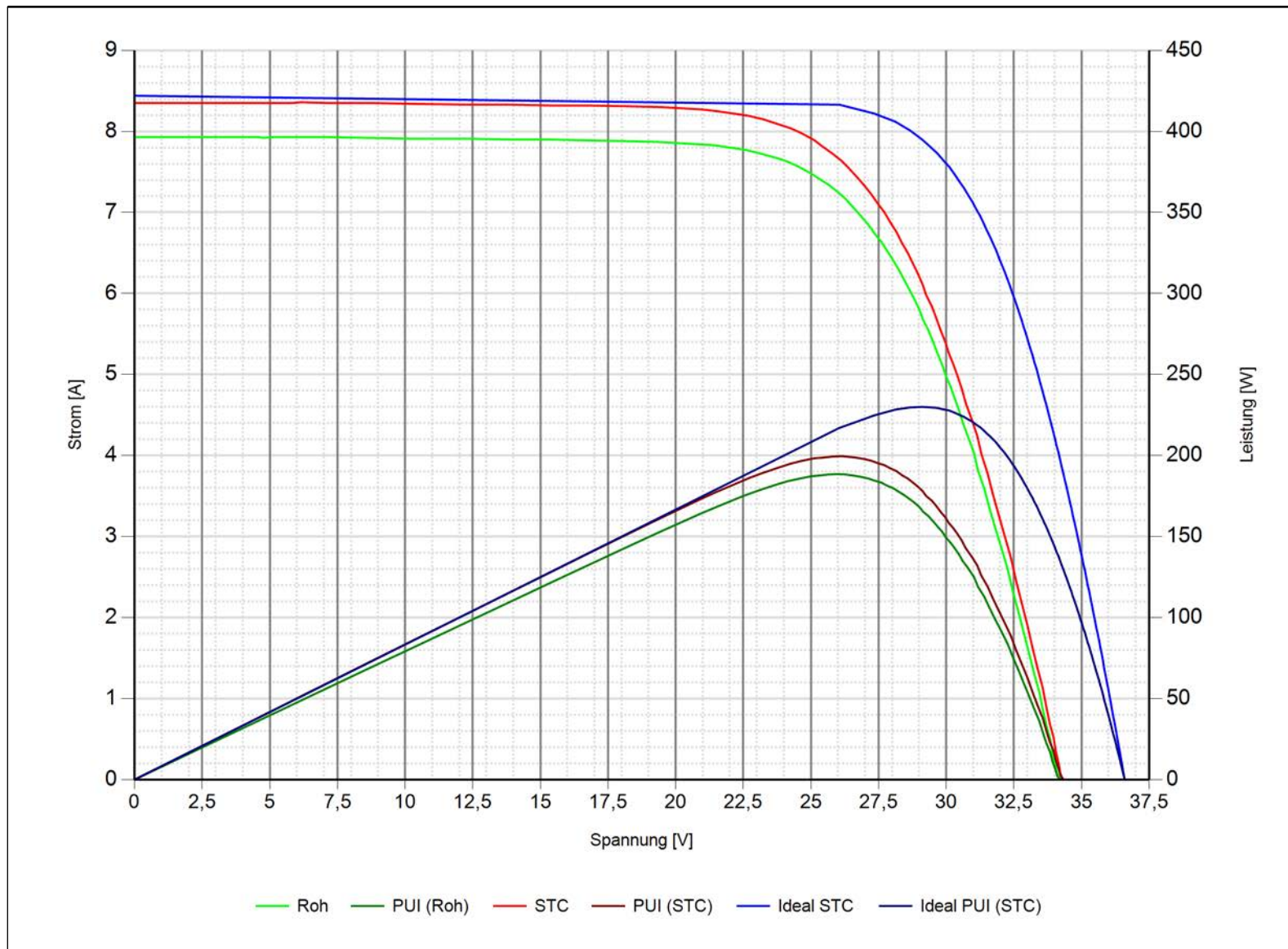


TRI-KA Messung 1

Messung Start:29.10.2019 13:34:42

Messung Ende:29.10.2019 13:35:07

Kunde: Harden Schaden support GmbH / Anlage: Lehfeld / Wechselrichter: Ohne / String: Modul 1



Temperatur = 25,1 °C
gemessen

Bestrahlung = 949 W/m²
gemessen

Neigung = 76 °
gemessen

ISC Roh = 7,93 A
ISC STC = 8,36 A
ISC NOM = 8,44 A

IMPP Roh = 7,25 A
IMPP STC = 7,64 A
IMPP NOM = 7,9 A

UOC Roh = 34,19 V
UOC STC = 34,31 V
UOC NOM = 36,6 V

UMPP Roh = 26 V
UMPP STC = 26,12 V
UMPP NOM = 29,1 V

P Roh = 188,5 W
P STC = 199,6 W
P NOM = 230 W

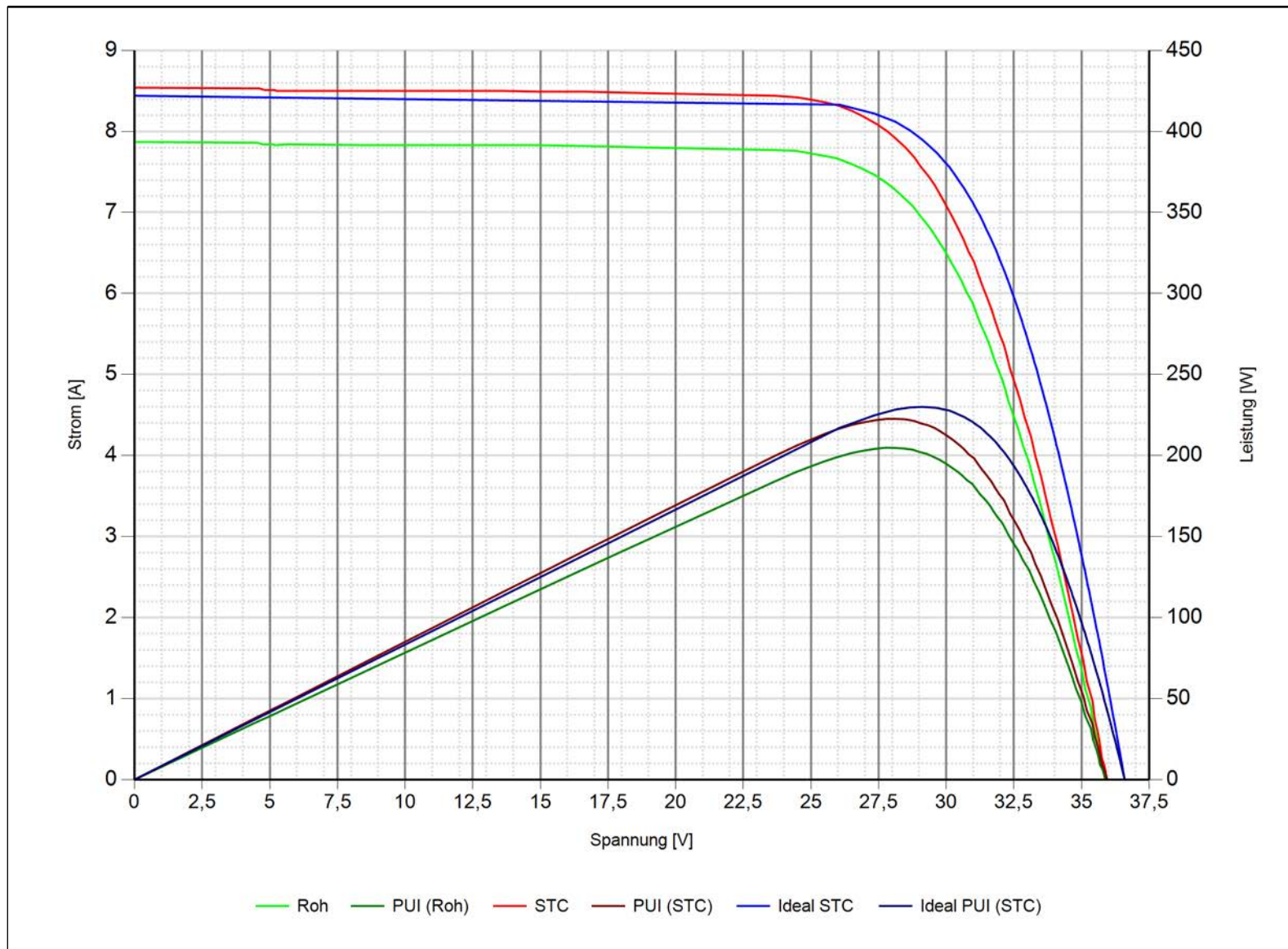
FF Roh = 0,70
FF STC = 0,70
FF NOM = 0,74

TRI-KA Messung 1

Messung Start:29.10.2019 13:42:19

Messung Ende:29.10.2019 13:42:43

Kunde: Harden Schaden support GmbH / Anlage: Lehfeld / Wechselrichter: Ohne / String: Modul 2



