44.5	11:38:51 AM
:B31\S4\Inv1-CB31-S4 6-12-2018 11-38 AM.csv	630.7	8.34	5,258	794.8	9.06	0.920	0.794	0.730	108.9	947	45.1	11:38:59 AM
:B31\S5\Inv1-CB31-S5 6-12-2018 11-39 AM.csv	624.7	8.29	5,180	796.4	9.07	0.914	0.784	0.717	108.0	945	45.9	11:39:11 AM
:B31\S6\Inv1-CB31-S6 6-12-2018 11-39 AM.csv	632.8	8.16	5,165	797.6	8.96	0.911	0.793	0.723	106.7	941	43.2	11:39:22 AM
:B31\S7\Inv1-CB31-S7 6-12-2018 11-39 AM.csv	631.9	8.18	5,170	795.7	8.83	0.926	0.794	0.736	107.4	938	43.8	11:39:32 AM
:B31\S8\Inv1-CB31-S8 6-12-2018 11-39 AM.csv	627.0	8.10	5,077	793.3	8.83	0.917	0.790	0.725	106.1	939	45.0	11:39:42 AM
:B31\S9\Inv1-CB31-S9 6-12-2018 11-39 AM.csv	627.7	8.00	5,019	791.1	8.80	0.909	0.793	0.721	105.3	936	45.3	11:39:51 AM
31\S10\Inv1-CB31-S10 6-12-2018 11-39 AM.csv	631.0	8.18	5,159	796.9	8.82	0.927	0.792	0.734	107.6	940	44.8	11:39:58 AM
31\S11\Inv1-CB31-S11 6-12-2018 11-40 AM.csv	632.6	8.09	5,116	794.3	8.77	0.922	0.796	0.735	106.4	937	43.7	11:40:06 AM
31\S12\Inv1-CB31-S12 6-12-2018 11-40 AM.csv	630.4	8.00	5,046	799.1	8.78	0.911	0.789	0.719	104.8	940	44.1	11:40:15 AM
31\S13\Inv1-CB31-S13 6-12-2018 11-40 AM.csv	630.9	8.01	5,054	795.5	8.72	0.919	0.793	0.729	104.8	938	43.5	11:40:24 AM
31\S14\Inv1-CB31-S14 6-12-2018 11-40 AM.csv	629.4	7.96	5,012	793.6	8.69	0.916	0.793	0.727	104.6	935	44.3	11:40:33 AM
31\S15\Inv1-CB31-S15 6-12-2018 11-40 AM.csv	631.5	7.89	4,980	794.9	8.60	0.917	0.794	0.728	103.9	937	44.3	11:40:43 AM
31\S16\Inv1-CB31-S16 6-12-2018 11-40 AM.csv	630.6	8.02	5,058	793.7	8.75	0.917	0.795	0.728	105.5	937	44.3	11:40:54 AM
31\S17\Inv1-CB31-S17 6-12-2018 11-41 AM.csv	626.4	8.15	5,107	792.0	8.91	0.915	0.791	0.723	106.3	937	43.8	11:41:04 AM
31\S18\Inv1-CB31-S18 6-12-2018 11-41 AM.csv	632.1	7.88	4,983	791.3	8.81	0.895	0.799	0.715	103.3	944	44.1	11:41:12 AM
31\S19\Inv1-CB31-S19 6-12-2018 11-41 AM.csv	627.0	7.93	4,973	789.1	8.76	0.906	0.795	0.720	103.3	938	43.6	11:41:22 AM
31\S20\Inv1-CB31-S20 6-12-2018 11-41 AM.csv	611.2	8.21	5,018	788.9	9.00	0.912	0.775	0.707	104.7	929	42.9	11:41:30 AM
31\S21\Inv1-CB31-S21 6-12-2018 11-41 AM.csv	604.5	8.35	5,049	781.3	9.13	0.915	0.774	0.708	105.2	934	43.7	11:41:41 AM
31\S22\Inv1-CB31-S22 6-12-2018 11-41 AM.csv	600.8	8.41	5,055	778.2	9.25	0.909	0.772	0.702	104.9	940	43.9	11:41:58 AM
31\S23\Inv1-CB31-S23 6-12-2018 11-42 AM.csv	607.1	8.28	5,027	782.4	9.16	0.904	0.776	0.701	103.0	942	41.6	11:42:08 AM
31\S24\Inv1-CB31-S24 6-12-2018 11-42 AM.csv	603.4	8.31	5,016	780.5	9.17	0.906	0.773	0.701	103.1	941	42.2	11:42:18 AM
:B32\S1\Inv1-CB32-S1 6-12-2018 11-21 AM.csv	627.5	7.93	4,978	789.4	8.62	0.920	0.795	0.732	103.8	923	41.3	11:21:06 AM
:B32\S2\Inv1-CB32-S2 6-12-2018 11-21 AM.csv	627.7	7.78	4,883	792.4	8.45	0.921	0.792	0.730	102.0	918	40.8	11:21:27 AM
:B32\S3\Inv1-CB32-S3 6-12-2018 11-21 AM.csv	636.3	8.04	5,117	795.2	8.74	0.920	0.800	0.736	103.6	944	40.1	11:21:39 AM
:B32\S4\Inv1-CB32-S4 6-12-2018 11-21 AM.csv	629.2	8.13	5,117	787.6	8.95	0.909	0.799	0.726	101.9	955	38.7	11:21:55 AM
:B32\S5\Inv1-CB32-S5 6-12-2018 11-22 AM.csv	626.2	8.41	5,265	793.4	9.28	0.906	0.789	0.715	105.4	958	40.3	11:22:02 AM
:B32\S6\Inv1-CB32-S6 6-12-2018 11-22 AM.csv	617.5	8.35	5,157	788.4	9.26	0.902	0.783	0.706	103.9	961	42.2	11:22:17 AM
:B32\S7\Inv1-CB32-S7 6-12-2018 11-22 AM.csv	617.8	8.45	5,223	789.5	9.19	0.920	0.783	0.720	104.7	971	43.1	11:22:27 AM
:B32\S8\Inv1-CB32-S8 6-12-2018 11-22 AM.csv	613.3	8.45	5,180	788.4	9.27	0.911	0.778	0.709	103.6	973	43.2	11:22:35 AM
:B32\S9\Inv1-CB32-S9 6-12-2018 11-22 AM.csv	621.9	8.35	5,190	788.5	9.26	0.901	0.789	0.711	113.8	881	42.5	11:22:48 AM

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
}\S10\Inv1-CB32-S10 6-12-2018 11-23 AM.csv	621.7	8.32	5,173	788.7	9.14	0.910	0.788	0.717	101.7	995	43.6	11:23:42 AM
}\S11\Inv1-CB32-S11 6-12-2018 11-23 AM.csv	617.6	8.49	5,241	788.5	9.22	0.921	0.783	0.721	110.0	927	43.5	11:23:54 AM
}\S12\Inv1-CB32-S12 6-12-2018 04-06 PM.csv	640.8	5.93	3,800	791.8	6.49	0.913	0.809	0.739	100.6	706	38.9	4:06:21 PM
}\S13\Inv1-CB32-S13 6-12-2018 11-24 AM.csv	626.2	8.35	5,232	793.9	9.07	0.921	0.789	0.727	102.9	994	43.8	11:24:25 AM
}\S14\Inv1-CB32-S14 6-12-2018 11-24 AM.csv	622.7	8.29	5,163	791.7	9.10	0.911	0.787	0.717	106.2	952	44.4	11:24:45 AM
}\S15\Inv1-CB32-S15 6-12-2018 11-28 AM.csv	624.5	8.85	5,525	803.6	9.60	0.922	0.777	0.717	102.9	1,010	35.8	11:28:05 AM
}\S16\Inv1-CB32-S16 6-12-2018 11-28 AM.csv	621.9	8.92	5,550	795.4	9.80	0.910	0.782	0.712	106.6	999	39.9	11:28:13 AM
}\S17\Inv1-CB32-S17 6-12-2018 11-28 AM.csv	620.2	8.88	5,507	793.4	9.76	0.909	0.782	0.711	106.9	988	40.0	11:28:21 AM
}\S18\Inv1-CB32-S18 6-12-2018 11-28 AM.csv	622.0	8.72	5,425	791.7	9.65	0.903	0.786	0.710	107.3	969	40.1	11:28:34 AM
}\S19\Inv1-CB32-S19 6-12-2018 04-06 PM.csv	640.9	5.94	3,804	792.1	6.50	0.914	0.809	0.739	101.8	706	41.1	4:06:34 PM
}\S20\Inv1-CB32-S20 6-12-2018 11-33 AM.csv	634.9	8.22	5,218	803.5	9.03	0.910	0.790	0.719	103.9	941	35.8	11:33:25 AM
}\S21\Inv1-CB32-S21 6-12-2018 11-33 AM.csv	634.1	7.98	5,061	798.3	8.73	0.914	0.794	0.726	102.9	935	38.8	11:33:37 AM
}\S22\Inv1-CB32-S22 6-12-2018 11-34 AM.csv	632.7	7.92	5,009	796.5	8.70	0.910	0.794	0.723	102.4	934	39.8	11:34:07 AM
}\S23\Inv1-CB32-S23 6-12-2018 11-34 AM.csv	630.6	7.87	4,962	793.8	8.62	0.913	0.794	0.725	101.0	942	40.5	11:34:18 AM
}\S24\Inv1-CB32-S24 6-12-2018 11-34 AM.csv	631.0	8.03	5,065	793.8	8.78	0.914	0.795	0.727	102.8	947	40.9	11:34:42 AM
:B33\S1\Inv1-CB33-S1 6-12-2018 11-12 AM.csv	640.3	7.77	4,976	798.1	8.58	0.905	0.802	0.726	107.2	909	44.4	11:12:51 AM
:B33\S2\Inv1-CB33-S2 6-12-2018 11-13 AM.csv	631.9	7.93	5,009	792.4	8.60	0.921	0.798	0.735	107.3	908	43.6	11:13:15 AM
:B33\S3\Inv1-CB33-S3 6-12-2018 11-13 AM.csv	626.1	7.96	4,983	792.9	8.61	0.924	0.790	0.730	106.8	907	43.7	11:13:25 AM
:B33\S4\Inv1-CB33-S4 6-12-2018 11-13 AM.csv	624.6	7.94	4,959	791.5	8.65	0.918	0.789	0.724	107.1	904	44.4	11:13:33 AM
:B33\S5\Inv1-CB33-S5 6-12-2018 11-13 AM.csv	635.4	7.98	5,072	795.2	8.65	0.923	0.799	0.738	109.4	904	44.3	11:13:43 AM
:B33\S6\Inv1-CB33-S6 6-12-2018 11-13 AM.csv	629.2	7.93	4,991	784.7	8.60	0.922	0.802	0.739	107.7	906	44.5	11:13:51 AM
:B33\S7\Inv1-CB33-S7 6-12-2018 11-13 AM.csv	632.0	7.88	4,978	787.1	8.59	0.917	0.803	0.736	107.0	909	44.4	11:13:58 AM
:B33\S8\Inv1-CB33-S8 6-12-2018 11-14 AM.csv	634.3	7.66	4,861	792.3	8.43	0.909	0.801	0.728	104.9	907	44.6	11:14:07 AM
:B33\S9\Inv1-CB33-S9 6-12-2018 04-06 PM.csv	641.1	5.93	3,801	792.3	6.48	0.914	0.809	0.740	101.3	706	40.3	4:06:42 PM
}\S10\Inv1-CB33-S10 6-12-2018 11-14 AM.csv	628.9	7.82	4,915	794.3	8.55	0.914	0.792	0.724	105.8	906	44.4	11:14:31 AM
}\S11\Inv1-CB33-S11 6-12-2018 11-14 AM.csv	636.5	7.62	4,850	796.9	8.49	0.897	0.799	0.717	104.9	906	45.0	11:14:39 AM
}\S12\Inv1-CB33-S12 6-12-2018 11-14 AM.csv	637.1	7.51	4,784	792.4	8.43	0.891	0.804	0.716	103.4	909	45.4	11:14:49 AM
}\S13\Inv1-CB33-S13 6-12-2018 11-15 AM.csv	622.4	7.84	4,882	790.6	8.60	0.912	0.787	0.718	105.5	906	44.9	11:15:00 AM
}\S14\Inv1-CB33-S14 6-12-2018 11-15 AM.csv	619.8	8.00	4,958	786.6	8.79	0.910	0.788	0.717	107.2	905	44.9	11:15:10 AM
}\S15\Inv1-CB33-S15 6-12-2018 11-15 AM.csv	613.7	8.15	5,002	786.6	9.03	0.903	0.780	0.704	108.9	904	46.0	11:15:21 AM
}\S16\Inv1-CB33-S16 6-12-2018 04-06 PM.csv	641.4	5.93	3,803	792.7	6.49	0.914	0.809	0.740	99.4	707	36.5	4:06:56 PM
}\S17\Inv1-CB33-S17 6-12-2018 11-15 AM.csv	633.7	7.53	4,773	791.4	8.41	0.895	0.801	0.717	104.1	903	46.2	11:15:44 AM
}\S18\Inv1-CB33-S18 6-12-2018 11-15 AM.csv	634.4	7.59	4,819	789.0	8.47	0.896	0.804	0.721	104.9	907	46.3	11:15:52 AM
}\S19\Inv1-CB33-S19 6-12-2018 11-16 AM.csv	631.3	7.76	4,898	793.1	8.41	0.922	0.796	0.734	105.3	905	44.0	11:16:00 AM
}\S20\Inv1-CB33-S20 6-12-2018 11-16 AM.csv	635.4	7.74	4,919	796.4	8.36	0.926	0.798	0.739	105.9	907	44.6	11:16:09 AM
}\S21\Inv1-CB33-S21 6-12-2018 11-16 AM.csv	628.3	7.81	4,907	787.2	8.71	0.897	0.798	0.716	106.1	906	44.9	11:16:20 AM
}\S22\Inv1-CB33-S22 6-12-2018 11-16 AM.csv	629.3	7.76	4,886	787.2	8.62	0.901	0.799	0.720	105.4	908	44.9	11:16:31 AM
}\S23\Inv1-CB33-S23 6-12-2018 11-16 AM.csv	622.1	7.87	4,896	787.4	8.61	0.914	0.790	0.722	105.3	907	44.5	11:16:40 AM
}\S24\Inv1-CB33-S24 6-12-2018 11-16 AM.csv	620.7	7.82	4,855	786.3	8.54	0.916	0.789	0.723	104.5	907	44.6	11:16:48 AM
:B34\S1\Inv1-CB34-S1 6-12-2018 11-02 AM.csv	630.7	7.79	4,914	794.1	8.39	0.928	0.794	0.737	107.8	887	44.1	11:02:34 AM
:B34\S2\Inv1-CB34-S2 6-12-2018 11-03 AM.csv	640.5	7.68	4,916	796.0	8.38	0.915	0.805	0.737	107.2	889	43.4	11:03:03 AM
:B34\S3\Inv1-CB34-S3 6-12-2018 11-03 AM.csv	637.2	7.70	4,904	795.9	8.35	0.922	0.801	0.738	106.9	889	43.5	11:03:15 AM
:B34\S4\Inv1-CB34-S4 6-12-2018 11-03 AM.csv	637.7	7.58	4,835	792.1	8.47	0.895	0.805	0.720	106.3	889	44.6	11:03:41 AM



## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
.B34\S5\Inv1-CB34-S5 6-12-2018 11-03 AM.csv	629.3	7.87	4,950	792.3	8.57	0.917	0.794	0.729	109.0	888	45.1	11:03:51 AM
.B34\S6\Inv1-CB34-S6 6-12-2018 04-07 PM.csv	641.4	5.91	3,794	792.8	6.47	0.914	0.809	0.740	99.0	704	35.6	4:07:03 PM
.B34\S7\Inv1-CB34-S7 6-12-2018 11-04 AM.csv	626.4	7.54	4,726	787.3	8.32	0.907	0.796	0.722	104.2	885	44.7	11:04:16 AM
.B34\S8\Inv1-CB34-S8 6-12-2018 04-07 PM.csv	641.2	5.89	3,779	792.5	6.45	0.914	0.809	0.740	101.3	701	40.1	4:07:15 PM
.B34\S9\Inv1-CB34-S9 6-12-2018 11-05 AM.csv	632.5	7.44	4,705	791.3	8.25	0.901	0.799	0.720	103.4	886	43.9	11:05:22 AM
4\S10\Inv1-CB34-S10 6-12-2018 11-05 AM.csv	628.4	7.53	4,730	789.6	8.32	0.905	0.796	0.720	104.1	883	43.9	11:05:34 AM
4\S11\Inv1-CB34-S11 6-12-2018 11-05 AM.csv	630.9	7.51	4,737	790.8	8.20	0.916	0.798	0.731	104.3	886	44.5	11:05:42 AM
4\S12\Inv1-CB34-S12 6-12-2018 11-05 AM.csv	632.7	7.52	4,761	797.3	8.13	0.925	0.794	0.734	105.0	888	45.3	11:05:59 AM
4\S13\Inv1-CB34-S13 6-12-2018 11-06 AM.csv	630.7	7.70	4,857	797.7	8.51	0.905	0.791	0.716	106.9	889	45.1	11:06:09 AM
4\S14\Inv1-CB34-S14 6-12-2018 11-06 AM.csv	623.3	7.95	4,954	788.9	8.76	0.908	0.790	0.717	108.9	888	44.6	11:06:20 AM
4\S15\Inv1-CB34-S15 6-12-2018 11-06 AM.csv	614.5	8.17	5,022	787.5	8.98	0.910	0.780	0.710	110.4	886	44.4	11:06:32 AM
4\S16\Inv1-CB34-S16 6-12-2018 04-07 PM.csv	641.2	5.88	3,772	792.4	6.43	0.914	0.809	0.740	100.6	700	38.7	4:07:22 PM
4\S17\Inv1-CB34-S17 6-12-2018 11-07 AM.csv	625.4	7.68	4,802	787.2	8.77	0.876	0.794	0.696	105.1	889	43.8	11:07:10 AM
4\S18\Inv1-CB34-S18 6-12-2018 11-07 AM.csv	629.5	7.67	4,830	791.1	8.36	0.918	0.796	0.730	106.1	889	44.8	11:07:22 AM
4\S19\Inv1-CB34-S19 6-12-2018 11-07 AM.csv	629.8	7.61	4,795	792.0	8.24	0.923	0.795	0.734	105.6	888	45.2	11:07:31 AM
4\S20\Inv1-CB34-S20 6-12-2018 11-07 AM.csv	628.3	7.68	4,827	787.2	8.38	0.917	0.798	0.732	107.1	885	45.8	11:07:45 AM
4\S21\Inv1-CB34-S21 6-12-2018 11-07 AM.csv	627.7	7.59	4,766	785.3	8.32	0.913	0.799	0.730	105.8	886	46.4	11:07:56 AM
4\S22\Inv1-CB34-S22 6-12-2018 11-08 AM.csv	631.6	7.40	4,675	787.3	8.23	0.900	0.802	0.722	103.2	889	45.3	11:08:06 AM
4\S23\Inv1-CB34-S23 6-12-2018 11-08 AM.csv	630.7	7.37	4,648	790.5	8.19	0.900	0.798	0.718	101.4	897	44.9	11:08:29 AM
4\S24\Inv1-CB34-S24 6-12-2018 11-08 AM.csv	620.1	7.69	4,770	787.4	8.65	0.890	0.787	0.701	104.1	894	44.4	11:08:42 AM
.B35\S1\Inv1-CB35-S1 6-12-2018 10-52 AM.csv	640.0	7.03	4,497	796.8	7.75	0.907	0.803	0.728	104.3	822	40.1	10:52:30 AM
.B35\S2\Inv1-CB35-S2 6-12-2018 10-52 AM.csv	637.8	7.10	4,531	798.8	7.72	0.921	0.799	0.735	104.8	814	38.7	10:52:42 AM
.B35\S3\Inv1-CB35-S3 6-12-2018 10-52 AM.csv	636.7	7.30	4,650	799.1	7.88	0.927	0.797	0.739	106.2	827	39.1	10:52:51 AM
.B35\S4\Inv1-CB35-S4 6-12-2018 10-53 AM.csv	638.5	7.14	4,561	791.4	7.81	0.914	0.807	0.738	104.6	830	40.2	10:53:00 AM
.B35\S5\Inv1-CB35-S5 6-12-2018 10-53 AM.csv	637.0	7.03	4,479	793.2	7.75	0.907	0.803	0.728	102.8	827	39.8	10:53:08 AM
.B35\S6\Inv1-CB35-S6 6-12-2018 10-53 AM.csv	647.5	7.17	4,644	803.2	7.83	0.916	0.806	0.739	103.8	834	36.3	10:53:16 AM
.B35\S7\Inv1-CB35-S7 6-12-2018 10-53 AM.csv	646.4	7.18	4,642	802.0	7.84	0.916	0.806	0.739	104.4	838	38.4	10:53:28 AM
.B35\S8\Inv1-CB35-S8 6-12-2018 10-53 AM.csv	638.4	7.16	4,573	800.6	7.76	0.923	0.797	0.736	102.5	844	39.0	10:53:39 AM
.B35\S9\Inv1-CB35-S9 6-12-2018 10-53 AM.csv	638.3	7.02	4,479	798.4	7.71	0.910	0.799	0.728	102.1	843	42.0	10:53:52 AM
35\S10\Inv1-CB35-S10 6-12-2018 10-54 AM.csv	634.3	7.11	4,508	798.6	7.70	0.923	0.794	0.734	102.6	843	41.9	10:54:01 AM
35\S11\Inv1-CB35-S11 6-12-2018 10-54 AM.csv	635.0	7.27	4,618	793.9	8.00	0.909	0.800	0.727	104.7	844	41.2	10:54:18 AM
35\S12\Inv1-CB35-S12 6-12-2018 10-54 AM.csv	635.6	7.06	4,489	795.3	7.82	0.903	0.799	0.722	101.1	846	40.3	10:54:41 AM
35\S13\Inv1-CB35-S13 6-12-2018 10-55 AM.csv	641.3	7.24	4,646	800.0	7.89	0.918	0.802	0.736	104.0	850	40.2	10:55:00 AM
35\S14\Inv1-CB35-S14 6-12-2018 10-55 AM.csv	641.9	7.16	4,596	799.3	7.83	0.915	0.803	0.735	104.1	844	41.2	10:55:21 AM
35\S15\Inv1-CB35-S15 6-12-2018 10-55 AM.csv	637.1	7.25	4,616	793.7	8.00	0.906	0.803	0.727	104.4	850	42.0	10:55:32 AM
35\S16\Inv1-CB35-S16 6-12-2018 10-55 AM.csv	636.4	7.26	4,621	792.4	7.89	0.921	0.803	0.739	104.5	850	42.1	10:55:45 AM
35\S17\Inv1-CB35-S17 6-12-2018 10-56 AM.csv	639.4	7.34	4,693	796.9	7.94	0.924	0.802	0.741	105.4	854	41.6	10:56:00 AM
35\S18\Inv1-CB35-S18 6-12-2018 10-56 AM.csv	639.0	7.30	4,665	796.5	7.92	0.922	0.802	0.740	105.1	852	41.9	10:56:09 AM
35\S19\Inv1-CB35-S19 6-12-2018 10-56 AM.csv	640.3	7.27	4,658	794.8	8.15	0.892	0.806	0.719	105.4	851	42.2	10:56:17 AM
35\S20\Inv1-CB35-S20 6-12-2018 10-56 AM.csv	642.2	7.26	4,664	795.9	8.11	0.895	0.807	0.722	104.6	853	40.9	10:56:34 AM
35\S21\Inv1-CB35-S21 6-12-2018 10-56 AM.csv	636.1	7.11	4,526	793.1	7.96	0.893	0.802	0.716	101.2	855	40.8	10:56:45 AM
35\S22\Inv1-CB35-S22 6-12-2018 10-56 AM.csv	637.4	7.11	4,531	793.8	7.95	0.894	0.803	0.718	101.8	852	41.3	10:56:56 AM
35\S23\Inv1-CB35-S23 6-12-2018 10-57 AM.csv	635.5	7.14	4,538	795.4	7.86	0.908	0.799	0.726	101.7	853	41.1	10:57:11 AM

