



SON( Plus)(-H)(Comfort)

High-pressure sodium vapour lamps with a sintered aluminium oxide discharge tube enclosed in an evacuated clear soda-lime or hard-glass outer bulb, equipped with a standard screw base. The discharge tube is filled with a sodium mercury amalgam and xenon as a starting gas. SON lamps have an ovoid and SON-T lamps a tubular outer bulb. The lamps employ a ballast and ignitor except for the SON 50 W/70 W I (clear) E27 lamps which are equipped with an internal ignitor:

### SON conventional

With a luminous efficacy up to 120 lm/lw, standard SON lamps are cost efficient and best suited on high ways and in large urban and industrial areas, which need continuous lighting for extended periods of time.

### SON-H: HPL retrofit

SON-H lamps have been specifically created to be directly interchangeable with mercury vapour lamps without any change of gear. SON-H offers an immediate improvement by using less energy and producing more light.

### Improved efficacy: SON PLUS

An increased amount of xenon inside SON PLUS lamps increases the luminous efficacy up to 150 lm/W. It is more cost efficient and enjoys a longer lamp life than conventional HPS lamps. The new unique Philips construction of the integrated antenna makes it the most reliable HPS lamp on the market by means of less early failures and excellent starting behaviour.

### Applications

- Public and urban areas.
- Decorative outdoor floodlighting.
- Industrial, shop and commercial lighting.
- Indoor and outdoor sports facilities.
- Plant irradiation.

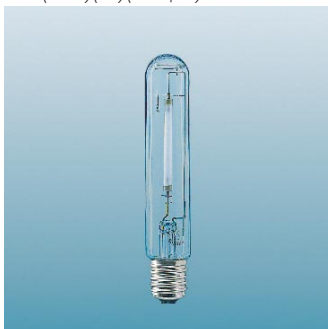
### SON Comfort

SON Comfort is the balance between colour and efficacy requirements. With its colour temperature of 2200K and Ra>60 it creates a friendly ambience in residential, industrial and retail areas, but still has an efficacy up to 95 lm/W.

### Greenhouse lighting

#### SON-T Agro

SON-T Agro improves output and profitability in all sectors of greenhouse production. SON-T Agro generates a spectrum with more blue radiation, optimizing plant development, producing more volume, stronger plants good leaf and bloom colour and extra branching.