Temperatur = 24,2 °C
gemessen

Bestrahlung = 922 W/m²
gemessen

Neigung = 75 °
gemessen

ISC Roh = 7,85 A
ISC STC = 8,52 A
ISC NOM = 8,44 A

IMPP Roh = 7,37 A
IMPP STC = 8 A
IMPP NOM = 7,9 A

UOC Roh = 36,04 V
UOC STC = 36,1 V
UOC NOM = 36,6 V

UMPP Roh = 27,77 V
UMPP STC = 27,83 V
UMPP NOM = 29,1 V

P Roh = 204,8 W
P STC = 222,6 W
P NOM = 230 W

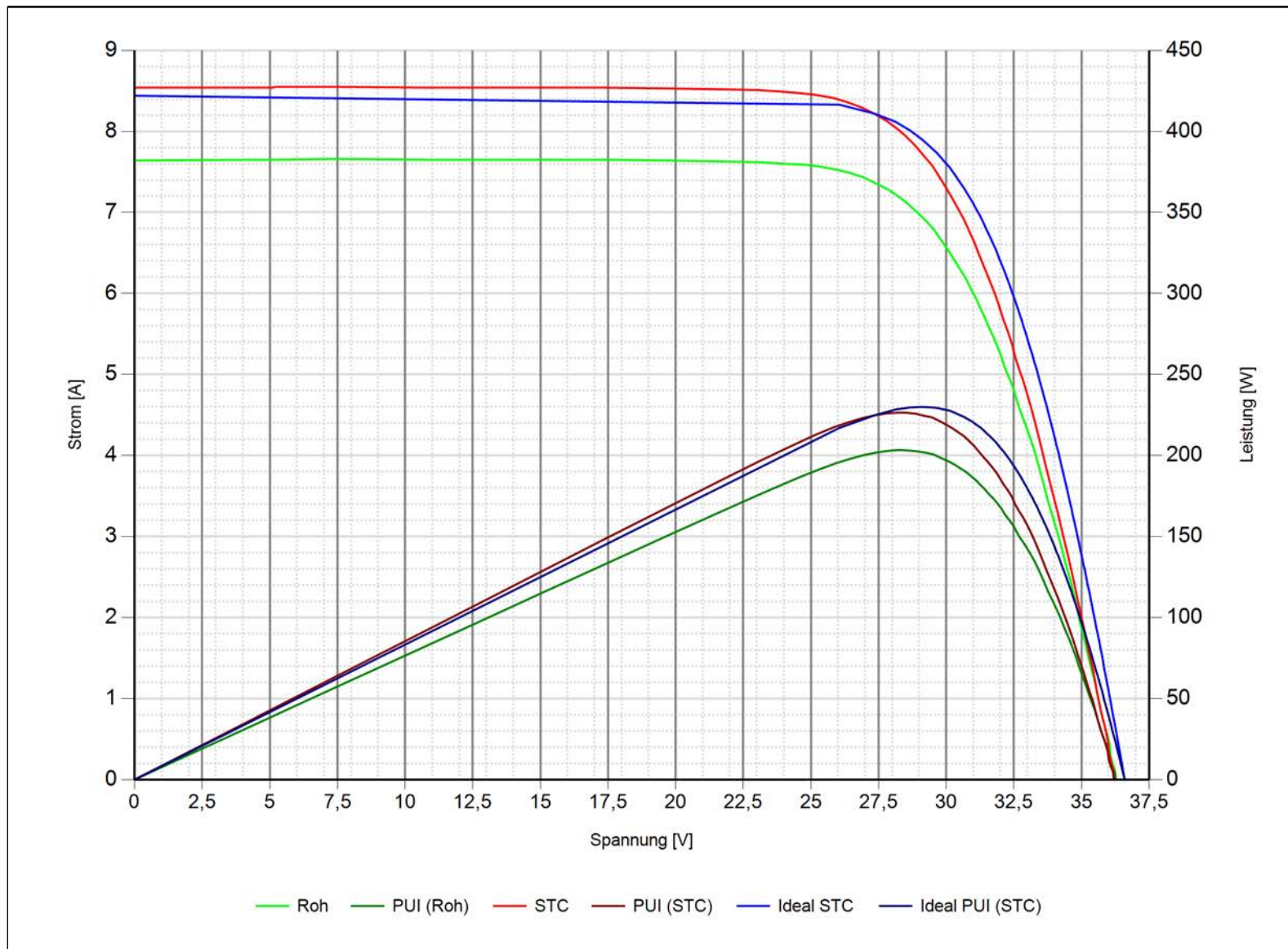
FF Roh = 0,72
FF STC = 0,72
FF NOM = 0,74

TRI-KA Messung 1

Messung Start:29.10.2019 13:46:55

Messung Ende:29.10.2019 13:47:08

Kunde: Harden Schaden support GmbH / Anlage: Lehfeld / Wechselrichter: Ohne / String: Modul 3



Temperatur = 22,9 °C
gemessen

Bestrahlung = 896 W/m²
gemessen

Neigung = 76 °
gemessen

ISC Roh = 7,6 A
ISC STC = 8,49 A
ISC NOM = 8,44 A

IMPP Roh = 7,19 A
IMPP STC = 8,03 A
IMPP NOM = 7,9 A

UOC Roh = 36,32 V
UOC STC = 36,26 V
UOC NOM = 36,6 V

UMPP Roh = 28,27 V
UMPP STC = 28,2 V
UMPP NOM = 29,1 V

P Roh = 203,4 W
P STC = 226,4 W
P NOM = 230 W

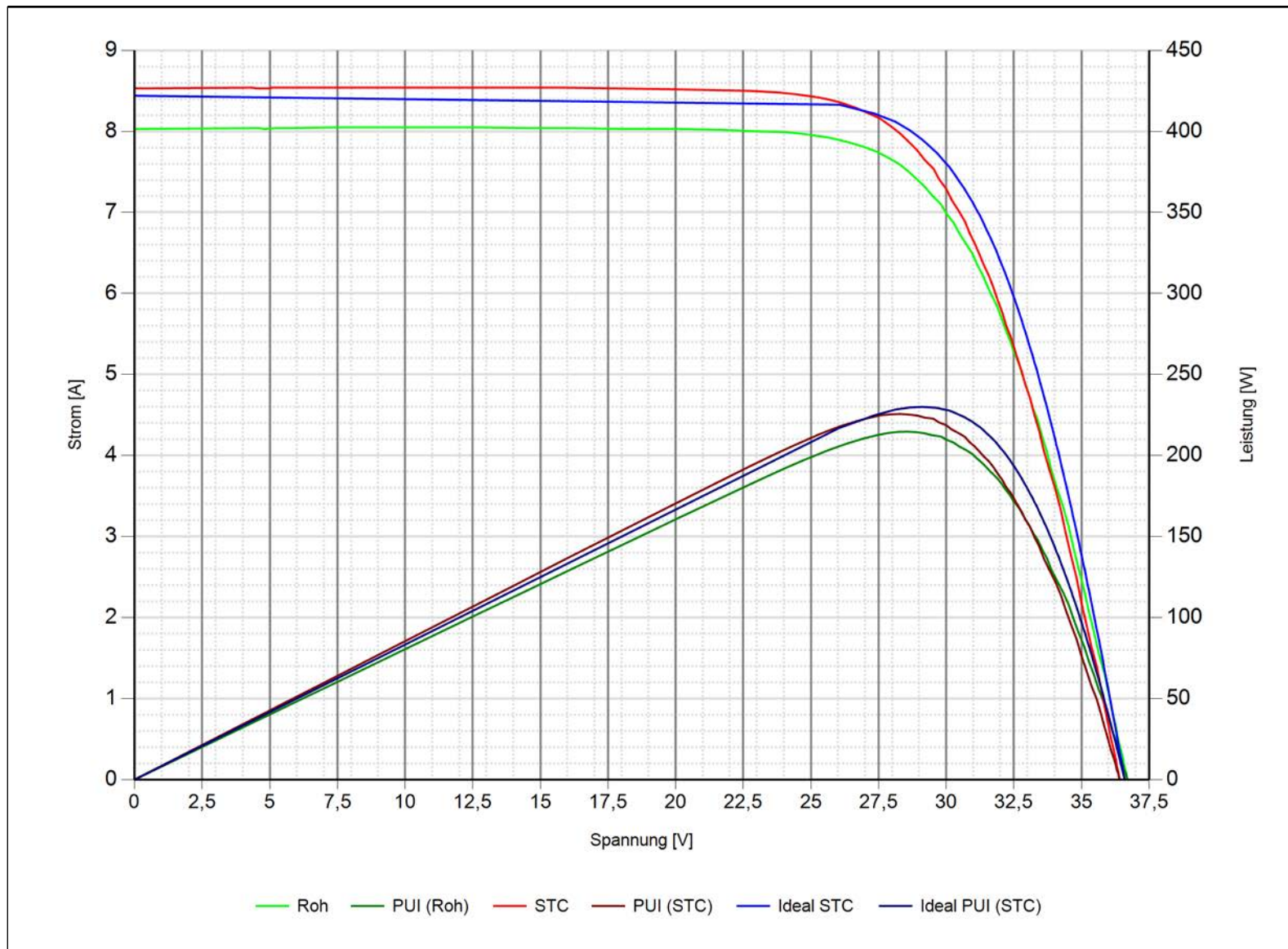
FF Roh = 0,74
FF STC = 0,74
FF NOM = 0,74