## String Data

File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
35\S24\Inv1-CB35-S24 6-12-2018 10-57 AM.csv	632.8	7.11	4,502	791.8	7.86	0.905	0.799	0.723	101.4	855	42.2	10:57:24 AM
:B36\S1\Inv1-CB36-S1 6-12-2018 10-43 AM.csv	636.8	6.74	4,294	794.9	7.34	0.919	0.801	0.736	102.5	785	38.0	10:43:17 AM
:B36\S2\Inv1-CB36-S2 6-12-2018 10-43 AM.csv	634.5	6.70	4,253	793.5	7.24	0.926	0.800	0.741	102.0	782	38.3	10:43:46 AM
:B36\S3\Inv1-CB36-S3 6-12-2018 10-43 AM.csv	636.1	6.74	4,289	795.5	7.35	0.917	0.800	0.733	100.7	785	34.7	10:43:54 AM
:B36\S4\Inv1-CB36-S4 6-12-2018 10-44 AM.csv	640.5	6.88	4,404	796.5	7.64	0.900	0.804	0.723	104.2	795	38.2	10:44:06 AM
:B36\S5\Inv1-CB36-S5 6-12-2018 10-44 AM.csv	637.8	6.99	4,461	798.6	7.63	0.916	0.799	0.732	103.6	794	34.5	10:44:15 AM
:B36\S6\Inv1-CB36-S6 6-12-2018 10-44 AM.csv	636.9	6.90	4,395	797.3	7.50	0.920	0.799	0.735	102.4	793	34.9	10:44:24 AM
:B36\S7\Inv1-CB36-S7 6-12-2018 10-44 AM.csv	637.0	6.72	4,282	795.7	7.23	0.929	0.801	0.744	101.0	790	36.8	10:44:32 AM
:B36\S8\Inv1-CB36-S8 6-12-2018 10-44 AM.csv	636.8	6.57	4,187	794.3	7.12	0.923	0.802	0.740	100.7	777	37.7	10:44:46 AM
:B36\S9\Inv1-CB36-S9 6-12-2018 10-44 AM.csv	641.3	6.77	4,340	798.6	7.27	0.931	0.803	0.747	100.9	790	34.1	10:44:55 AM
36\S10\Inv1-CB36-S10 6-12-2018 10-45 AM.csv	639.2	6.67	4,265	795.1	7.19	0.928	0.804	0.746	100.3	783	34.3	10:45:05 AM
36\S11\Inv1-CB36-S11 6-12-2018 04-07 PM.csv	641.3	5.86	3,759	792.1	6.42	0.914	0.810	0.740	100.9	698	39.4	4:07:30 PM
36\S12\Inv1-CB36-S12 6-12-2018 10-45 AM.csv	638.9	6.80	4,346	790.5	7.42	0.917	0.808	0.741	105.1	778	38.9	10:45:46 AM
36\S13\Inv1-CB36-S13 6-12-2018 10-45 AM.csv	640.7	6.89	4,412	797.5	7.44	0.926	0.803	0.744	104.9	783	36.8	10:45:56 AM
36\S14\Inv1-CB36-S14 6-12-2018 10-46 AM.csv	642.4	6.94	4,461	797.5	7.55	0.920	0.806	0.741	107.3	782	38.8	10:46:07 AM
36\S15\Inv1-CB36-S15 6-12-2018 10-46 AM.csv	640.8	6.93	4,442	795.8	7.52	0.922	0.805	0.743	103.7	790	34.8	10:46:18 AM
36\S16\Inv1-CB36-S16 6-12-2018 10-46 AM.csv	640.1	6.85	4,387	794.4	7.44	0.921	0.806	0.742	104.9	785	38.3	10:46:28 AM
36\S17\Inv1-CB36-S17 6-12-2018 10-46 AM.csv	641.7	6.57	4,214	792.4	7.10	0.925	0.810	0.749	102.1	782	40.2	10:46:36 AM
36\S18\Inv1-CB36-S18 6-12-2018 10-46 AM.csv	642.9	6.45	4,149	793.2	7.01	0.921	0.811	0.746	102.2	766	39.4	10:46:47 AM
36\S19\Inv1-CB36-S19 6-12-2018 10-46 AM.csv	645.9	6.25	4,039	788.3	6.88	0.909	0.819	0.745	101.7	747	39.2	10:46:55 AM
36\S20\Inv1-CB36-S20 6-12-2018 10-47 AM.csv	640.5	6.18	3,961	787.6	6.73	0.919	0.813	0.747	101.9	727	38.7	10:47:03 AM
36\S21\Inv1-CB36-S21 6-12-2018 10-47 AM.csv	635.9	6.28	3,996	789.3	6.80	0.924	0.806	0.744	102.9	727	38.9	10:47:11 AM
36\S22\Inv1-CB36-S22 6-12-2018 10-47 AM.csv	634.8	6.28	3,987	788.3	6.89	0.911	0.805	0.734	103.1	725	38.9	10:47:19 AM
36\S23\Inv1-CB36-S23 6-12-2018 10-47 AM.csv	638.1	6.52	4,162	790.6	7.08	0.921	0.807	0.744	106.0	738	39.3	10:47:29 AM
36\S24\Inv1-CB36-S24 6-12-2018 10-47 AM.csv	639.3	6.55	4,190	790.0	7.23	0.906	0.809	0.733	106.4	743	39.8	10:47:37 AM
:B37\S1\Inv1-CB37-S1 6-12-2018 10-36 AM.csv	644.7	6.38	4,113	790.4	7.02	0.908	0.816	0.741	96.7	767	30.2	10:36:07 AM
:B37\S2\Inv1-CB37-S2 6-12-2018 10-36 AM.csv	644.7	6.39	4,121	790.6	7.04	0.908	0.816	0.740	97.2	766	30.3	10:36:13 AM
:B37\S3\Inv1-CB37-S3 6-12-2018 10-36 AM.csv	636.2	6.71	4,268	791.8	7.30	0.920	0.804	0.739	100.4	769	30.9	10:36:26 AM
:B37\S4\Inv1-CB37-S4 6-12-2018 10-36 AM.csv	637.4	6.65	4,242	791.5	7.27	0.915	0.805	0.737	101.4	765	33.3	10:36:37 AM
:B37\S5\Inv1-CB37-S5 6-12-2018 10-36 AM.csv	648.1	6.58	4,267	797.1	7.16	0.919	0.813	0.748	100.8	774	33.2	10:36:46 AM
:B37\S6\Inv1-CB37-S6 6-12-2018 10-37 AM.csv	640.4	6.56	4,199	791.9	7.12	0.921	0.809	0.745	98.4	772	30.9	10:37:04 AM
:B37\S7\Inv1-CB37-S7 6-12-2018 10-37 AM.csv	639.2	6.65	4,249	785.3	7.28	0.913	0.814	0.744	99.1	774	30.4	10:37:15 AM
:B37\S8\Inv1-CB37-S8 6-12-2018 10-37 AM.csv	641.4	6.76	4,334	795.1	7.35	0.919	0.807	0.741	102.3	771	32.3	10:37:25 AM
:B37\S9\Inv1-CB37-S9 6-12-2018 10-37 AM.csv	636.7	6.83	4,350	793.5	7.43	0.919	0.802	0.738	101.9	775	31.6	10:37:40 AM
37\S10\Inv1-CB37-S10 6-12-2018 10-37 AM.csv	641.5	6.53	4,190	791.4	7.07	0.924	0.811	0.749	97.9	773	30.7	10:37:51 AM
37\S11\Inv1-CB37-S11 6-12-2018 10-38 AM.csv	641.7	6.62	4,250	794.1	7.24	0.915	0.808	0.739	98.4	786	31.8	10:38:01 AM
37\S12\Inv1-CB37-S12 6-12-2018 10-38 AM.csv	631.2	6.55	4,132	782.3	7.19	0.910	0.807	0.735	98.2	779	35.8	10:38:11 AM
37\S13\Inv1-CB37-S13 6-12-2018 10-38 AM.csv	637.1	6.84	4,358	792.9	7.50	0.912	0.803	0.733	102.0	780	32.6	10:38:24 AM
37\S14\Inv1-CB37-S14 6-12-2018 10-38 AM.csv	638.2	6.83	4,357	794.1	7.45	0.917	0.804	0.737	101.5	781	31.9	10:38:33 AM
37\S15\Inv1-CB37-S15 6-12-2018 10-38 AM.csv	642.6	6.74	4,334	795.3	7.31	0.922	0.808	0.745	100.8	783	32.4	10:38:45 AM
37\S16\Inv1-CB37-S16 6-12-2018 10-38 AM.csv	640.6	6.68	4,280	794.8	7.30	0.915	0.806	0.738	99.2	785	32.1	10:38:55 AM
37\S17\Inv1-CB37-S17 6-12-2018 10-39 AM.csv	638.4	6.74	4,303	797.7	7.33	0.919	0.800	0.736	100.2	787	33.4	10:39:03 AM
37\S18\Inv1-CB37-S18 6-12-2018 10-39 AM.csv	641.2	6.91	4,432	797.6	7.49	0.923	0.804	0.742	103.5	785	33.4	10:39:12 AM