SON-T



SON-T Comfort



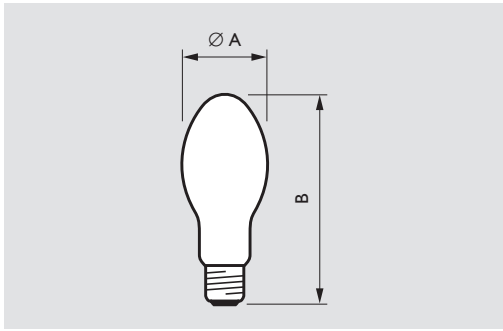
SON-T Plus/SON-T Agro



SON-T 1000W

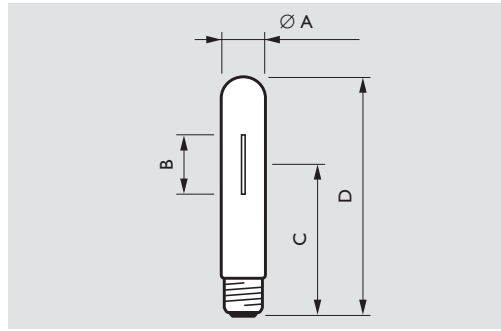
# H.I.D. lamps

# Standard SON

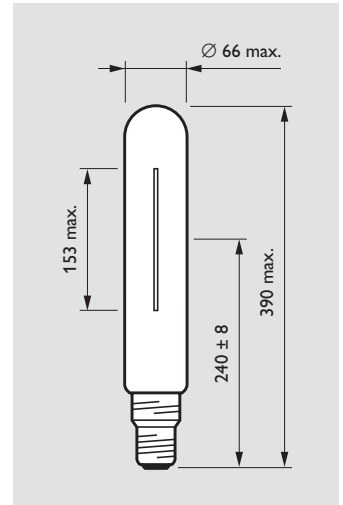


Dimensions in mm

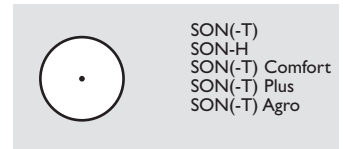
Type	A max.	B max.
<b>Cap/base E27</b>		
SON 50W/70W	71.0	156.0
<b>Cap/base E40</b>		
SON Plus 100W	76.0	186.0
SON (Comf.)(Plus)150W,250W	91.0	226.0
SON-H 220W	91.0	226.0
SON (Comfort)(Plus) 400W	122.0	290.0
SON-H 350W	122.0	290.0
SON 1000W	166.5	400.0



Type	A max.	B max.	C	D max.
<b>Cap/base E27</b>				
SON-T Plus 50W	32.0	35.0	102.0	156.0
SON-T (Plus) 70W	32.0	42.0	102.0	156.0