TRI-KA Messung 1

Messung Start:29.10.2019 13:50:33

Messung Ende:29.10.2019 13:50:46

Kunde: Harden Schaden support GmbH / Anlage: Lehfeld / Wechselrichter: Ohne / String: Modul 4



Temperatur = 22,2 °C
gemessen

Bestrahlung = 942 W/m²
gemessen

Neigung = 76 °
gemessen

ISC Roh = 8,02 A
ISC STC = 8,51 A
ISC NOM = 8,44 A

IMPP Roh = 7,51 A
IMPP STC = 7,97 A
IMPP NOM = 7,9 A

UOC Roh = 36,82 V
UOC STC = 36,54 V
UOC NOM = 36,6 V

UMPP Roh = 28,59 V
UMPP STC = 28,31 V
UMPP NOM = 29,1 V

P Roh = 214,7 W
P STC = 225,6 W
P NOM = 230 W

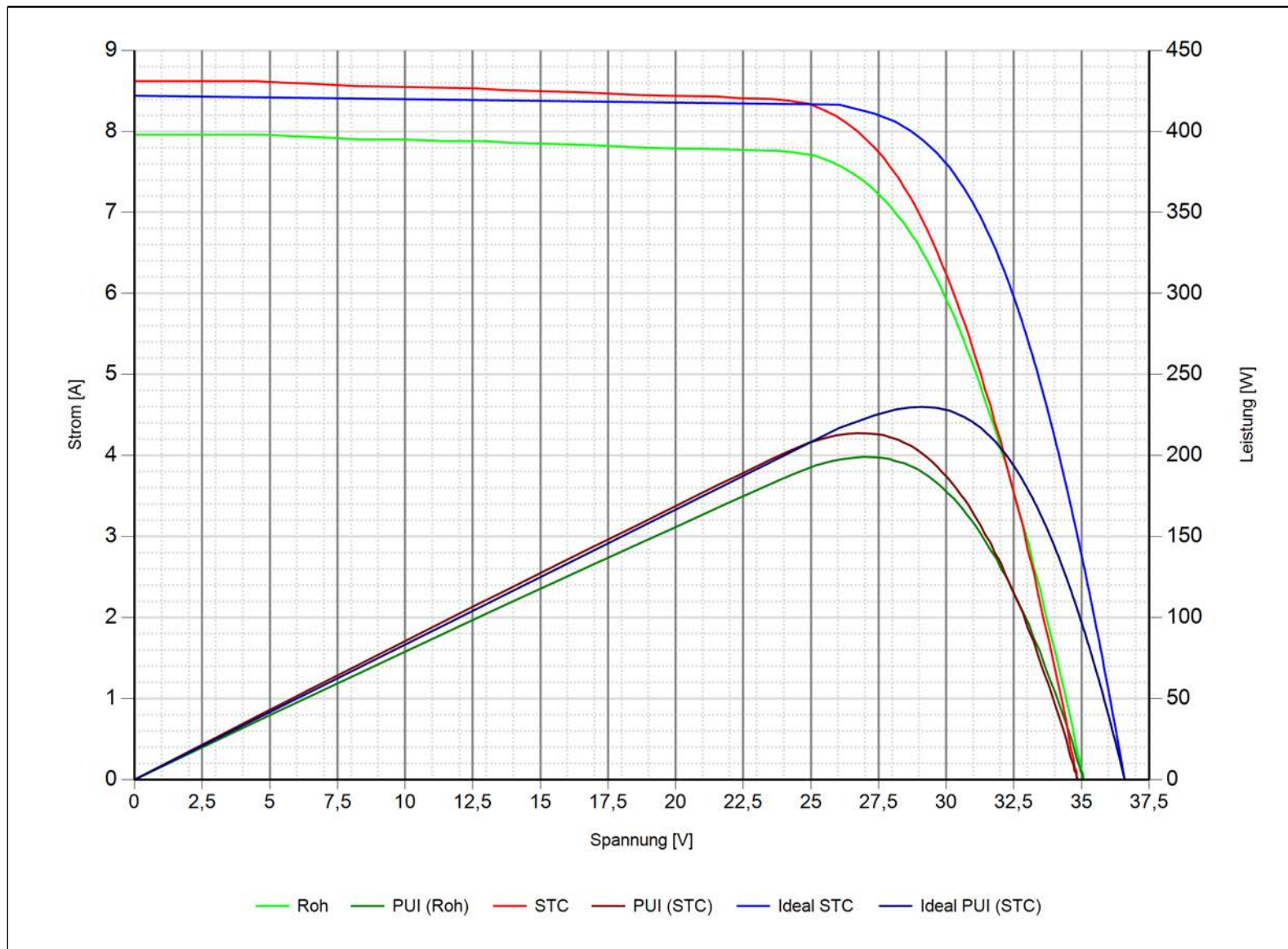
FF Roh = 0,73
FF STC = 0,73
FF NOM = 0,74

TRI-KA Messung 1

Messung Start:29.10.2019 14:10:32

Messung Ende:29.10.2019 14:10:56

Kunde: Harden Schaden support GmbH / Anlage: Lehfeld / Wechselrichter: Ohne / String: Modul 5



Temperatur = 22,2 °C
gemessen

Bestrahlung = 924 W/m²
gemessen

Neigung = 75 °
gemessen

ISC Roh = 7,96 A
ISC STC = 8,62 A
ISC NOM = 8,44 A

IMPP Roh = 7,39 A
IMPP STC = 8 A
IMPP NOM = 7,9 A

UOC Roh = 35,24 V
UOC STC = 35,01 V
UOC NOM = 36,6 V

UMPP Roh = 26,95 V
UMPP STC = 26,73 V
UMPP NOM = 29,1 V

P Roh = 199,2 W
P STC = 213,8 W
P NOM = 230 W

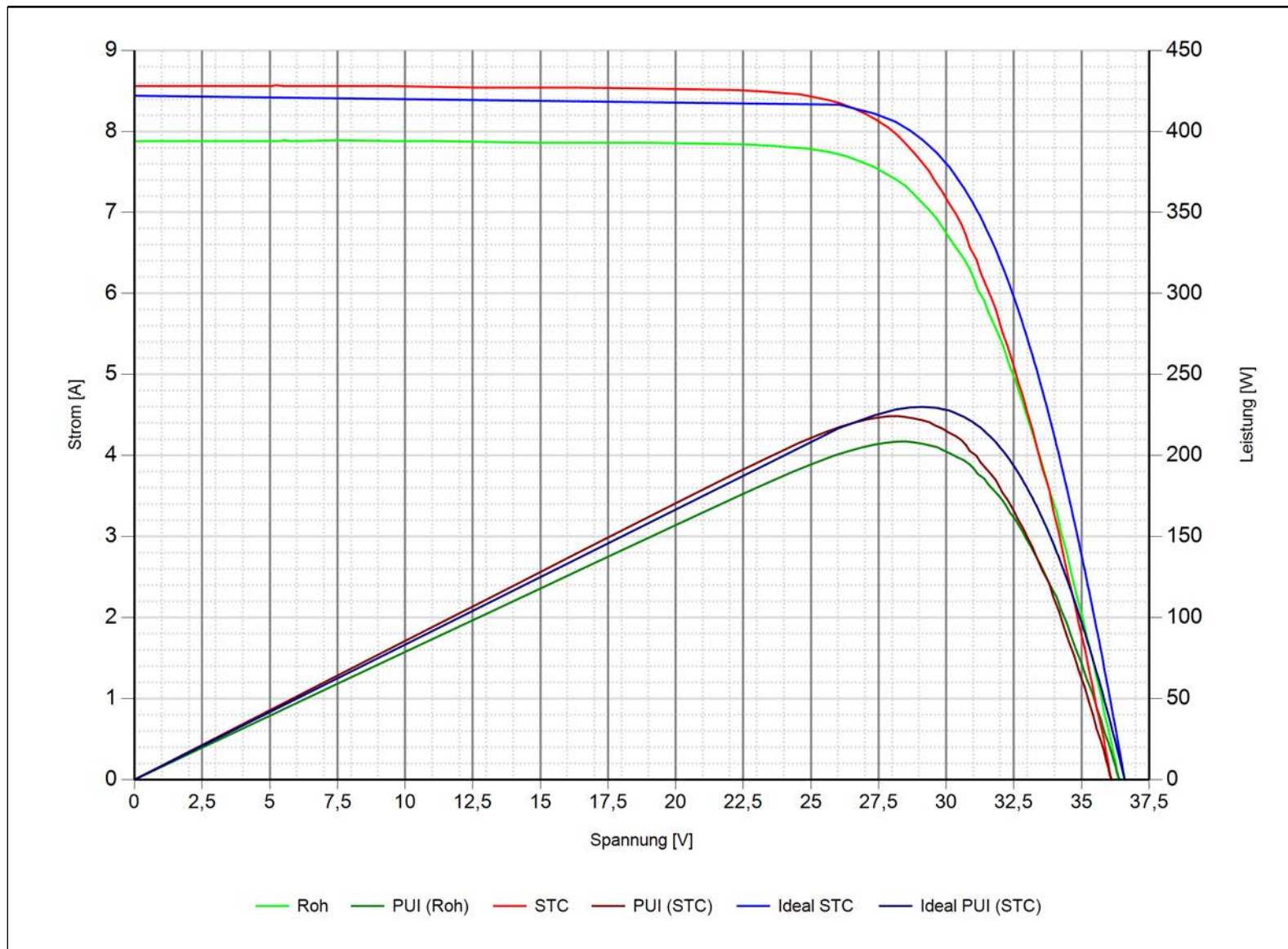
FF Roh = 0,71
FF STC = 0,71
FF NOM = 0,74