## String Data

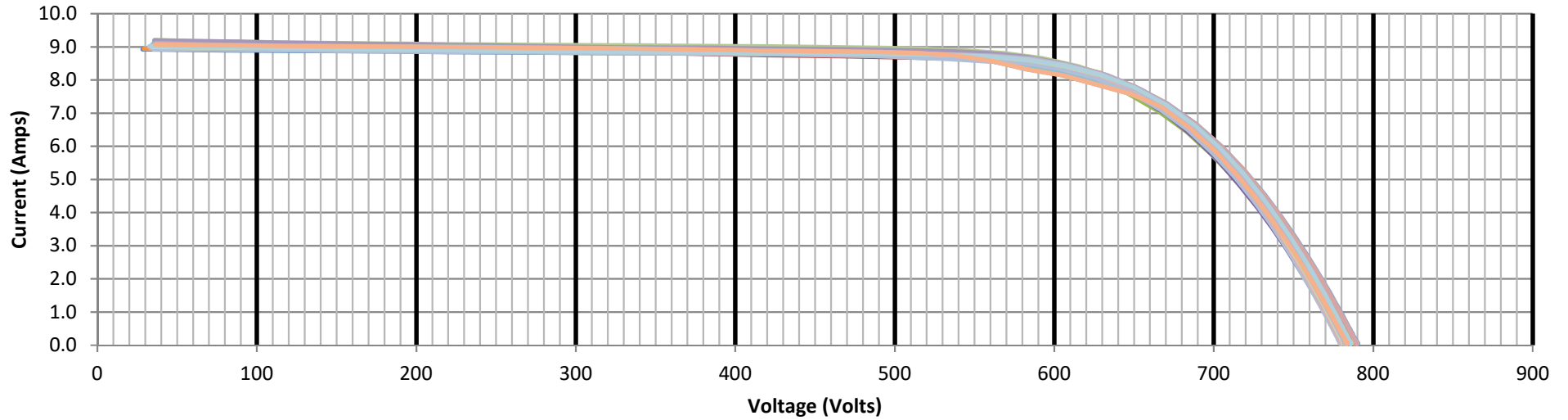
File Folder	V <sub>mp</sub> Volts	I <sub>mp</sub> Amps	P <sub>max</sub> Watts	V <sub>oc</sub> Volts	I <sub>sc</sub> Amps	I <sub>mp</sub> / I <sub>sc</sub>	V <sub>mp</sub> / V <sub>oc</sub>	FF	PF %	Irradiance (W/m <sup>2</sup> )	Temp. deg C	Time
37\S19\Inv1-CB37-S19 6-12-2018 10-39 AM.csv	635.3	6.71	4,262	785.9	7.30	0.919	0.808	0.743	103.7	764	36.8	10:39:21 AM
37\S20\Inv1-CB37-S20 6-12-2018 10-39 AM.csv	636.2	6.57	4,180	795.7	7.15	0.918	0.800	0.734	100.7	756	32.6	10:39:30 AM
37\S21\Inv1-CB37-S21 6-12-2018 10-39 AM.csv	639.7	6.70	4,284	794.3	7.29	0.919	0.805	0.740	99.7	782	31.9	10:39:42 AM
37\S22\Inv1-CB37-S22 6-12-2018 10-39 AM.csv	642.4	6.68	4,292	795.7	7.28	0.917	0.807	0.740	98.5	785	29.8	10:39:49 AM
37\S23\Inv1-CB37-S23 6-12-2018 10-39 AM.csv	640.3	6.88	4,406	798.2	7.47	0.922	0.802	0.739	97.2	785	21.4	10:39:59 AM
37\S24\Inv1-CB37-S24 6-12-2018 10-40 AM.csv	640.3	6.90	4,417	797.5	7.54	0.915	0.803	0.735	96.9	792	21.9	10:40:08 AM
:B38\S1\Inv1-CB38-S1 6-12-2018 12-24 PM.csv	619.9	8.54	5,294	783.5	9.30	0.918	0.791	0.726	111.0	977	53.2	12:24:57 PM
:B38\S2\Inv1-CB38-S2 6-12-2018 12-25 PM.csv	614.1	8.52	5,231	779.4	9.25	0.921	0.788	0.726	110.2	974	53.4	12:25:14 PM
:B38\S3\Inv1-CB38-S3 6-12-2018 12-25 PM.csv	619.2	8.53	5,283	784.2	9.36	0.911	0.790	0.720	110.5	982	53.3	12:25:22 PM
:B38\S4\Inv1-CB38-S4 6-12-2018 12-25 PM.csv	618.0	8.54	5,280	783.2	9.40	0.909	0.789	0.717	109.8	989	53.7	12:25:32 PM
:B38\S5\Inv1-CB38-S5 6-12-2018 12-25 PM.csv	616.5	8.48	5,226	774.7	9.20	0.922	0.796	0.734	108.8	985	53.3	12:25:40 PM
:B38\S6\Inv1-CB38-S6 6-12-2018 12-25 PM.csv	621.3	8.31	5,160	778.7	9.11	0.912	0.798	0.727	109.0	973	53.5	12:25:46 PM
:B38\S7\Inv1-CB38-S7 6-12-2018 12-25 PM.csv	613.1	8.38	5,138	780.5	9.09	0.922	0.785	0.725	108.3	973	53.3	12:25:54 PM
:B38\S8\Inv1-CB38-S8 6-12-2018 12-26 PM.csv	613.2	8.51	5,216	779.0	9.36	0.909	0.787	0.715	109.5	978	53.3	12:26:03 PM
:B38\S9\Inv1-CB38-S9 6-12-2018 12-26 PM.csv	612.8	8.51	5,212	778.6	9.37	0.908	0.787	0.714	108.5	986	53.2	12:26:13 PM
38\S10\Inv1-CB38-S10 6-12-2018 12-26 PM.csv	610.7	8.53	5,208	774.2	9.40	0.907	0.789	0.715	108.8	984	53.5	12:26:22 PM
38\S11\Inv1-CB38-S11 6-12-2018 12-26 PM.csv	616.6	8.43	5,196	779.4	9.14	0.922	0.791	0.729	108.5	980	53.0	12:26:37 PM
38\S12\Inv1-CB38-S12 6-12-2018 12-26 PM.csv	617.8	8.37	5,170	780.3	9.06	0.923	0.792	0.731	109.5	966	52.9	12:26:46 PM
38\S13\Inv1-CB38-S13 6-12-2018 12-26 PM.csv	614.0	8.40	5,160	773.4	9.07	0.926	0.794	0.735	108.1	978	53.2	12:26:54 PM
38\S14\Inv1-CB38-S14 6-12-2018 12-27 PM.csv	614.8	8.59	5,279	780.1	9.55	0.899	0.788	0.708	109.6	989	53.1	12:27:04 PM
38\S15\Inv1-CB38-S15 6-12-2018 12-27 PM.csv	610.7	8.57	5,236	776.9	9.37	0.915	0.786	0.719	108.9	986	53.1	12:27:13 PM
38\S16\Inv1-CB38-S16 6-12-2018 12-27 PM.csv	610.2	8.46	5,162	773.8	9.28	0.911	0.788	0.718	107.7	985	53.3	12:27:26 PM
38\S17\Inv1-CB38-S17 6-12-2018 12-27 PM.csv	617.0	8.34	5,149	778.6	9.02	0.925	0.793	0.733	107.6	985	53.8	12:27:37 PM
38\S18\Inv1-CB38-S18 6-12-2018 12-27 PM.csv	618.7	8.39	5,193	778.7	9.15	0.917	0.795	0.729	108.4	986	53.6	12:27:44 PM
38\S19\Inv1-CB38-S19 6-12-2018 12-27 PM.csv	618.1	8.47	5,237	780.4	9.30	0.912	0.792	0.722	109.5	985	54.1	12:27:58 PM
38\S20\Inv1-CB38-S20 6-12-2018 12-28 PM.csv	618.1	8.39	5,186	780.6	9.40	0.892	0.792	0.706	106.6	997	53.9	12:28:06 PM
38\S21\Inv1-CB38-S21 6-12-2018 12-28 PM.csv	617.7	8.64	5,338	782.7	9.44	0.916	0.789	0.723	110.2	994	53.3	12:28:16 PM
38\S22\Inv1-CB38-S22 6-12-2018 12-28 PM.csv	618.8	8.70	5,383	785.0	9.51	0.915	0.788	0.721	110.1	1,003	53.0	12:28:23 PM
38\S23\Inv1-CB38-S23 6-12-2018 12-28 PM.csv	621.3	8.44	5,243	785.2	9.18	0.919	0.791	0.727	109.9	977	53.1	12:28:32 PM
38\S24\Inv1-CB38-S24 6-12-2018 12-28 PM.csv	621.7	8.48	5,269	785.7	9.23	0.918	0.791	0.727	109.6	986	53.3	12:28:40 PM
:B39\S1\Inv1-CB39-S1 6-12-2018 12-33 PM.csv	618.3	8.29	5,124	782.7	9.10	0.911	0.790	0.720	109.1	969	54.4	12:33:25 PM
:B39\S2\Inv1-CB39-S2 6-12-2018 12-33 PM.csv	618.6	8.44	5,219	783.5	9.26	0.911	0.790	0.720	108.6	990	54.0	12:33:46 PM
:B39\S3\Inv1-CB39-S3 6-12-2018 12-33 PM.csv	620.1	8.45	5,237	781.9	9.19	0.920	0.793	0.729	108.6	994	53.9	12:33:54 PM
:B39\S4\Inv1-CB39-S4 6-12-2018 12-34 PM.csv	618.6	8.57	5,299	782.1	9.31	0.920	0.791	0.728	109.4	998	53.9	12:34:02 PM
:B39\S5\Inv1-CB39-S5 6-12-2018 12-34 PM.csv	609.1	8.67	5,278	781.5	9.46	0.916	0.779	0.714	109.5	995	54.5	12:34:10 PM
:B39\S6\Inv1-CB39-S6 6-12-2018 12-34 PM.csv	601.9	8.68	5,227	775.1	9.50	0.914	0.777	0.710	108.1	995	53.7	12:34:19 PM
:B39\S7\Inv1-CB39-S7 6-12-2018 12-34 PM.csv	610.4	8.53	5,207	777.6	9.32	0.915	0.785	0.718	107.8	994	53.6	12:34:28 PM
:B39\S8\Inv1-CB39-S8 6-12-2018 12-34 PM.csv	609.8	8.48	5,174	777.6	9.30	0.912	0.784	0.715	107.2	990	53.3	12:34:35 PM
:B39\S9\Inv1-CB39-S9 6-12-2018 12-34 PM.csv	619.3	8.46	5,237	783.5	9.23	0.916	0.790	0.724	107.9	992	52.6	12:34:43 PM
39\S10\Inv1-CB39-S10 6-12-2018 12-34 PM.csv	619.7	8.29	5,136	783.0	9.14	0.907	0.791	0.718	107.3	979	52.6	12:34:51 PM
39\S11\Inv1-CB39-S11 6-12-2018 12-35 PM.csv	621.0	8.32	5,166	781.4	9.14	0.910	0.795	0.723	108.2	980	53.2	12:35:00 PM
39\S12\Inv1-CB39-S12 6-12-2018 12-35 PM.csv	611.7	8.45	5,172	779.6	9.27	0.912	0.785	0.715	107.4	988	53.3	12:35:09 PM
39\S13\Inv1-CB39-S13 6-12-2018 12-35 PM.csv	615.7	8.47	5,218	776.0	9.24	0.917	0.793	0.728	107.5	1,001	54.0	12:35:18 PM

## String Data

<b>File Folder</b>	<b>V<sub>mp</sub></b> <b>Volts</b>	<b>I<sub>mp</sub></b> <b>Amps</b>	<b>P<sub>max</sub></b> <b>Watts</b>	<b>V<sub>oc</sub></b> <b>Volts</b>	<b>I<sub>sc</sub></b> <b>Amps</b>	<b>I<sub>mp</sub> / I<sub>sc</sub></b>	<b>V<sub>mp</sub> / V<sub>oc</sub></b>	<b>FF</b>	<b>PF</b> <b>%</b>	<b>Irradiance</b> <b>(W/m<sup>2</sup>)</b>	<b>Temp.</b> <b>deg C</b>	<b>Time</b>
39\S14\Inv1-CB39-S14 6-12-2018 12-35 PM.csv	610.8	8.63	5,271	781.1	9.38	0.920	0.782	0.719	109.1	993	53.6	12:35:28 PM
39\S15\Inv1-CB39-S15 6-12-2018 12-35 PM.csv	609.7	8.61	5,247	781.0	9.38	0.918	0.781	0.716	107.4	997	52.0	12:35:38 PM
39\S16\Inv1-CB39-S16 6-12-2018 12-35 PM.csv	608.4	8.71	5,300	785.2	9.48	0.919	0.775	0.712	108.4	999	52.3	12:35:47 PM
39\S17\Inv1-CB39-S17 6-12-2018 12-35 PM.csv	609.4	8.65	5,269	782.5	9.41	0.918	0.779	0.715	107.6	1,000	52.1	12:35:56 PM
39\S18\Inv1-CB39-S18 6-12-2018 12-36 PM.csv	610.8	8.60	5,255	782.8	9.48	0.908	0.780	0.708	107.4	1,000	52.3	12:36:04 PM
39\S19\Inv1-CB39-S19 6-12-2018 12-36 PM.csv	616.8	8.52	5,257	782.3	9.33	0.913	0.788	0.720	107.7	1,000	52.8	12:36:12 PM
39\S20\Inv1-CB39-S20 6-12-2018 12-36 PM.csv	617.1	8.48	5,235	781.7	9.25	0.917	0.789	0.724	108.0	996	53.3	12:36:19 PM
39\S21\Inv1-CB39-S21 6-12-2018 12-36 PM.csv	614.2	8.59	5,277	780.7	9.37	0.917	0.787	0.721	108.8	992	52.5	12:36:27 PM
39\S22\Inv1-CB39-S22 6-12-2018 12-36 PM.csv	612.9	8.38	5,137	761.9	9.20	0.911	0.804	0.733	107.6	977	52.8	12:36:34 PM
39\S23\Inv1-CB39-S23 6-12-2018 12-36 PM.csv	615.5	8.44	5,192	782.3	9.23	0.914	0.787	0.719	108.3	982	52.9	12:36:41 PM
39\S24\Inv1-CB39-S24 6-12-2018 12-36 PM.csv	613.9	8.26	5,071	778.2	9.17	0.901	0.789	0.711	106.2	979	53.0	12:36:49 PM