<b>Cap/base E40</b>				
SON-T Plus 100W	47.0	47.0	132.0	211.0
SON-T Comfort 150W	47.0	43.0	132.0	211.0
SON-T (Plus) 150W	47.0	61.0	132.0	211.0
SON-T 250W	47.0	70.0	158.0	257.0
SON-T Comfort 250W	47.0	53.0	158.0	257.0
SON-T Plus 250W	47.0	64.0	158.0	257.0
SON-T (Agro) 400W	47.0	87.0	175.0	283.0
SON-T Comfort 400W	47.0	59.0	175.0	283.0
SON-T Plus 400W	47.0	83.0	175.0	283.0
SON-T Plus 600W	47.0	126.0	175.0	283.0



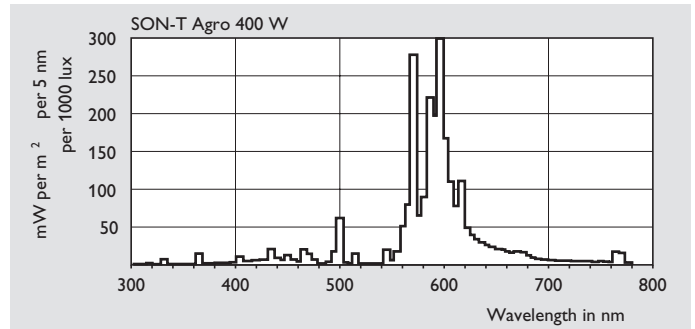
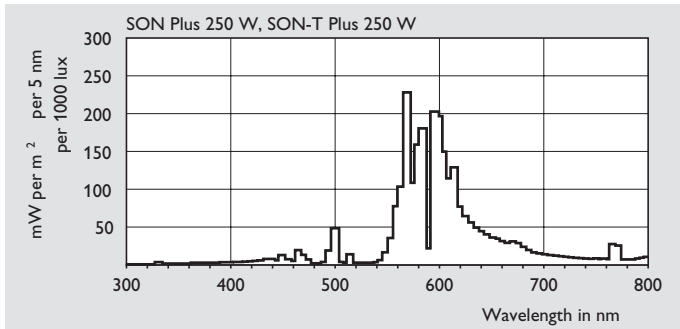
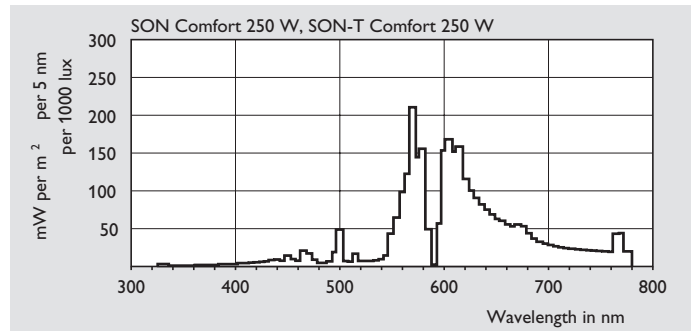
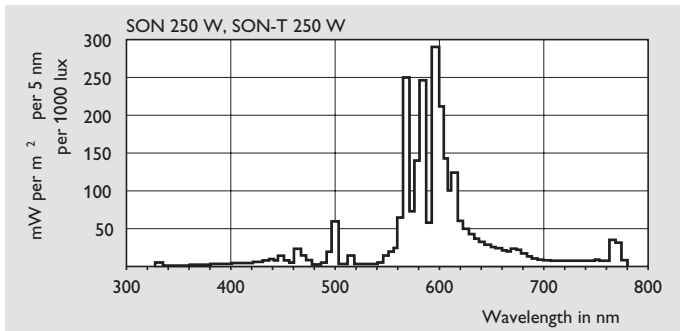
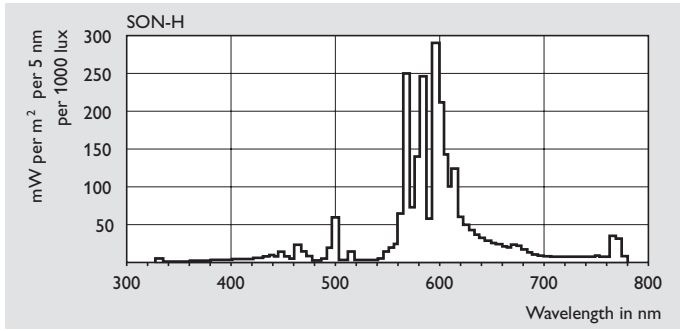
SON-T 1000W E40