TRI-KA Messung 1

Messung Start:29.10.2019 14:14:00

Messung Ende:29.10.2019 14:14:13

Kunde: Harden Schaden support GmbH / Anlage: Lehfeld / Wechselrichter: Ohne / String: Modul 6



Temperatur = 21,8 °C
gemessen

Bestrahlung = 921 W/m²
gemessen

Neigung = 75 °
gemessen

ISC Roh = 7,88 A
ISC STC = 8,56 A
ISC NOM = 8,44 A

IMPP Roh = 7,33 A
IMPP STC = 7,95 A
IMPP NOM = 7,9 A

UOC Roh = 36,53 V
UOC STC = 36,24 V
UOC NOM = 36,6 V

UMPP Roh = 28,49 V
UMPP STC = 28,21 V
UMPP NOM = 29,1 V

P Roh = 208,7 W
P STC = 224,3 W
P NOM = 230 W

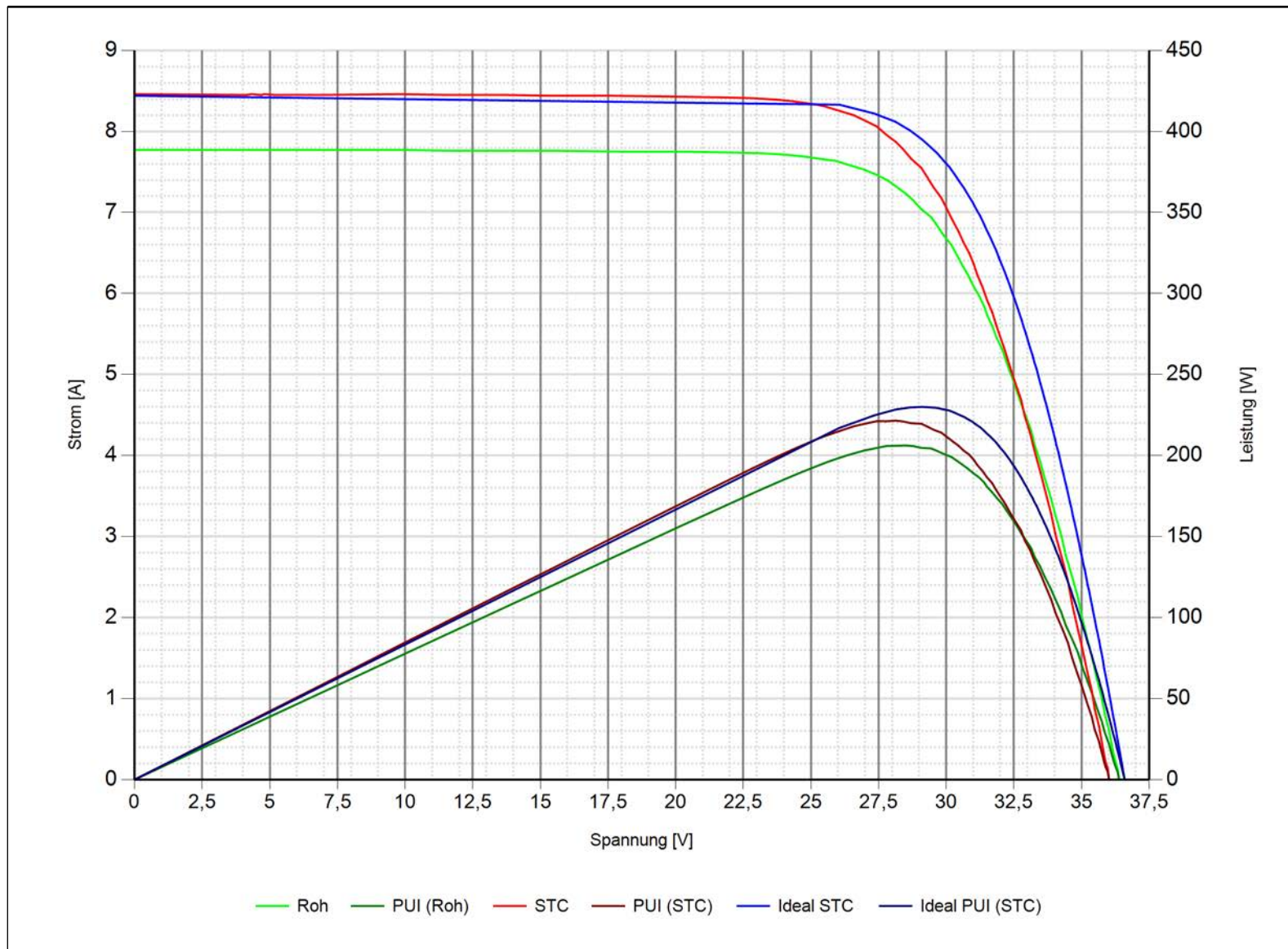
FF Roh = 0,72
FF STC = 0,72
FF NOM = 0,74

TRI-KA Messung 1

Messung Start:29.10.2019 14:17:20

Messung Ende:29.10.2019 14:17:34

Kunde: Harden Schaden support GmbH / Anlage: Lehfeld / Wechselrichter: Ohne / String: Modul 7



Temperatur = 21,2 °C
gemessen

Bestrahlung = 919 W/m²
gemessen

Neigung = 75 °
gemessen

ISC Roh = 7,76 A
ISC STC = 8,45 A
ISC NOM = 8,44 A

IMPP Roh = 7,23 A
IMPP STC = 7,87 A
IMPP NOM = 7,9 A

UOC Roh = 36,53 V
UOC STC = 36,16 V
UOC NOM = 36,6 V

UMPP Roh = 28,51 V
UMPP STC = 28,14 V
UMPP NOM = 29,1 V

P Roh = 206,2 W
P STC = 221,5 W
P NOM = 230 W

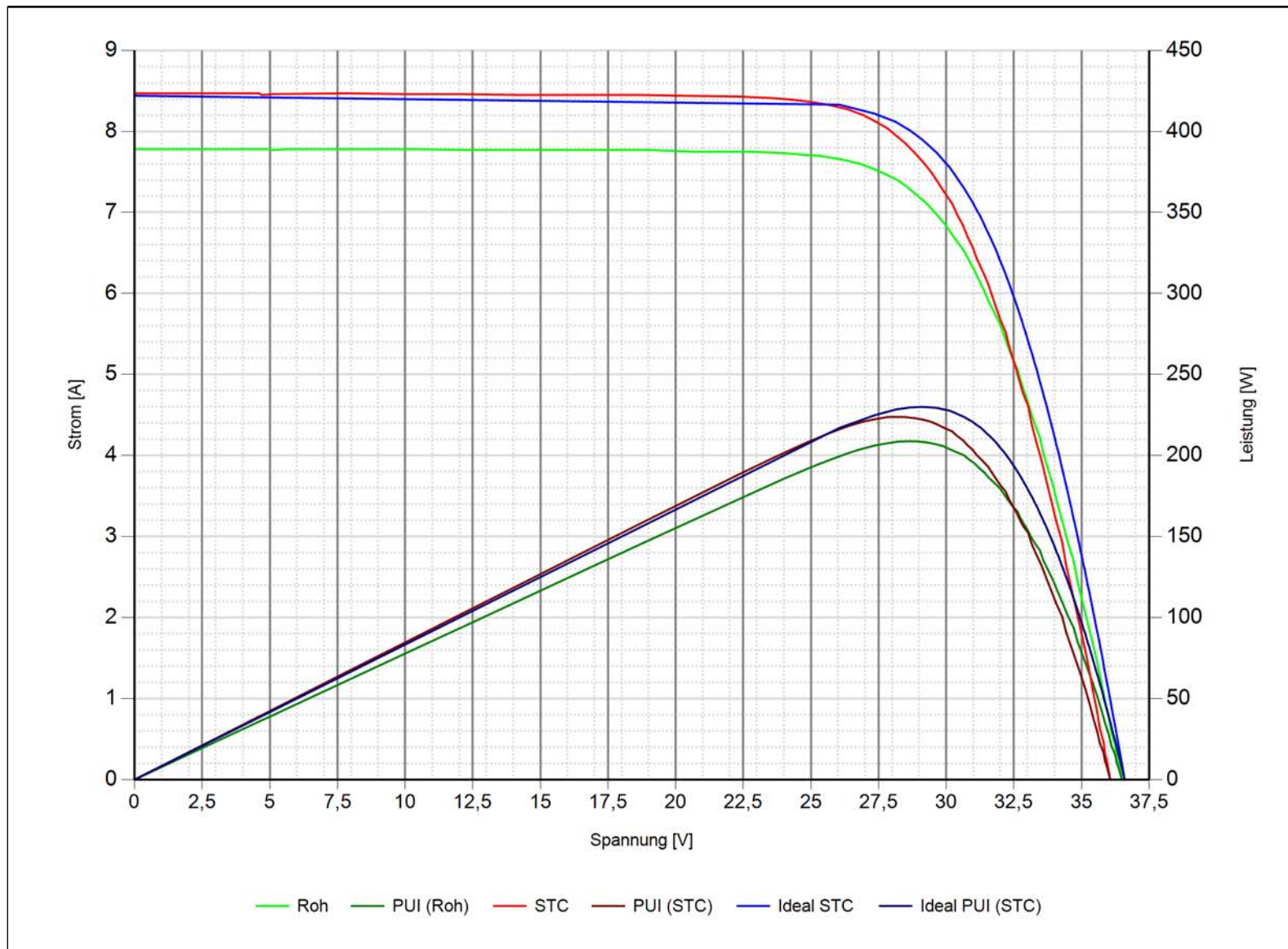
FF Roh = 0,73
FF STC = 0,73
FF NOM = 0,74