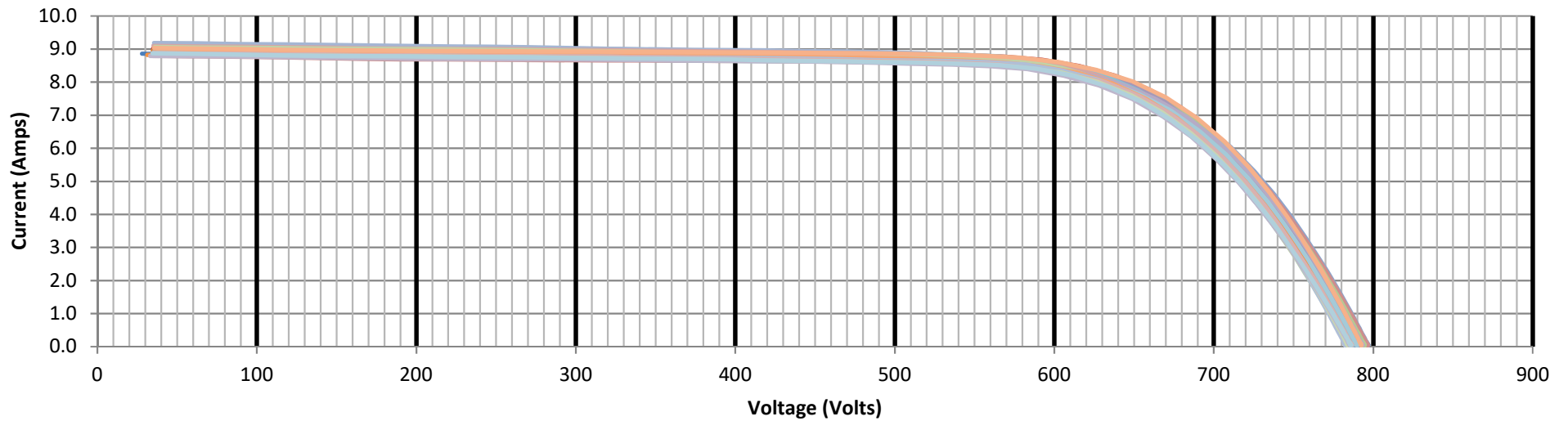
## I-V Curves for System Inv1 CB27

Inv1: CB27



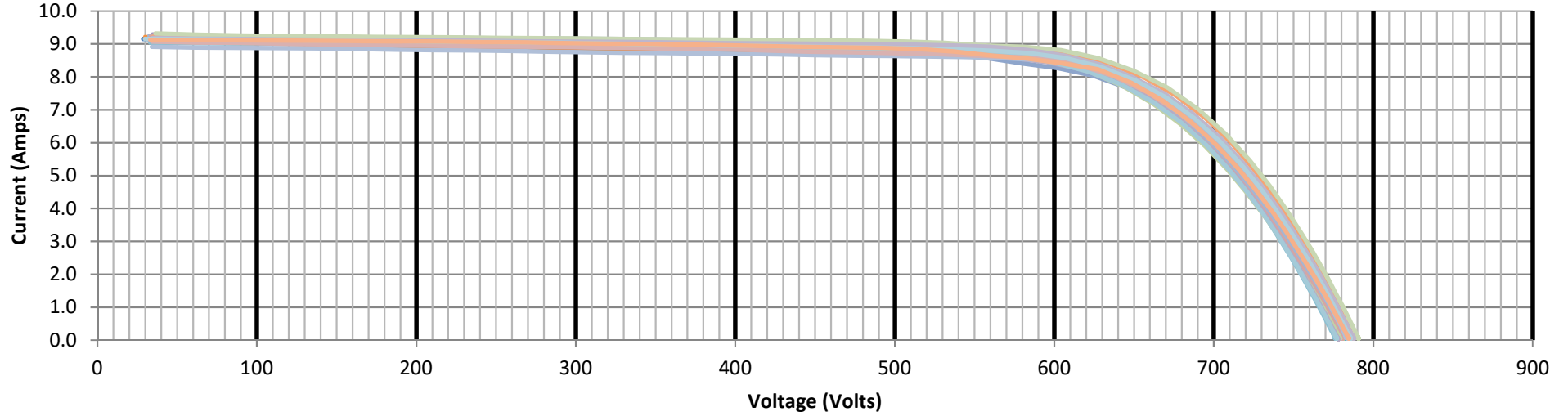
## I-V Curves for System Inv1 CB28

Inv1: CB28



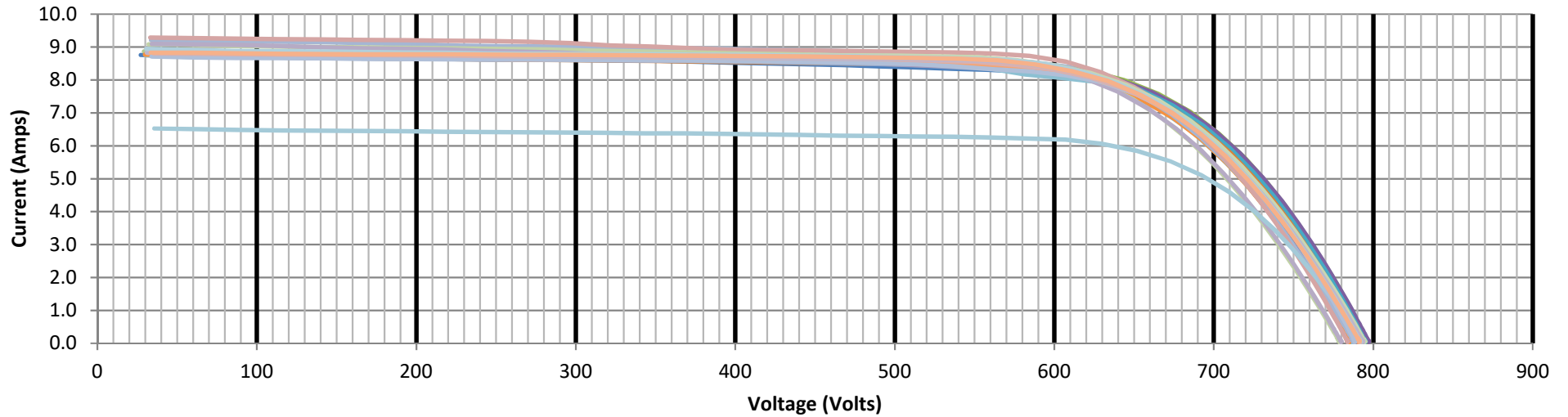
# I-V Curves for System Inv1 CB29

Inv1: CB29



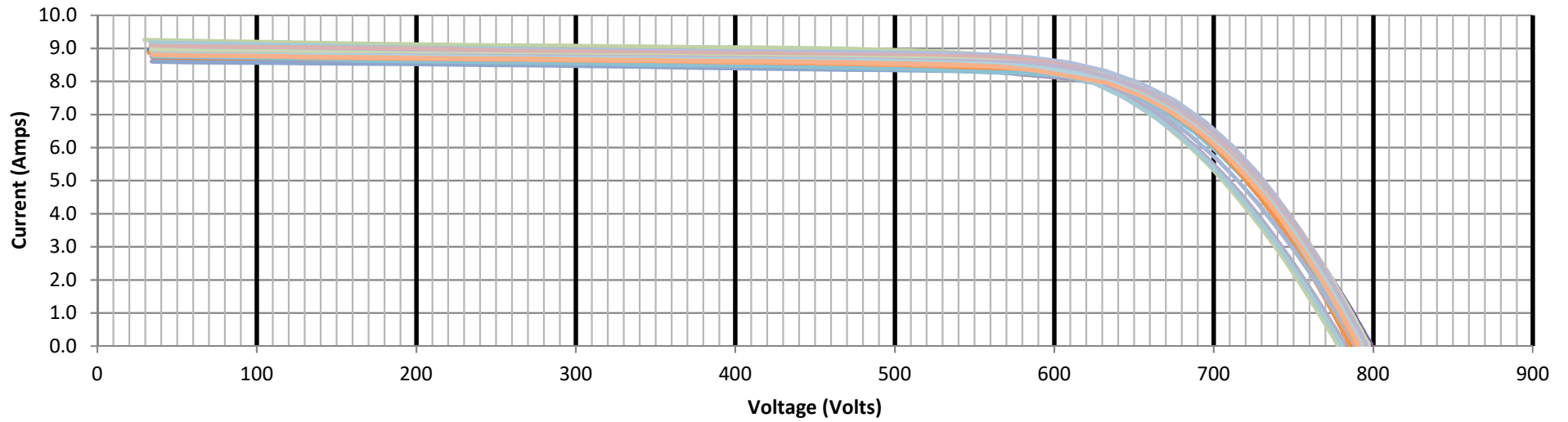
# I-V Curves for System Inv1 CB30

Inv1: CB30



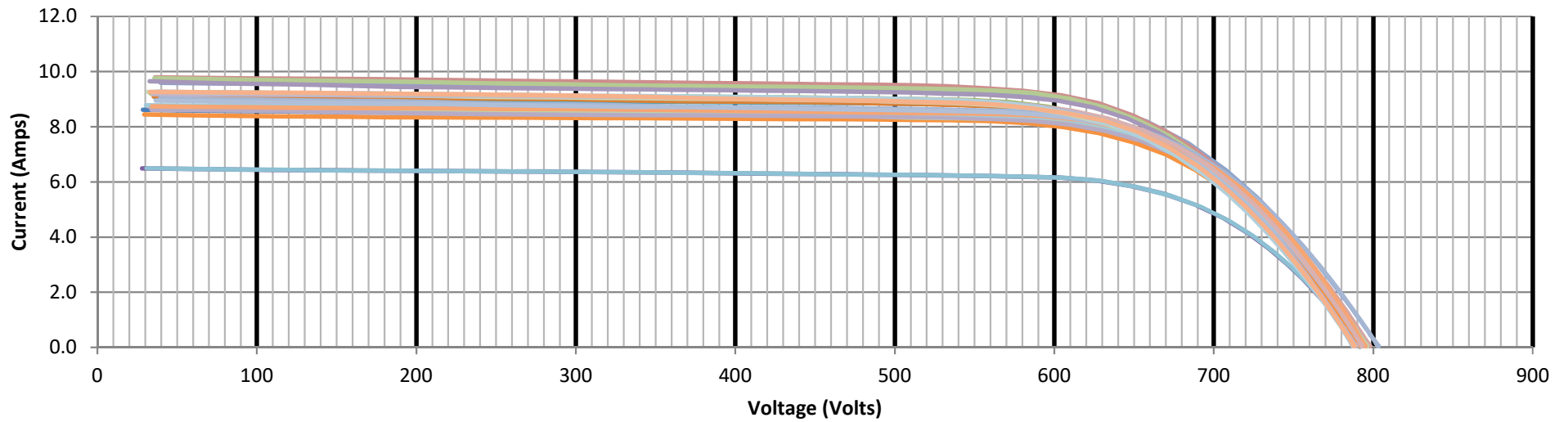
# I-V Curves for System Inv1 CB31

Inv1: CB31



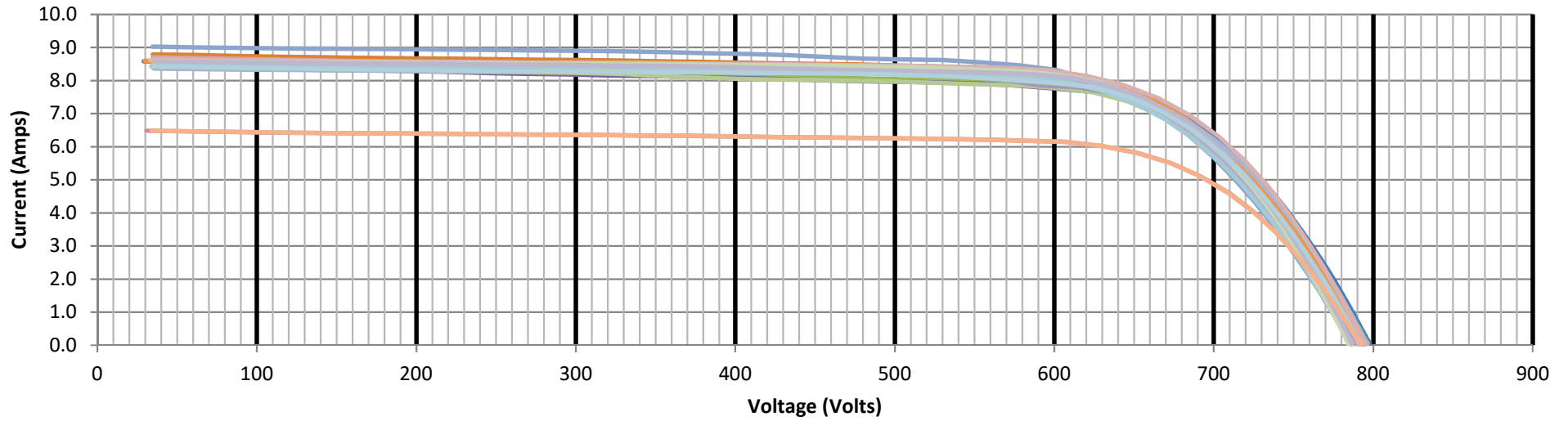
# I-V Curves for System Inv1 CB32

Inv1: CB32



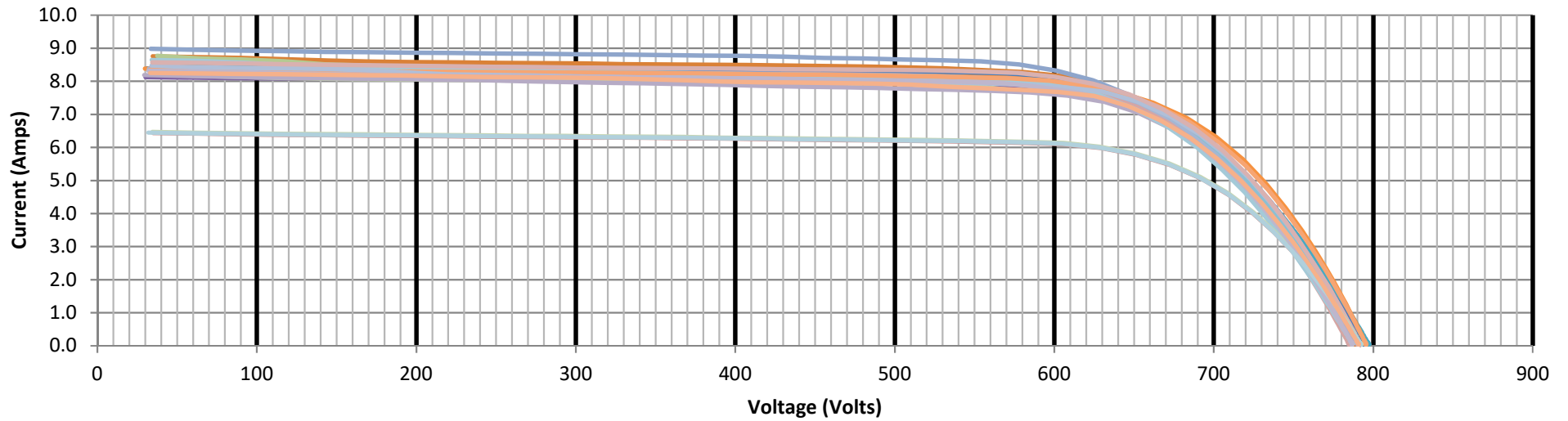
## I-V Curves for System Inv1 CB33

Inv1: CB33



## I-V Curves for System Inv1 CB34

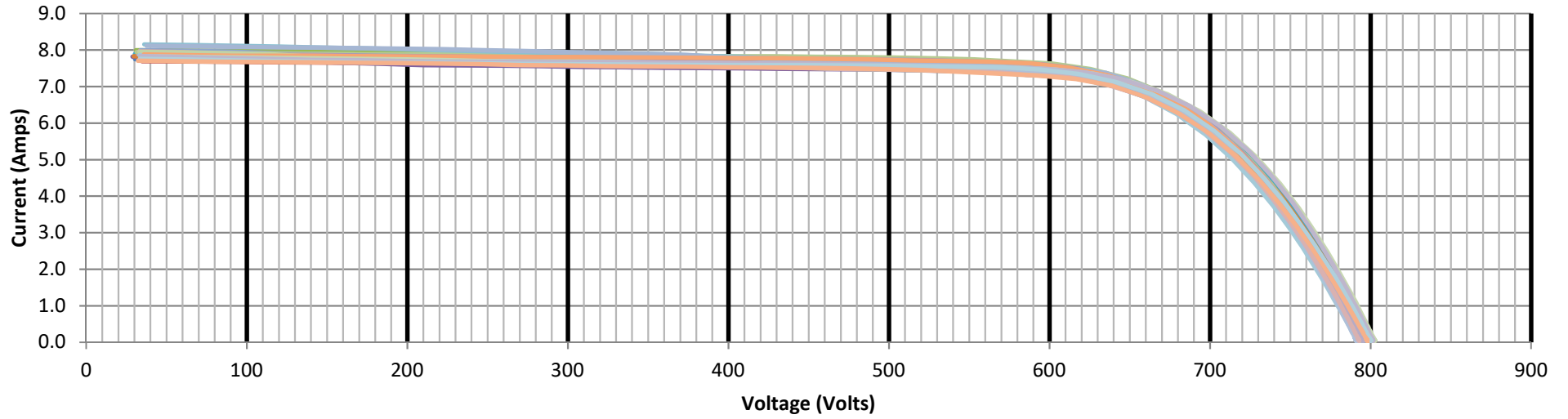
Inv1: CB34





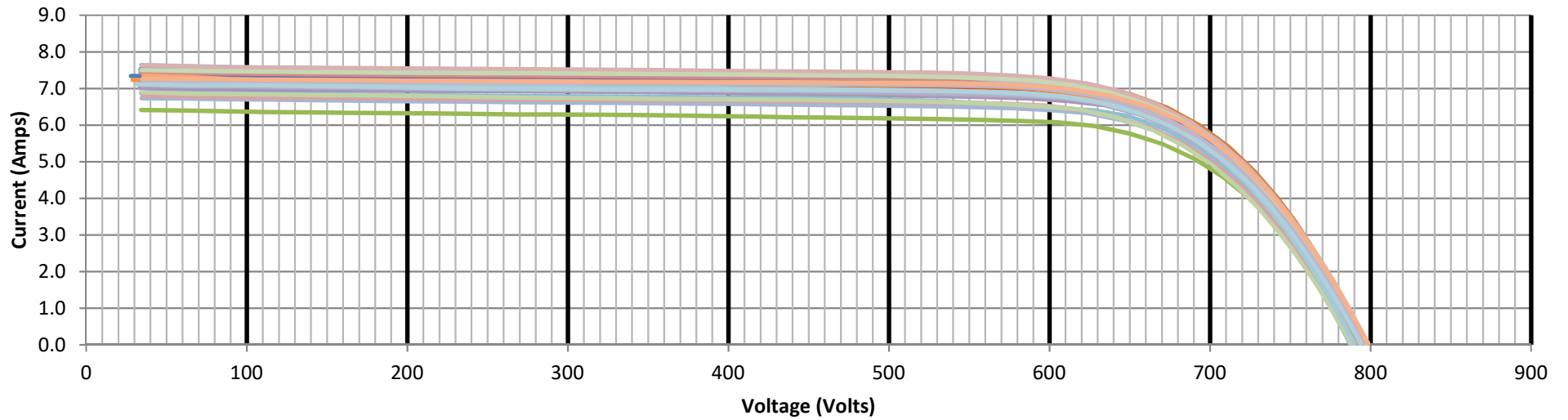
# I-V Curves for System Inv1 CB35

Inv1: CB35



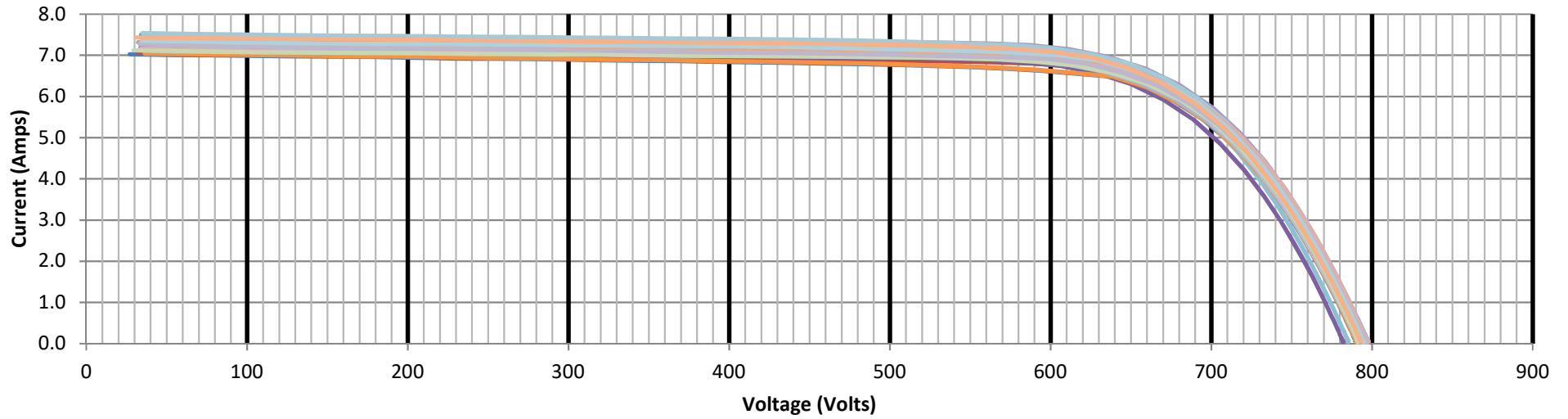
# I-V Curves for System Inv1 CB36

Inv1: CB36



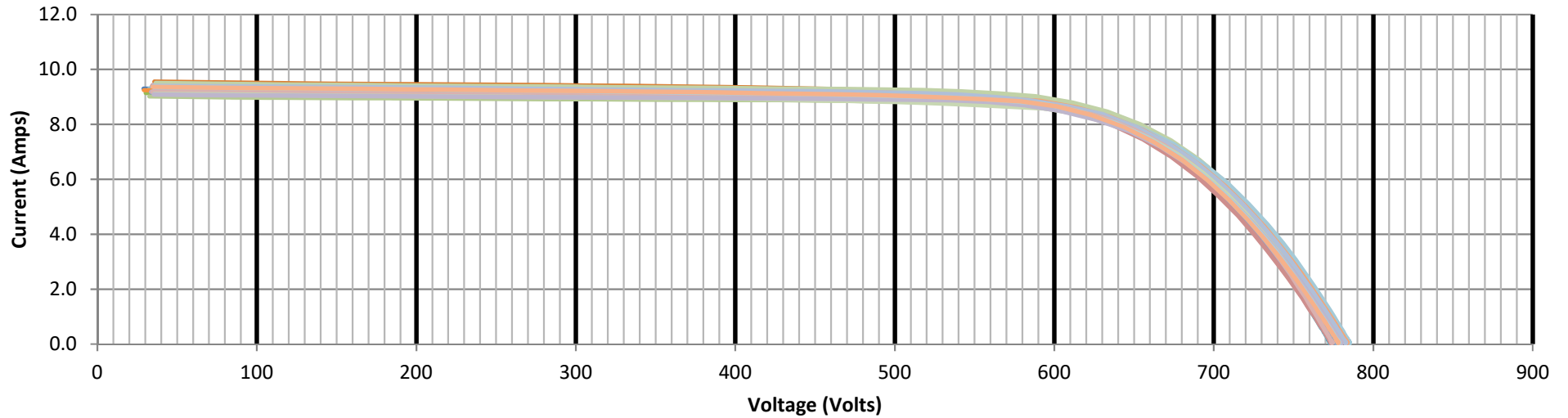
## I-V Curves for System Inv1 CB37

Inv1: CB37



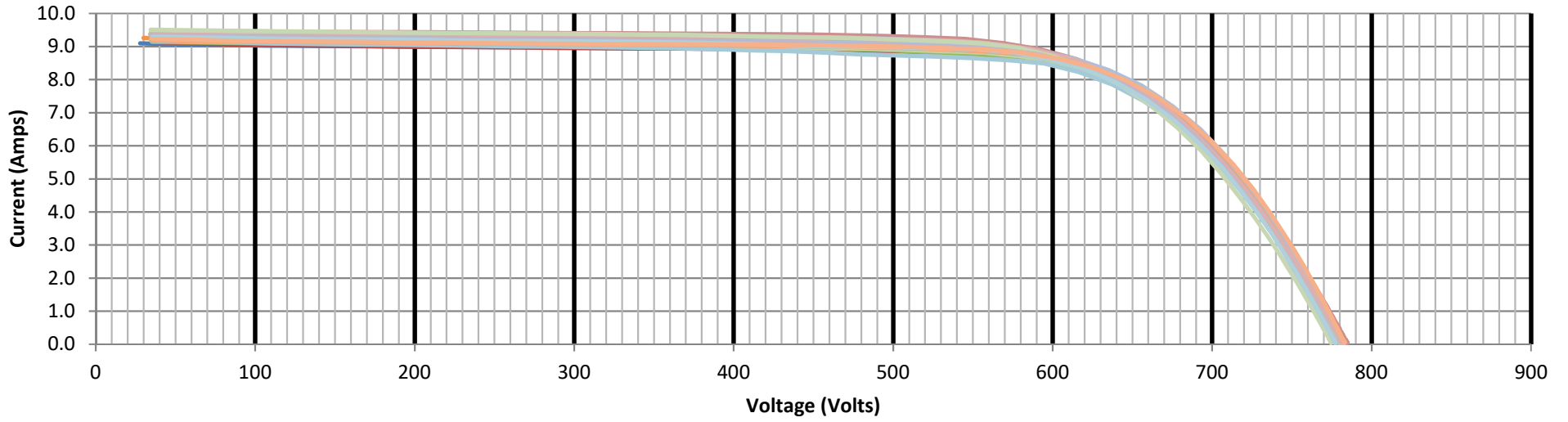
## I-V Curves for System Inv1 CB38

Inv1: CB38



# I-V Curves for System Inv1 CB39

Inv1: CB39





# Comment Summary

## Job #ProStar\_Shutesbury

S3 Power, Inc  
P.O. Box 856  
Norwood, MA 02062

PAGE \_\_\_\_\_

Customer Pro Star  
Owner Pro Star

Plant: <u>PV Field</u>	Date: <u>5/4/2018</u>
Substation: <u>Pad 1</u>	
Position: <u>Riser to Switch</u>	
Equipment: <u>13050 - VLF CABLE TEST</u>	
Comments: <u>Suitable for energization</u>	

Plant: <u>PV Field</u>	Date: <u>5/4/2018</u>
Substation: <u>Pad 1</u>	
Position: <u>Switch to Transformer 1</u>	
Equipment: <u>13050 - VLF CABLE TEST (2)</u>	
Comments: <u>Suitable for energization</u>	

Plant: <u>PV Field</u>	Date: <u>5/4/2018</u>
Substation: <u>Pad 2</u>	
Position: <u>Trans 2 to Trans 3</u>	
Equipment: <u>13050 - VLF CABLE TEST (2)</u>	
Comments: <u>Suitable for energization</u>	

Plant: <u>PV Field</u>	Date: <u>5/4/2018</u>
Substation: <u>Pad 2</u>	