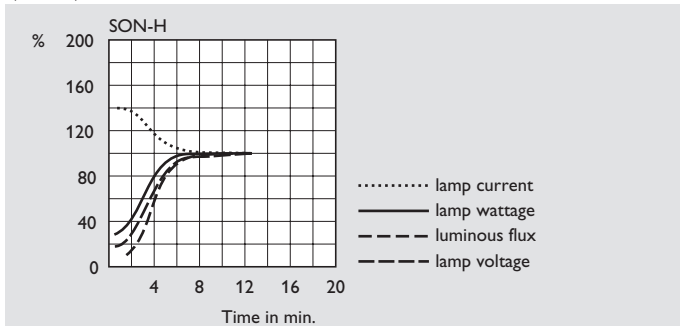
Burning position

Type	W	Internal External Starter	Cap/ base	Finish	Lamp	Lamp	Lamp	Lumen	Efficacy	Correlated
					wattage	voltage				
					W	V	A	lm	lm/W	K
<b>SON</b>										
SON	50W	CLEAR I	E27	CLEAR	50	85	0.76	3400	68	1950
SON	50W	E	E27	COATED	50	90	0.76	3500	70	1950
SON	50W	I	E27	COATED	50	90	0.76	3400	68	1950
SON	70W	E	E27	COATED	70	90	0.98	5600	80	1950
SON	70W	I CLEAR	E27	CLEAR	70	90	0.98	6000	85	1950
SON	70W	I	E27	COATED	70	90	0.98	5600	80	1950
SON	150W	E	E40	COATED	147	100	1.80	14500	97	1950
SON	250W	E	E40	COATED	250	100	3.00	27000	108	1950
SON	400W	E	E40	COATED	400	105	4.45	48000	120	1950
SON	1000W	E	E40	COATED	1000	110	10.30	130000	130	1950
<b>SON COMFORT</b>										
SON COMFORT	150W	E	E40	COATED	150	105	1.82	12500	83	2150
SON COMFORT	250W	E	E40	COATED	250	105	3.00	22000	88	2150
SON COMFORT	400W	E	E40	COATED	400	105	4.45	37000	93	2150
<b>SON PLUS</b>										
SON PLUS	100W	E	E40	COATED	100	100	1.20	10000	100	1950
SON PLUS	150W	E	E40	COATED	152	100	1.80	16000	107	1950
SON PLUS	250W	E	E40	COATED	250	105	2.85	30000	120	1950
SON PLUS	400W	E	E40	COATED	400	105	4.50	54000	135	1950
<b>SON-H</b>										
SON-H	220W		E40	COATED	220	120	2.20	20000	91	2000
SON-H	350W		E40	COATED	350	117	3.60	34000	97	2000
<b>SON-T</b>										
SON-T	70W	E	E27	CLEAR	70	90	0.98	6000	86	1950
SON-T	150W	E	E40	CLEAR	150	100	1.80	15000	100	1950
SON-T	250W	E	E40	CLEAR	250	100	3.00	28000	112	1950
SON-T	400W	E	E40	CLEAR	392	100	4.60	48000	120	1950
SON-T	1000W	E	E40	CLEAR	1000	105	10.60	130000	130	1950
<b>SON-T AGRO</b>										
SON-T AGRO	400W	E	E40	CLEAR	423	116	4.13	55000	130	2050
<b>SON-T COMFORT</b>										
SON-T COMFORT	150W	E	E40	CLEAR	150	105	1.82	13000	87	2150
SON-T COMFORT	250W	E	E40	CLEAR	250	105	3.05	23000	92	2150
SON-T COMFORT	400W	E	E40	CLEAR	400	100	4.50	38000	95	2150
<b>SON-T PLUS</b>										
SON-T PLUS	50W	E	E27	CLEAR	50	88	0.75	4400	88	1950
SON-T PLUS	70W	E	E27	CLEAR	70	90	1.00	6600	94	1950
SON-T PLUS	100W	E	E40	CLEAR	100	100	1.20	10500	105	1950
SON-T PLUS	150W	E	E40	CLEAR	150	100	1.80	16500	110	1950
SON-T PLUS	250W	E	E40	CLEAR	250	100	3.00	32000	128	1950
SON-T PLUS	400W	E	E40	CLEAR	400	100	4.50	55000	138	1950
SON-T PLUS	600W	E	E40	CLEAR	600	115	5.80	90000	150	1950