TRI-KA Messung 1

Messung Start:29.10.2019 14:20:42

Messung Ende:29.10.2019 14:20:55

Kunde: Harden Schaden support GmbH / Anlage: Lehfeld / Wechselrichter: Ohne / String: Modul 8



Temperatur = 20,8 °C
gemessen

Bestrahlung = 919 W/m²
gemessen

Neigung = 75 °
gemessen

ISC Roh = 7,77 A
ISC STC = 8,46 A
ISC NOM = 8,44 A

IMPP Roh = 7,3 A
IMPP STC = 7,94 A
IMPP NOM = 7,9 A

UOC Roh = 36,66 V
UOC STC = 36,23 V
UOC NOM = 36,6 V

UMPP Roh = 28,61 V
UMPP STC = 28,18 V
UMPP NOM = 29,1 V

P Roh = 208,8 W
P STC = 223,7 W
P NOM = 230 W

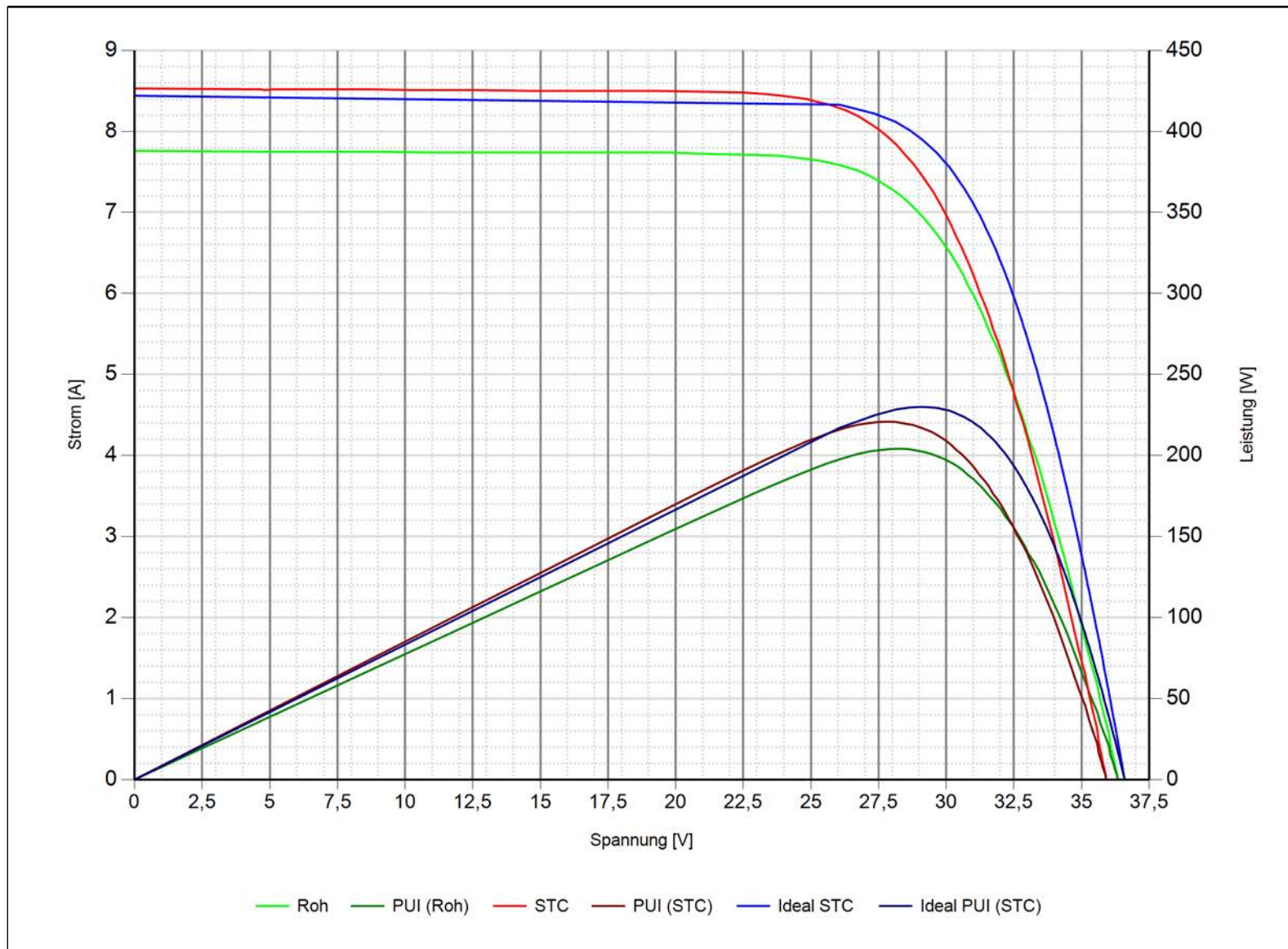
FF Roh = 0,73
FF STC = 0,73
FF NOM = 0,74

TRI-KA Messung 1

Messung Start:29.10.2019 14:24:27

Messung Ende:29.10.2019 14:24:40

Kunde: Harden Schaden support GmbH / Anlage: Lehfeld / Wechselrichter: Ohne / String: Modul 9