Position: <u>Trans 2 to Trans 1</u>	
Equipment: <u>13050 - VLF CABLE TEST</u>	
Comments: <u>Suitable for energization</u>	



# Table of Contents

## Job #ProStar\_Shutesbury

S3 Power, Inc  
P.O. Box 856  
Norwood, MA 02062

PAGE \_\_\_\_\_

Customer Pro Star  
Owner Pro Star

Plant	Substation	Position	PAGE NO.
Asset			
PV Field 13050 - VLF CABLE TEST	Pad 1	Riser to Switch	
PV Field 13050 - VLF CABLE TEST (2)	Pad 1	Switch to Transformer 1	
PV Field 13050 - VLF CABLE TEST (2)	Pad 2	Trans 2 to Trans 3	
PV Field 13050 - VLF CABLE TEST	Pad 2	Trans 2 to Trans 1	



# VLF CABLE TEST

S3 Power, Inc  
P.O. Box 856  
Norwood, MA 02062

CUSTOMER Pro Star PAGE \_\_\_\_\_  
 ADDRESS 130 Pratt Corner RD; Shutesbury MA USA 01072 JOB # ProStar Shutesbury  
 OWNER Pro Star ASSET ID \_\_\_\_\_  
 ADDRESS 18 ROSEWOOD AVE.; AYER MA MIDDLESEX 01432  
 DATE 5/4/2018 AMBIENT TEMPERATURE 75 °F HUMIDITY 72 % PLANT LOCATION \_\_\_\_\_  
 SUBSTATION Pad 1 POSITION Riser to Switch

OPERATING VOLTAGE 13.2 kV INSTALLED IN  CONDUIT  TRAY LENGTH 850 FT CABLE TEMPERATURE 20 °C  
 MANUFACTURER Hendrix INSULATION TYPE XLP INSULATION THICKNESS 175 MILS  
 SIZE 350 MCM NO. OF CONDUCTORS 1CX3 CONDUCTOR MATERIAL  CU  AL  
 RATED VOLTAGE 15 kV  GROUNDED  SHIELDED  BELTED AGE 2018  
 UNGROUNDED  UNSHIELDED (PILC)  
 RESISTANCE GROUND  CONCENTRIC NEUTRAL  
 CABLE SOURCE Recloser CABLE TERMINATION POINT Riser  
 CONNECTED EQUIPMENT VLF-34E ISOLATE CABLE  Y  N  ARRESTERS  POT FUSES  
 NUMBER OF MANHOLES 1 NUMBER OF TERMINATIONS \_\_\_\_\_ NUMBER OF SPLICES 0  
 TERMINATION / SPLICES  HAND TAPED  3-M TERM. KIT  RAYCHEM KIT  Other Elastimold Deadbreak

RMS TEST VOLTAGE 22 kV BREAKDOWN  YES  NO PLANNED TEST DURATION \_\_\_\_\_ START TIME \_\_\_\_\_  
 Test Frequency 0.1 Hz TIME TO FAILURE \_\_\_\_\_ MIN  1 MIN  15 MIN  30 MIN  60 MIN  
 SHIELD RESISTANCE A-B \_\_\_\_\_ OHMS B-C \_\_\_\_\_ OHMS C-A \_\_\_\_\_ OHMS  