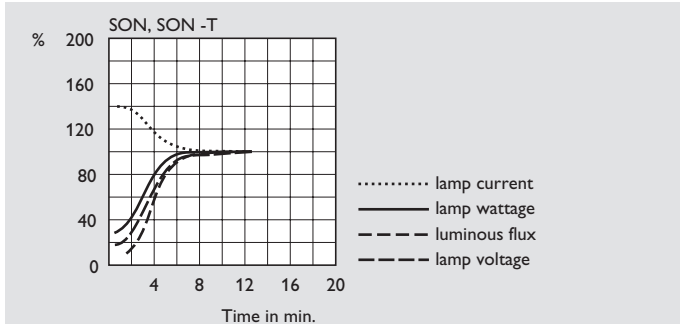
Type	W	Internal External Starter	Cap/ base	Chromaticity coordinate x	Chromaticity coordinate y	Colour rendering index	Maximum permissible base/pinch temp. degr.C	Maximum permissible bulb temp. degr.C	Nett weight g	Ordering number
SON										
SON	50W	CLEAR I	E27			20	200	350	58	9281 508 00000
SON	50W	E	E27	540	415	25	200	350	60	9281 529 08800
SON	50W	I	E27	540	415	25	200	350	61	9281 508 08800
SON	70W	E	E27	540	415	25	200	350	60	9281 518 08800
SON	70W	I CLEAR	E27	540	415	25	200	350	58	9281 501 00000
SON	70W	I	E27	540	415	25	200	350	60	9281 501 08800
SON	150W	E	E40	535	415	25	250	350	185	9281 503 09800
SON	250W	E	E40	530	410	25	250	350	185	9281 510 09800
SON	400W	E	E40	525	415	25	250	350	240	9281 520 09800
SON	1000W	E		515	420	25	250	350	437	9281 540 09800
SON COMFORT										
SON COMFORT	150W	E	E40	513	419	65	250	350	174	9281 502 09800
SON COMFORT	250W	E	E40	513	419	65	250	350	185	9281 551 09800
SON COMFORT	400W	E	E40	513	419	65	250	350	240	9281 552 09800
SON PLUS										
SON PLUS	100W	E	E40	535	420	25	200	350	110	9281 516 08800
SON PLUS	150W	E	E40	535	420	25	250	350	180	9281 514 09800
SON PLUS	250W	E	E40	530	420	25	250	350	180	9281 533 09800
SON PLUS	400W	E	E40	525	425	25	250	350	240	9281 534 09800
SON-H										
SON-H	220W		E40	530	410	25	250	350	180	9281 524 09800
SON-H	350W		E40	525	415	25	250	350	250	9281 535 09800
SON-T										
SON-T	70W	E	E27	540	413	25	200	350	52	9281 528 00000
SON-T	150W	E	E40	535	415	25	250	350	155	9281 504 09200
SON-T	250W	E	E40	530	410	25	250	450	175	9281 515 09200
SON-T	400W	E	E40	525	415	25	250	450	190	9281 445 09200
SON-T	1000W	E	E40	515	420	25	250	450	404	9281 545 09200
SON-T AGRO										
SON-T AGRO	400W	E	E40	520	415	25	250	450	190	9281 446 09200
SON-T COMFORT										
SON-T COMFORT	150W	E	E40	513	419	65	250	450	156	9281 546 09200
SON-T COMFORT	250W	E	E40	514	420	65	250	450	175	9281 560 09200
SON-T COMFORT	400W	E	E40	510	415	65	250	450	190	9281 562 09200
SON-T PLUS										
SON-T PLUS	50W	E	E27	540	420	25	200	350	51	9281 519 00000
SON-T PLUS	70W	E	E27	540	420	25	200	350	52	9281 527 00000
SON-T PLUS	100W	E	E40	535	420	25	250	450	160	9281 517 09200
SON-T PLUS	150W	E	E40	535	420	25	250	450	155	9281 509 09200
SON-T PLUS	250W	E	E40	530	420	25	250	450	175	9281 447 09200
SON-T PLUS	400W	E	E40	525	425	25	250	450	190	9281 448 09200
SON-T PLUS	600W	E	E40	524	426	20	250	450	190	9281 561 09200



