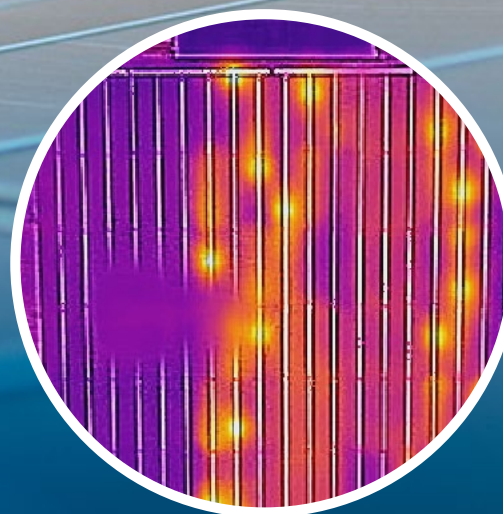


SOLARTESTER

INSPECTION REPORT





✓ PROFESSIONAL

✓ MOBILE

✓ INDEPENDENT

Project Details

Client	Solar Tester BV	Test Date	Februari 1st 2022
Project	Demo	Operator	Dirk van der Lee
Address	Graafse Baan 139 5248NL Rosmalen The Netherlands		

Module Details

Module Brand	Any brand	Number of modules tested	50
Module Type	Mono or poly 450W		
Nominal power STC (nameplate)	450		
Number of cells per module	144		

Calibration module H03200801206541

Average power at STC

452,28 Watt
100,5% of nom
↑ 0,51% deviation

Lowest STC power

447,96 Watt
99,5% of nom
↓ -0,45% deviation

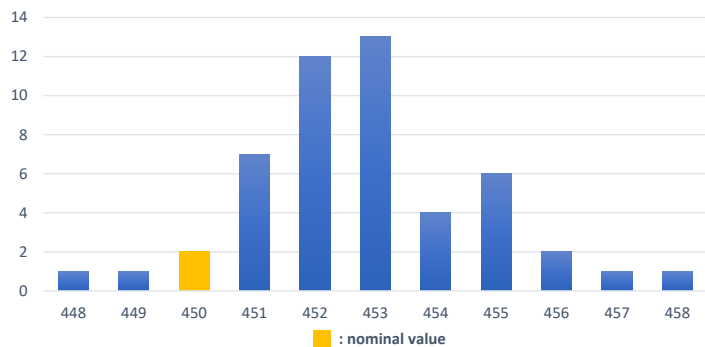
Highest STC power

457,09 Watt
101,6% of nom
↑ 1,58% deviation

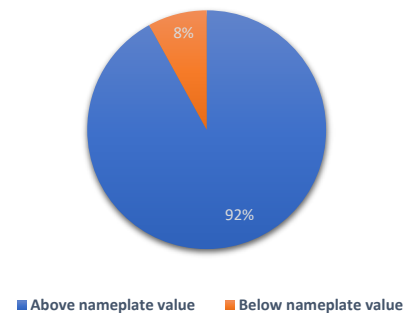
Module classification

100,00% Class A
0,00% Class B
0,00% Class C
0,00% Class D

Power measurement distribution



MPP versus Nameplate value



Conclusion

Power Measurement The test shows average module power is 0.51% higher than nameplate value.

Electroluminescence imaging All modules are classified as Class A.

Detailed test results Electroluminescence imaging

Evaluation protocol:	Standard MBJ / TÜV version 3.4 - www.solartester.nl/downloads		
Cell classification		# cells found	percentage
Unmarked	No abnormalities	7066	98,14%
EL green	Uncritical cracks; do not lead directly to a degradation of the module. Other cracks and cell breaks are acceptable if they are not able to disconnect cell areas larger than 1 %.	134	1,86%
EL yellow	Critical: All cell areas that can potentially disconnect cell areas larger 1 % and smaller 20 % from power supply or which already do so.	0	0,00%
EL red	Very critical: Cell breaks that can potentially disconnect more than 20% of the cell area from the power supply are classified in the 'very critical' category and marked red. This category includes above all comminuted or fan-like breaks. Red cells lead directly to the classification of a PV module in the class C	0	0,00%
EL blue	Other EL abnormalities (shunts, dark cells, printing failures, edge contamination, ...). This category includes all defects which have occurred in the module manufacturing process and which have no negative impact on performance within the lifetime of the photovoltaic module. Such defects are normally uncritical and marked blue, since the power loss of the cell is already entered in the performance specified by the manufacturer. Consequential damages are not expected.	0	0,00%

Module Classification

		# of modules	percentage
A	less than 10% green marked cells, no yellow or red	50	100,00%
B	less than 20% green marked cells, less than 10% yellow, no red, total # marked cells less than 20%	0	0,00%
C	more than 20% green marked, more than 10% yellow marked, less than 10% red marked, total # marked cells less than 30%	0	0,00%
D	more than 10% red marked, total # marked cells more than 30%	0	0,00%