 WAVE SHAPE  SINE  COSINE / RECTANGULAR  Other \_\_\_\_\_ END TIME \_\_\_\_\_  
 TEST TYPE  WITHSTAND  PASS / FAIL  DIAGNOSTIC SEE COMMENT BELOW

PHASE A OR  PHASE A, B, C  PHASE B  PHASE C

TESTS (MINUTES)	<input checked="" type="checkbox"/> PHASE A OR <input type="checkbox"/> PHASE A, B, C			<input checked="" type="checkbox"/> PHASE B			<input checked="" type="checkbox"/> PHASE C		
	MEGOHMS	NANO FARADS	MICRO AMPS	MEGOHMS	NANO FARADS	MICRO AMPS	MEGOHMS	NANO FARADS	MICRO AMPS
1		0.091	1.25		0.09	1.258		0.09	1.241
5		0.091	1.25		0.09	1.258		0.09	1.241
10		0.091	1.25		0.09	1.258		0.09	1.241
15		0.091	1.25		0.09	1.258		0.09	1.241
20		0.091	1.25		0.09	1.258		0.09	1.241
25		0.091	1.25		0.09	1.258		0.09	1.241
30		0.091	1.25		0.09	1.258		0.09	1.241
45									
60									

COMMENTS: Suitable for energization  
 DEFICIENCIES: \_\_\_\_\_

TEST EQUIPMENT USED: VLF34E TESTED BY: Scott Guarente



# VLF CABLE TEST

S3 Power, Inc  
P.O. Box 856  
Norwood, MA 02062

CUSTOMER Pro Star PAGE \_\_\_\_\_  
 ADDRESS 130 Pratt Corner RD; Shutesbury MA USA 01072 JOB # ProStar Shutesbury  
 OWNER Pro Star ASSET ID \_\_\_\_\_  
 ADDRESS 18 ROSEWOOD AVE.; AYER MA MIDDLESEX 01432  
 DATE 5/4/2018 AMBIENT TEMPERATURE 75 °F HUMIDITY 72 % PLANT LOCATION \_\_\_\_\_  
 SUBSTATION Pad 1 POSITION Switch to Transformer 1

OPERATING VOLTAGE 13.2 kV INSTALLED IN  CONDUIT  TRAY LENGTH 30 FT CABLE TEMPERATURE 20 °C  
 MANUFACTURER Hendrix INSULATION TYPE XLP INSULATION THICKNESS 175 MILS  
 SIZE 350 MCM NO. OF CONDUCTORS 1CX3 CONDUCTOR MATERIAL  CU  AL  
 RATED VOLTAGE 15 kV  GROUNDED  SHIELDED  BELTED AGE 2018  
 UNGROUNDED  UNSHIELDED (PILC)  
 RESISTANCE GROUND  CONCENTRIC NEUTRAL  
 CABLE SOURCE Recloser CABLE TERMINATION POINT Transformer  
 CONNECTED EQUIPMENT VLF-34E ISOLATE CABLE  Y  N  ARRESTERS  POT FUSES  
 NUMBER OF MANHOLES 0 NUMBER OF TERMINATIONS 2 NUMBER OF SPLICES \_\_\_\_\_  
 TERMINATION / SPLICES  HAND TAPED  3-M TERM. KIT  RAYCHEM KIT  Other Elastimold Deadbreak