Temperatur = 20,6 °C
gemessen

Bestrahlung = 910 W/m²
gemessen

Neigung = 75 °
gemessen

ISC Roh = 7,76 A
ISC STC = 8,53 A
ISC NOM = 8,44 A

IMPP Roh = 7,22 A
IMPP STC = 7,93 A
IMPP NOM = 7,9 A

UOC Roh = 36,51 V
UOC STC = 36,08 V
UOC NOM = 36,6 V

UMPP Roh = 28,28 V
UMPP STC = 27,85 V
UMPP NOM = 29,1 V

P Roh = 204,2 W
P STC = 220,9 W
P NOM = 230 W

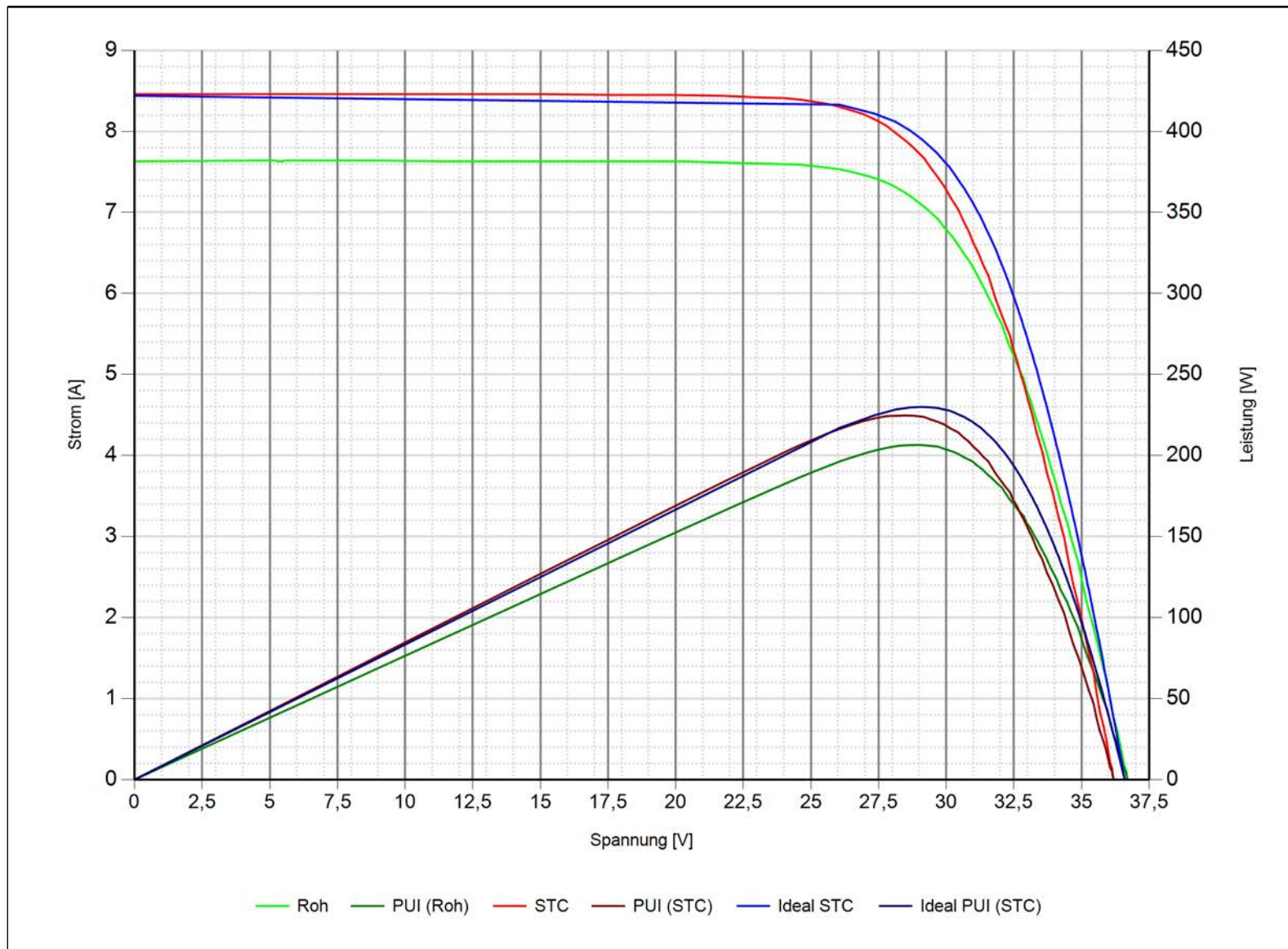
FF Roh = 0,72
FF STC = 0,72
FF NOM = 0,74

TRI-KA Messung 1

Messung Start:29.10.2019 14:26:59

Messung Ende:29.10.2019 14:27:13

Kunde: Harden Schaden support GmbH / Anlage: Lehfeld / Wechselrichter: Ohne / String: Modul 10



Temperatur = 20,0 °C
gemessen

Bestrahlung = 903 W/m²
gemessen

Neigung = 75 °
gemessen

ISC Roh = 7,65 A
ISC STC = 8,47 A
ISC NOM = 8,44 A

IMPP Roh = 7,11 A
IMPP STC = 7,88 A
IMPP NOM = 7,9 A

UOC Roh = 36,87 V
UOC STC = 36,36 V
UOC NOM = 36,6 V

UMPP Roh = 29,03 V
UMPP STC = 28,52 V
UMPP NOM = 29,1 V

P Roh = 206,5 W
P STC = 224,7 W
P NOM = 230 W

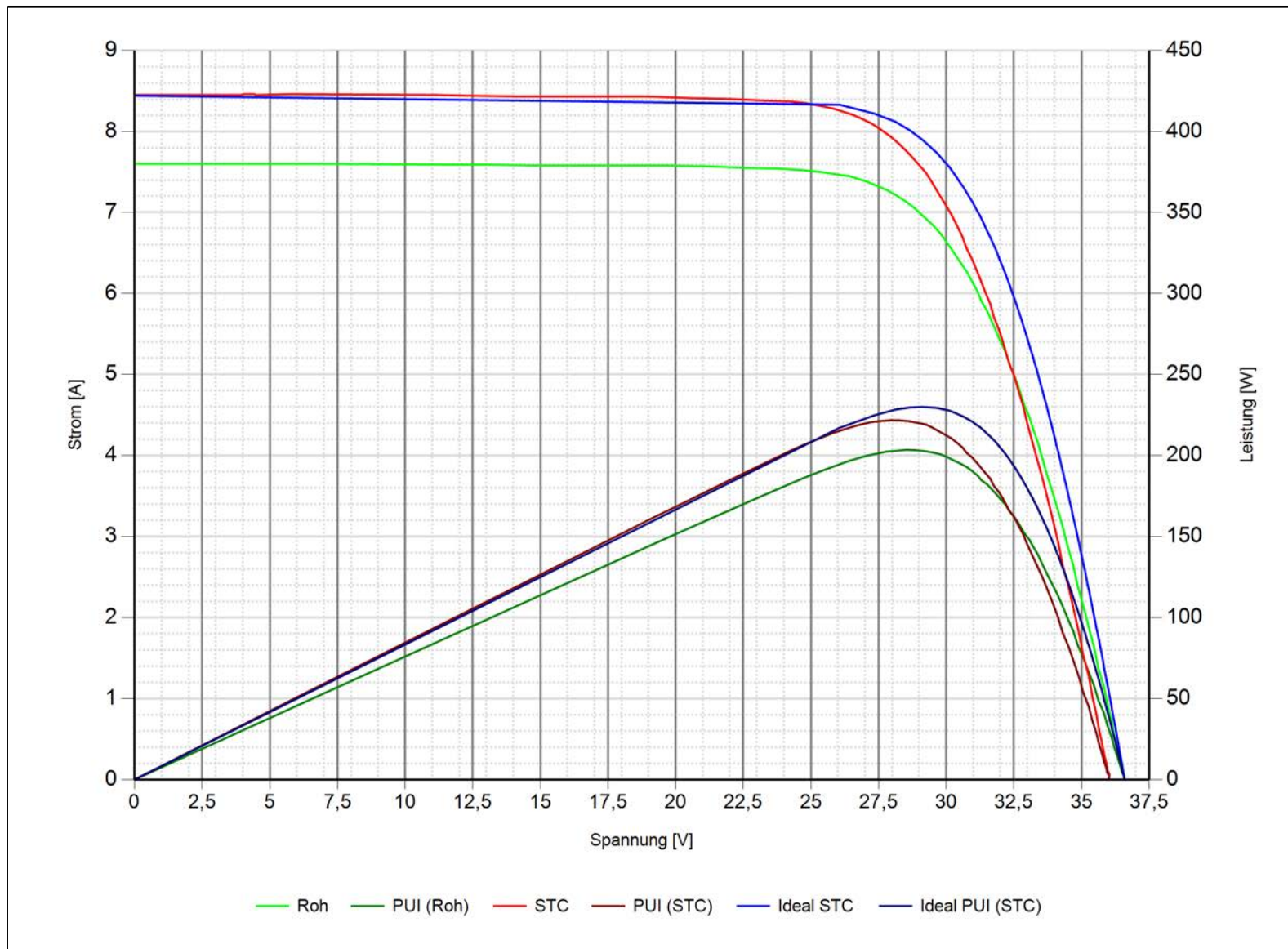
FF Roh = 0,73
FF STC = 0,73
FF NOM = 0,74

TRI-KA Messung 1

Messung Start:29.10.2019 14:30:19

Messung Ende:29.10.2019 14:30:32

Kunde: Harden Schaden support GmbH / Anlage: Lehfeld / Wechselrichter: Ohne / String: Modul 11