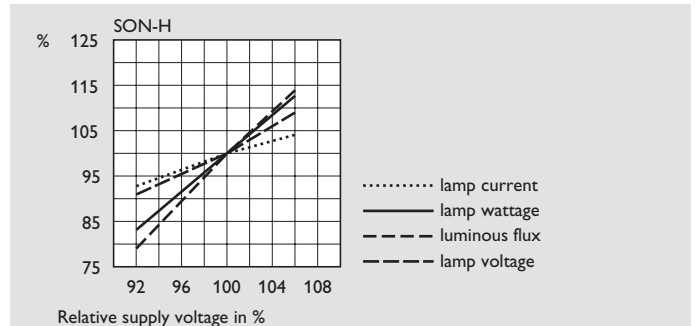
Spectral power distributions



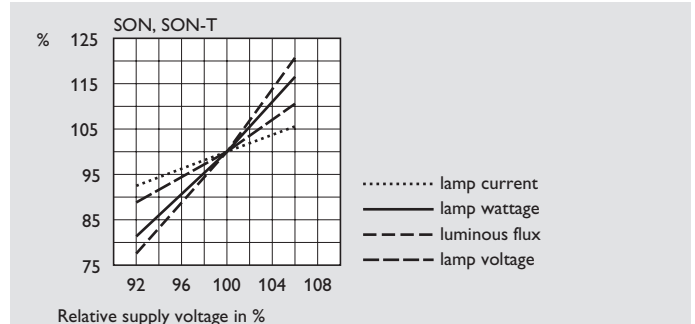
Lamp performance during run-up



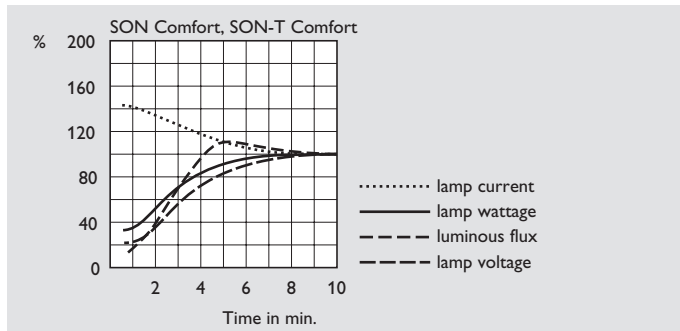
Lamp performance during run-up



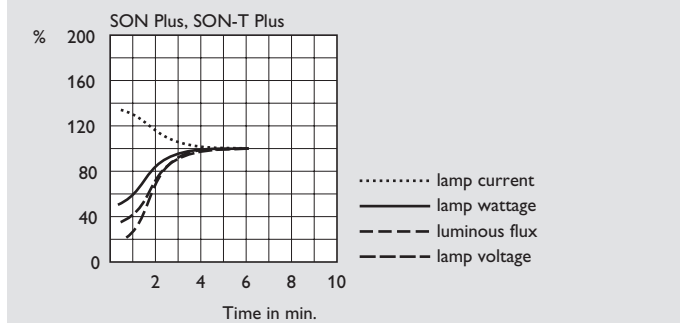
Effects of main voltage variations



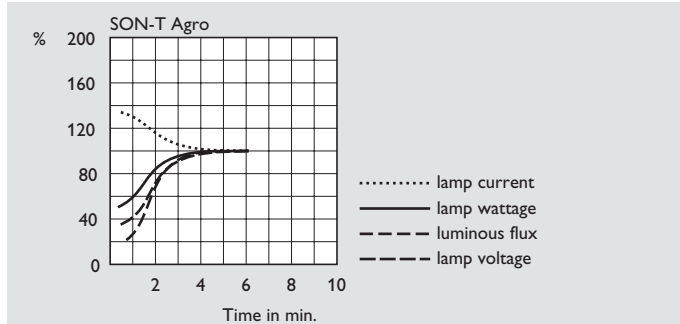
Effects of main voltage variations



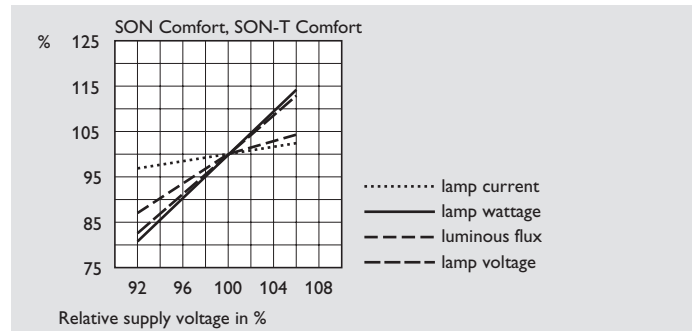
Lamp performance during run-up



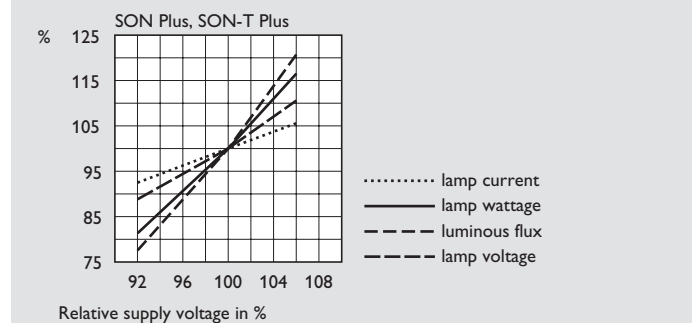
Lamp performance during run-up



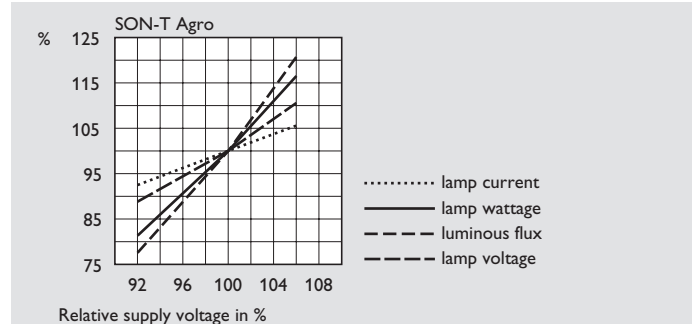
Lamp performance during run-up



Effects of main voltage variations



Effects of main voltage variations



Effects of main voltage variations