RMS TEST VOLTAGE 22 kV BREAKDOWN  YES  NO PLANNED TEST DURATION \_\_\_\_\_ START TIME \_\_\_\_\_  
 Test Frequency 0.1 Hz TIME TO FAILURE \_\_\_\_\_ MIN  1 MIN  15 MIN  30 MIN  60 MIN  
 SHIELD RESISTANCE A-B \_\_\_\_\_ OHMS B-C \_\_\_\_\_ OHMS C-A \_\_\_\_\_ OHMS  
 WAVE SHAPE  SINE  COSINE / RECTANGULAR  Other \_\_\_\_\_ END TIME \_\_\_\_\_  
 TEST TYPE  WITHSTAND  PASS / FAIL  DIAGNOSTIC SEE COMMENT BELOW

PHASE A OR  PHASE A, B, C  PHASE B  PHASE C

TESTS (MINUTES)	<input checked="" type="checkbox"/> PHASE A			<input checked="" type="checkbox"/> PHASE B			<input checked="" type="checkbox"/> PHASE C		
	MEGOHMS	NANO FARADS	MICRO AMPS	MEGOHMS	NANO FARADS	MICRO AMPS	MEGOHMS	NANO FARADS	MICRO AMPS
1		0.006	0.08		0.006	0.079		0.006	0.078
5		0.006	0.08		0.006	0.079		0.006	0.078
10		0.006	0.08		0.006	0.079		0.006	0.078
15		0.006	0.08		0.006	0.079		0.006	0.078
20		0.006	0.08		0.006	0.079		0.006	78
25		0.006	0.08		0.006	0.079		0.006	0.078
30		0.006	0.08		0.006	0.079		0.006	0.078
45									
60									

COMMENTS: Suitable for energization  
 DEFICIENCIES: \_\_\_\_\_

TEST EQUIPMENT USED: VLF34E TESTED BY: Scott Guarente



# VLF CABLE TEST

S3 Power, Inc  
P.O. Box 856  
Norwood, MA 02062

CUSTOMER Pro Star PAGE \_\_\_\_\_  
 ADDRESS 130 Pratt Corner RD; Shutesbury MA USA 01072 JOB # ProStar Shutesbury  
 OWNER Pro Star ASSET ID \_\_\_\_\_  
 ADDRESS 18 ROSEWOOD AVE.; AYER MA MIDDLESEX 01432  
 DATE 5/4/2018 AMBIENT TEMPERATURE 75 °F HUMIDITY 72 % PLANT LOCATION \_\_\_\_\_  
 SUBSTATION Pad 2 POSITION MV

OPERATING VOLTAGE \_\_\_\_\_ kV INSTALLED IN  CONDUIT  TRAY LENGTH 450 FT CABLE TEMPERATURE 20 °C  
 MANUFACTURER Hendrix INSULATION TYPE XLP INSULATION THICKNESS 175 MILS  
 SIZE 350 MCM NO. OF CONDUCTORS \_\_\_\_\_ CONDUCTOR MATERIAL  CU  AL  
 RATED VOLTAGE 15 kV  GROUNDED  SHIELDED  BELTED AGE 2018  
 UNGROUNDED  UNSHIELDED (PILC)  
 RESISTANCE GROUND  CONCENTRIC NEUTRAL  
 CABLE SOURCE Transformer 2 CABLE TERMINATION POINT Transformer 3  
 CONNECTED EQUIPMENT VLF-34E ISOLATE CABLE  Y  N  ARRESTERS  POT FUSES  
 NUMBER OF MANHOLES 0 NUMBER OF TERMINATIONS 2 NUMBER OF SPLICES 0  
 TERMINATION / SPLICES  HAND TAPED  3-M TERM. KIT  RAYCHEM KIT  Other Elastimold Deadbreak

RMS TEST VOLTAGE 22 kV BREAKDOWN  YES  NO PLANNED TEST DURATION \_\_\_\_\_ START TIME \_\_\_\_\_  
 Test Frequency 0.1 Hz TIME TO FAILURE \_\_\_\_\_ MIN  1 MIN  15 MIN  30 MIN  60 MIN  
 SHIELD RESISTANCE A-B \_\_\_\_\_ OHMS B-C \_\_\_\_\_ OHMS C-A \_\_\_\_\_ OHMS  
 WAVE SHAPE  SINE  COSINE / RECTANGULAR  Other \_\_\_\_\_ END TIME \_\_\_\_\_  
 TEST TYPE  WITHSTAND  PASS / FAIL  DIAGNOSTIC SEE COMMENT BELOW

PHASE A OR  PHASE A, B, C  PHASE B  PHASE C

TESTS (MINUTES)	<input type="checkbox"/> PHASE A OR <input type="checkbox"/> PHASE A, B, C			<input type="checkbox"/> PHASE B			<input type="checkbox"/> PHASE C		
	MEGOHMS	NANO FARADS	MICRO AMPS	MEGOHMS	NANO FARADS	MICRO AMPS	MEGOHMS	NANO FARADS	MICRO AMPS
1		0.048	0.656		0.047	0.647		0.047	0.654
5		0.048	0.656		0.047	0.647		0.047	0.645
10		0.048	0.656		0.047	0.647		0.047	0.645
15		0.048	0.656		0.047	0.647		0.047	0.645
20		0.048	0.656		0.047	0.647		0.047	0.645
25		0.048	0.656		0.047	0.647		0.047	0.645
30		0.048	0.656		0.047	0.647		0.047	0.645
45									
60									

COMMENTS: Suitable for energization  
 DEFICIENCIES: \_\_\_\_\_

TEST EQUIPMENT USED: VLF34E TESTED BY: Scott Guarente





# VLF CABLE TEST

S3 Power, Inc  
P.O. Box 856  
Norwood, MA 02062

CUSTOMER Pro Star PAGE \_\_\_\_\_  
 ADDRESS 130 Pratt Corner RD; Shutesbury MA USA 01072 JOB # ProStar Shutesbury  
 OWNER Pro Star ASSET ID \_\_\_\_\_  
 ADDRESS 18 ROSEWOOD AVE.; AYER MA MIDDLESEX 01432  
 DATE 5/4/2018 AMBIENT TEMPERATURE 75 °F HUMIDITY 72 % PLANT LOCATION \_\_\_\_\_  
 SUBSTATION Pad 2 POSITION Trans 2 to Trans 1

OPERATING VOLTAGE 13.2 kV INSTALLED IN  CONDUIT  TRAY LENGTH 720 FT CABLE TEMPERATURE 20 °C  
 MANUFACTURER Hendrix INSULATION TYPE XLP INSULATION THICKNESS 175 MILS  
 SIZE 350 MCM NO. OF CONDUCTORS 1CX3 CONDUCTOR MATERIAL  CU  AL  
 RATED VOLTAGE 15 kV  GROUNDED  SHIELDED  BELTED AGE 2018  
 UNGROUNDED  UNSHIELDED (PILC)  
 RESISTANCE GROUND  CONCENTRIC NEUTRAL  
 CABLE SOURCE Transformer 1 CABLE TERMINATION POINT Transformer 2  
 CONNECTED EQUIPMENT VLF-34E ISOLATE CABLE  Y  N  ARRESTERS  POT FUSES  
 NUMBER OF MANHOLES \_\_\_\_\_ NUMBER OF TERMINATIONS 2 NUMBER OF SPLICES 0  
 TERMINATION / SPLICES  HAND TAPED  3-M TERM. KIT  RAYCHEM KIT  Other Elastimold Deadbreak

RMS TEST VOLTAGE 22 kV BREAKDOWN  YES  NO PLANNED TEST DURATION \_\_\_\_\_ START TIME \_\_\_\_\_  
 Test Frequency 0.1 Hz TIME TO FAILURE \_\_\_\_\_ MIN  1 MIN  15 MIN  30 MIN  60 MIN  
 SHIELD RESISTANCE A-B \_\_\_\_\_ OHMS B-C \_\_\_\_\_ OHMS C-A \_\_\_\_\_ OHMS  
 WAVE SHAPE  SINE  COSINE / RECTANGULAR  Other \_\_\_\_\_ END TIME \_\_\_\_\_  
 TEST TYPE  WITHSTAND  PASS / FAIL  DIAGNOSTIC SEE COMMENT BELOW

PHASE A OR  PHASE A, B, C  PHASE B  PHASE C

TESTS (MINUTES)	<input checked="" type="checkbox"/> PHASE A			<input checked="" type="checkbox"/> PHASE B			<input checked="" type="checkbox"/> PHASE C		
	MEGOHMS	NANO FARADS	MICRO AMPS	MEGOHMS	NANO FARADS	MICRO AMPS	MEGOHMS	NANO FARADS	MICRO AMPS
1		0.077	1.059		0.076	1.045		0.076	1.045
5		0.077	1.059		0.076	1.045		0.076	1.045
10		0.077	1.059		0.076	1.045		0.076	1.045
15		0.077	1.059		0.076	1.045		0.076	1.045
20		0.077	1.059		0.076	1.045		0.076	1.045
25		0.077	1.059		0.076	1.045		0.076	1.045
30		0.077	1.059		0.076	1.045		0.076	1.045
45									
60									

COMMENTS: Suitable for energization  
 DEFICIENCIES: \_\_\_\_\_

TEST EQUIPMENT USED: VLF34E TESTED BY: Scott Guarente

# Appendix B



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

5/17/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Beecher Carlson Insurance Services 6 Concourse Parkway, Suite 2300 Atlanta, GA 30328  www.beechercarlson.com	<b>CONTACT NAME:</b> Beecher Carlson Insurance Services <b>PHONE (A/C, No. Ext):</b> 678-539-4800 <b>E-MAIL ADDRESS:</b>	<b>FAX (A/C, No):</b> 770-870-3031
	<b>INSURER(S) AFFORDING COVERAGE</b>	
<b>INSURED</b> DG LSDP 12, LLC NextEra Energy, Inc. NextEra Energy Resources, LLC 700 Universe Boulevard Juno Beach FL 33408-2657	<b>INSURER A:</b> Indemnity Insurance Co of North America <b>NAIC #</b> 43575	
	<b>INSURER B:</b>	
	<b>INSURER C:</b> Liberty Insurance Corporation <b>NAIC #</b> 42404	
	<b>INSURER D:</b>	
	<b>INSURER E:</b>	
	<b>INSURER F:</b>	

**COVERAGES**

CERTIFICATE NUMBER: 61741022

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Time Element Pollution GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:	<input checked="" type="checkbox"/>		CGO G71567503	9/15/2020	9/15/2021	EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$1,000,000 MED EXP (Any one person) \$10,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$1,000,000 \$
	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	<input type="checkbox"/> <b>UMBRELLA LIAB</b> <input type="checkbox"/> OCCUR <input type="checkbox"/> <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
C	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below			WA7-64D-443108-040 (AOS)	9/15/2020	9/15/2021	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER
C			N/A	WC7-641-443108-05 (WI)	9/15/2020	9/15/2021	E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Re: SP Decision Wheelock Solar (6-6-16).  
 Town of Shutesbury is included as Additional Insured (excluding Workers' Compensation) except where not permissible by law if required by written contract subject to policy terms, conditions and exclusions.

**CERTIFICATE HOLDER****CANCELLATION**

Town of Shutesbury PO Box 276 Shutesbury MA 01072	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE <i>Beecher Carlson Insurance Services, LLC</i> Beecher Carlson Insurance Services, LLC

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ACORD 25 (2016/03)

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