Temperatur = 19,6 °C
gemessen

Bestrahlung = 899 W/m²
gemessen

Neigung = 75 °
gemessen

ISC Roh = 7,59 A
ISC STC = 8,44 A
ISC NOM = 8,44 A

IMPP Roh = 7,13 A
IMPP STC = 7,93 A
IMPP NOM = 7,9 A

UOC Roh = 36,72 V
UOC STC = 36,16 V
UOC NOM = 36,6 V

UMPP Roh = 28,53 V
UMPP STC = 27,97 V
UMPP NOM = 29,1 V

P Roh = 203,5 W
P STC = 221,8 W
P NOM = 230 W

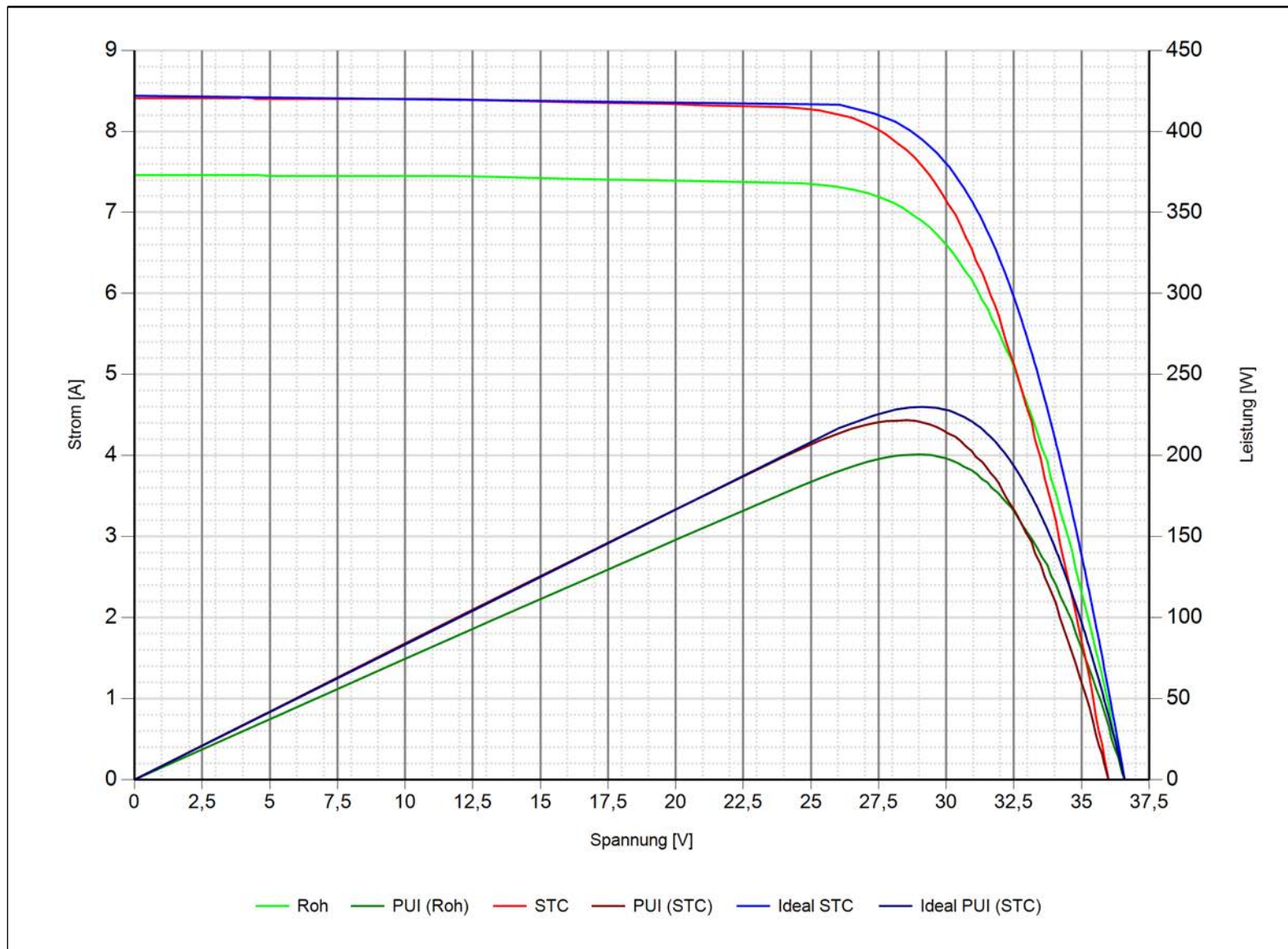
FF Roh = 0,73
FF STC = 0,73
FF NOM = 0,74

TRI-KA Messung 1

Messung Start:29.10.2019 14:34:32

Messung Ende:29.10.2019 14:34:46

Kunde: Harden Schaden support GmbH / Anlage: Lehfeld / Wechselrichter: Ohne / String: Modul 12



Temperatur = 19,2 °C
gemessen

Bestrahlung = 887 W/m²
gemessen

Neigung = 75 °
gemessen

ISC Roh = 7,46 A
ISC STC = 8,41 A
ISC NOM = 8,44 A

IMPP Roh = 6,89 A
IMPP STC = 7,77 A
IMPP NOM = 7,9 A

UOC Roh = 36,72 V
UOC STC = 36,14 V
UOC NOM = 36,6 V

UMPP Roh = 29,12 V
UMPP STC = 28,54 V
UMPP NOM = 29,1 V

P Roh = 200,6 W
P STC = 221,8 W
P NOM = 230 W

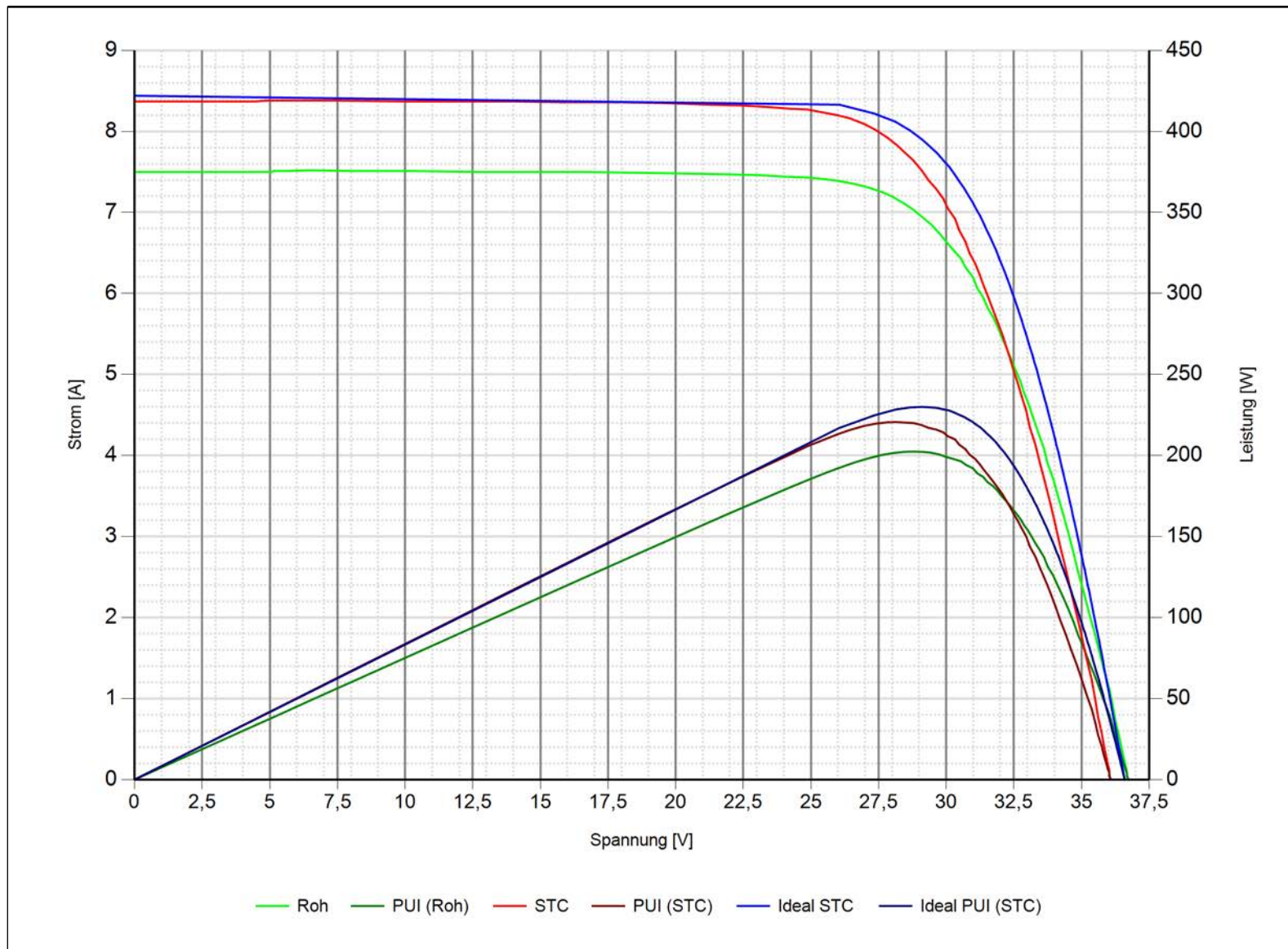
FF Roh = 0,73
FF STC = 0,73
FF NOM = 0,74

TRI-KA Messung 1

Messung Start:29.10.2019 14:37:12

Messung Ende:29.10.2019 14:37:25

Kunde: Harden Schaden support GmbH / Anlage: Lehfeld / Wechselrichter: Ohne / String: Modul 13