Disclaimer

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Flash / EL Data summary

ModuleID	ParameterSetName	Judgement	MPP@STC	ELRed	ELYellow	ELGreen	ELBlue	CommentJudgment
LRP904086210800311709	Any brand / Mono or poly 450W CLASSA		454,14	0	0	1	0	
LRP904086210800311753	Any brand / Mono or poly 450W CLASSA		447,96	0	0	4	0	
LRP904086210800310773	Any brand / Mono or poly 450W CLASSA		451	0	0	3	0	
LRP904086210800311689	Any brand / Mono or poly 450W CLASSA		449,08	0	0	1	0	
LRP904086210800311684	Any brand / Mono or poly 450W CLASSA		450,89	0	0	7	0	
LRP904086210800311681	Any brand / Mono or poly 450W CLASSA		452,2	0	0	2	0	
LRP904086210800311715	Any brand / Mono or poly 450W CLASSA		451,83	0	0	5	0	
LRP904086210800311697	Any brand / Mono or poly 450W CLASSA		450,35	0	0	3	0	
LRP904086210800311691	Any brand / Mono or poly 450W CLASSA		448,68	0	0	0	0	
LRP904086210800311736	Any brand / Mono or poly 450W CLASSA		450,33	0	0	2	0	
LRP904086210800310650	Any brand / Mono or poly 450W CLASSA		450,41	0	0	3	0	
LRP904086210800311731	Any brand / Mono or poly 450W CLASSA		450,71	0	0	2	0	
LRP904086210800311730	Any brand / Mono or poly 450W CLASSA		449,81	0	0	2	0	
LRP904086210800311720	Any brand / Mono or poly 450W CLASSA		452,44	0	0	0	0	
LRP904086210800311718	Any brand / Mono or poly 450W CLASSA		451,02	0	0	2	0	
LRP904086210800311728	Any brand / Mono or poly 450W CLASSA		450,48	0	0	1	0	
LRP904086210800311727	Any brand / Mono or poly 450W CLASSA		451,79	0	0	2	0	
LRP904086210800311717	Any brand / Mono or poly 450W CLASSA		451,91	0	0	8	0	
LRP904086210800311754	Any brand / Mono or poly 450W CLASSA		451,45	0	0	4	0	
LRP904086210800311714	Any brand / Mono or poly 450W CLASSA		452,18	0	0	3	0	
LRP904086210800310669	Any brand / Mono or poly 450W CLASSA		454,13	0	0	2	0	
LRP904086210800311713	Any brand / Mono or poly 450W CLASSA		452,61	0	0	3	0	
LRP904086210800311729	Any brand / Mono or poly 450W CLASSA		454,21	0	0	3	0	
LRP904086210800311778	Any brand / Mono or poly 450W CLASSA		452,71	0	0	1	0	
LRP904086210800311719	Any brand / Mono or poly 450W CLASSA		451,22	0	0	5	0	
LRP904086210800311783	Any brand / Mono or poly 450W CLASSA		455,18	0	0	3	0	
LRP904086210800311711	Any brand / Mono or poly 450W CLASSA		451,63	0	0	4	0	
LRP904086210800310667	Any brand / Mono or poly 450W CLASSA		453,73	0	0	1	0	
LRP904086210800311710	Any brand / Mono or poly 450W CLASSA		454,37	0	0	1	0	
LRP904086210800311712	Any brand / Mono or poly 450W CLASSA		457,09	0	0	0	0	
LRP904086210800310358	Any brand / Mono or poly 450W CLASSA		453,05	0	0	3	0	
LRP904086210800310683	Any brand / Mono or poly 450W CLASSA		456,14	0	0	5	0	
LRP904086210800310300	Any brand / Mono or poly 450W CLASSA		452,3	0	0	3	0	
LRP904086210800310682	Any brand / Mono or poly 450W CLASSA		451,11	0	0	4	0	
LRP904086210800310681	Any brand / Mono or poly 450W CLASSA		453,41	0	0	0	0	
LRP904086210800310679	Any brand / Mono or poly 450W CLASSA		452,5	0	0	1	0	
LRP904086210800310680	Any brand / Mono or poly 450W CLASSA		453	0	0	2	0	
LRP904086210800310670	Any brand / Mono or poly 450W CLASSA		455,94	0	0	1	0	
LRP904086210800308579	Any brand / Mono or poly 450W CLASSA		452,13	0	0	1	0	
LRP904086210800310728	Any brand / Mono or poly 450W CLASSA		452,89	0	0	3	0	
LRP904086210800308576	Any brand / Mono or poly 450W CLASSA		453,3	0	0	2	0	
LRP904086210800308582	Any brand / Mono or poly 450W CLASSA		452,6	0	0	2	0	
LRP904086210800310716	Any brand / Mono or poly 450W CLASSA		452	0	0	10	0	
LRP904086210800310705	Any brand / Mono or poly 450W CLASSA		451,84	0	0	2	0	
LRP904086210800308589	Any brand / Mono or poly 450W CLASSA		452,29	0	0	6	0	
LRP904086210800310720	Any brand / Mono or poly 450W CLASSA		451,85	0	0	0	0	
LRP904086210800310710	Any brand / Mono or poly 450W CLASSA		451,2	0	0	2	0	
LRP904086210800310361	Any brand / Mono or poly 450W CLASSA		452,74	0	0	5	0	
LRP904086210800310700	Any brand / Mono or poly 450W CLASSA		454,04	0	0	1	0	
LRP904086210800310699	Any brand / Mono or poly 450W CLASSA		454,3	0	0	3	0	