Temperatur = 18,9 °C
gemessen

Bestrahlung = 896 W/m²
gemessen

Neigung = 75 °
gemessen

ISC Roh = 7,44 A
ISC STC = 8,3 A
ISC NOM = 8,44 A

IMPP Roh = 7,02 A
IMPP STC = 7,83 A
IMPP NOM = 7,9 A

UOC Roh = 36,91 V
UOC STC = 36,25 V
UOC NOM = 36,6 V

UMPP Roh = 28,84 V
UMPP STC = 28,18 V
UMPP NOM = 29,1 V

P Roh = 202,4 W
P STC = 220,6 W
P NOM = 230 W

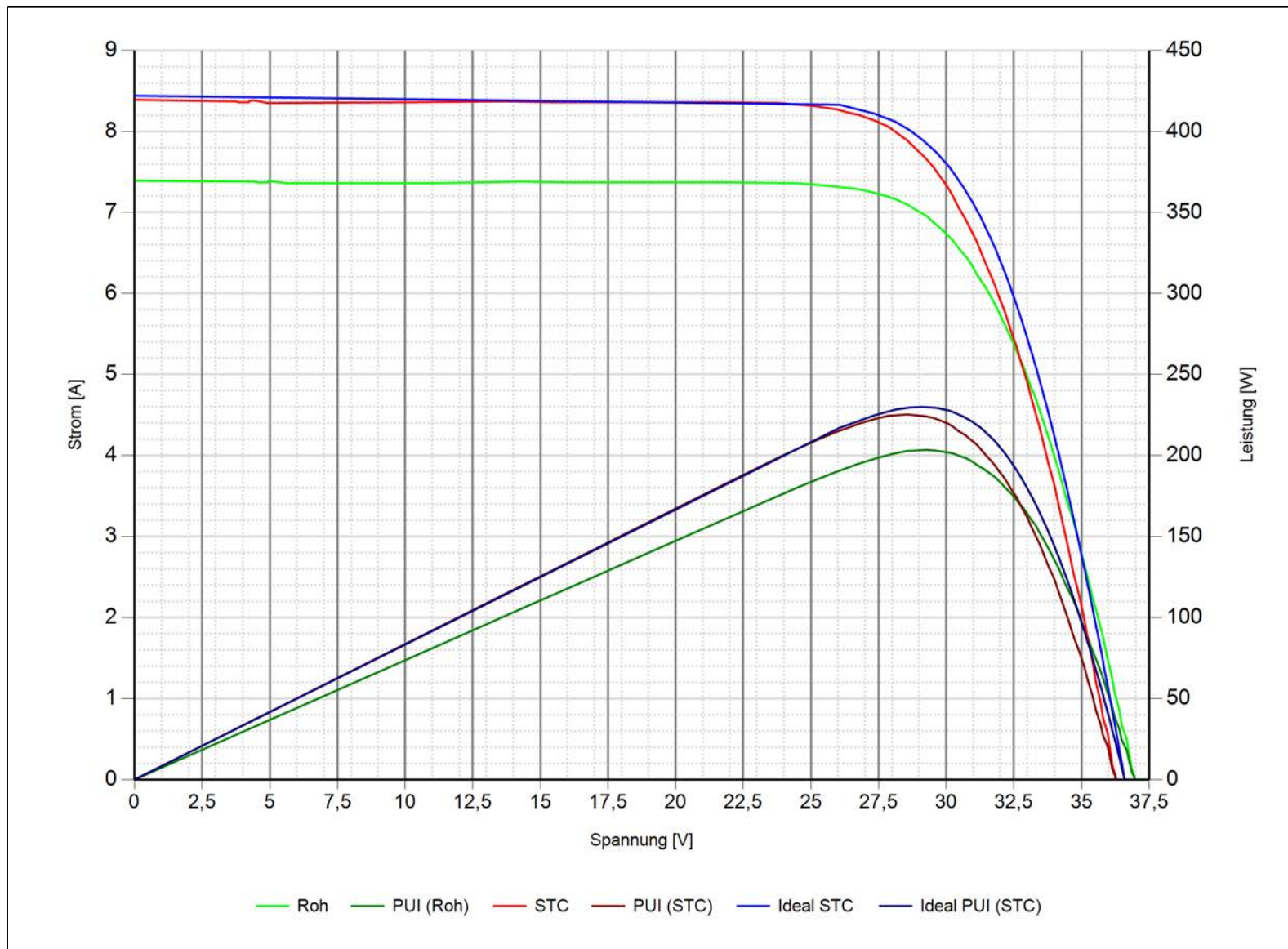
FF Roh = 0,74
FF STC = 0,73
FF NOM = 0,74

TRI-KA Messung 1

Messung Start:29.10.2019 14:39:25

Messung Ende:29.10.2019 14:39:37

Kunde: Harden Schaden support GmbH / Anlage: Lehfeld / Wechselrichter: Ohne / String: Modul 14



Temperatur = 18,4 °C
gemessen

Bestrahlung = 881 W/m²
gemessen

Neigung = 75 °
gemessen

ISC Roh = 7,4 A
ISC STC = 8,39 A
ISC NOM = 8,44 A

IMPP Roh = 6,96 A
IMPP STC = 7,89 A
IMPP NOM = 7,9 A

UOC Roh = 37,08 V
UOC STC = 36,39 V
UOC NOM = 36,6 V

UMPP Roh = 29,26 V
UMPP STC = 28,56 V
UMPP NOM = 29,1 V

P Roh = 203,5 W
P STC = 225,3 W
P NOM = 230 W

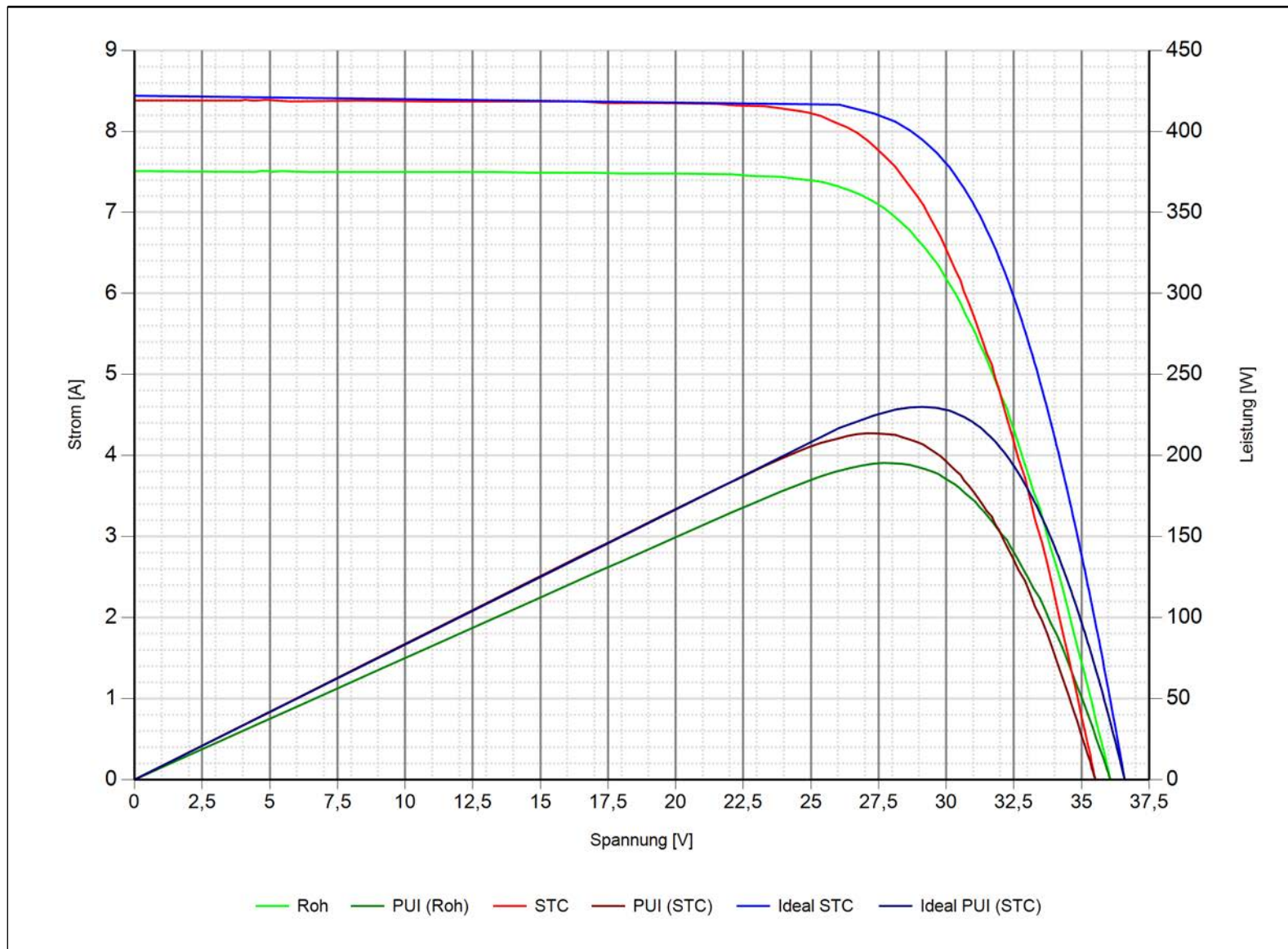
FF Roh = 0,74
FF STC = 0,74
FF NOM = 0,74

TRI-KA Messung 1

Messung Start:29.10.2019 14:47:47

Messung Ende:29.10.2019 14:48:11

Kunde: Harden Schaden support GmbH / Anlage: Lehfeld / Wechselrichter: Ohne / String: Modul 15



Temperatur = 19,5 °C
gemessen

Bestrahlung = 896 W/m²
gemessen

Neigung = 75 °
gemessen

ISC Roh = 7,53 A
ISC STC = 8,4 A
ISC NOM = 8,44 A

IMPP Roh = 7,06 A
IMPP STC = 7,88 A
IMPP NOM = 7,9 A

UOC Roh = 36,21 V
UOC STC = 35,65 V
UOC NOM = 36,6 V

UMPP Roh = 27,68 V
UMPP STC = 27,12 V
UMPP NOM = 29,1 V

P Roh = 195,4 W
P STC = 213,7 W
P NOM = 230 W

FF Roh = 0,72
FF STC = 0,71
FF NOM = 0,74