



# Product Description

## MASTER SON-T PIA Plus

High Pressure Sodium lamp with clear tubular outer bulb, high output and long reliable lifetime

### Benefits

- Superior technology results in a long and reliable lifetime, high lumen maintenance and a reliable ignition over lifetime
- High energy efficacy and absence of lead (Pb) makes this a sound environmental offer
- High luminous efficacy makes this the most energy efficient HPS lamp

### Features

- Clear tubular outer bulb
- Ceramic discharge tube with Philips Integrated Antenna (PIA) for a long and reliable lifetime
- Robust construction with few welding points is highly vibration- and shock-resistant, further reducing early failures and extending lamp life
- ZrCo getter ensures high lumen maintenance and few early failures
- "Plus" concept with high efficacy translated into high light output
- Completely lead-free lamps

### Application

- Road and residential lighting
- Decorative floodlighting, illumination
- Industrial area lighting
- Recreational sports facilities Outdoor and Indoor
- Horticultural lighting

### Warnings and Safety

- Control gear must include end-of-life protection (IEC60662, IEC 62035)
- A lamp breaking is extremely unlikely to have any impact on your health. If a lamp breaks, ventilate the room for 30 minutes and remove the parts, preferably with gloves. Put them in a sealed plastic bag and take it to your local waste facilities for recycling. Do not use a vacuum cleaner.

**PHILIPS**

Related products

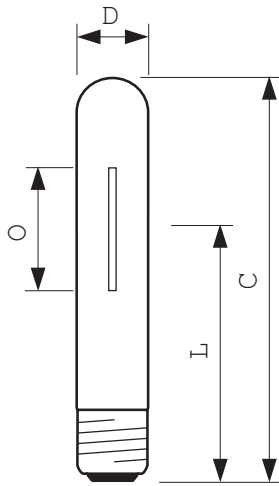


SON-T PIA Plus 50W, 70W E27



SON-T PIA Plus, E40

Dimensional drawing



MASTER SON-T PIA Plus 250W/220 E40 1SL

Product	C (Max)	D (Max)	L (Norm)	O (Norm)
SON-T Plus 250W/220 E40	257	48	158	64
SON-T Plus 250W/220 E40	257	48	158	64
SON-T Plus 400W/220 E40	283	48	175	83
SON-T Plus 400W/220 E40	283	48	175	83
SON-T Plus 400W/220 E40	283	48	175	83
SON-T Plus 150W/220 E40	210	48	132	61
SON-T Plus 100W/220 E40	210	48	132	47
SON-T PIA PLUS 70W E E27	156	36	104	42
SON-T Plus 600W/220 E40	283	47	174.2	126
SON-T Plus 100W E E40	209	47	132	-
SON-T Plus 150W E E40	209	47	132	-

General Characteristics (1/2)

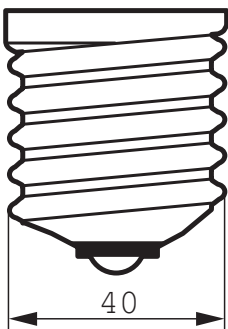
Order code	Full product name	System Description	Cap-Base	Bulb	Bulb Finish	Burning Position	Life to 5% failures	Life to 10% failures	Life to 20% failures	Life to 50% failures	LSF EM 2000h Rated, 12h cycle
192660 15	MASTER SON-T PIA Plus 70W/220 E27 1SL	External Ignitor	ES	T35	Clear	any	17000 hr	20000 hr	23500 hr	30000 hr	99 %
179876 15	MASTER SON-T PIA Plus 250W E E40 1SL	External Ignitor	GES	T46	Clear	any	20500 hr	24000 hr	28000 hr	36000 hr	100 %
180753 00	MASTER SON-T PIA Plus 250W E40 1SL	External Ignitor	GES	T46	Clear	any	20500 hr	24000 hr	28000 hr	36000 hr	100 %
179883 15	MASTER SON-T PIA Plus 400W E E40 1SL	External Ignitor	GES	T46	Clear	any	20500 hr	24000 hr	28000 hr	36000 hr	100 %
180777 00	MASTER SON-T PIA Plus 400W E40 1SL	External Ignitor	GES	T46	Clear	any	20500 hr	24000 hr	28000 hr	36000 hr	100 %
547723 00	MASTER SON-T PIA Plus 400W E E40 1SL	External Ignitor	GES	T46	Clear	any	20500 hr	24000 hr	28000 hr	36000 hr	100 %
192295 15	MASTER SON-T PIA Plus 150W/220 E40 1SL	External Ignitor	GES	T46	Clear	any	20500 hr	24000 hr	28000 hr	36000 hr	100 %
192301 15	MASTER SON-T PIA Plus 100W/220 E40 1SL	External Ignitor	GES	T46	Clear	any	17000 hr	21000 hr	26000 hr	36000 hr	100 %
197429 15	MASTER SON-T PIA Plus 600W/220 E40 1SL	External Ignitor	GES	T46	Clear	any	12000 hr	15000 hr	20000 hr	30000 hr	-

Order code	Full product name	System Description	Cap-Base	Bulb	Bulb Finish	Burning Position	Life to 5% failures	Life to 10% failures	Life to 20% failures	Life to 50% failures	LSF EM 2000h Rated, 12h cycle
180715 00	MASTER SON-T PIA Plus 100W E40 1SL	External Ignitor	GES	T46	Clear	any	17000 hr	hr	23500 hr	28000 hr	%
180739 00	MASTER SON-T PIA Plus 150W E40 1SL	External Ignitor	GES	T46	Clear	any	20500 hr	24000 hr	28000 hr	32000 hr	%

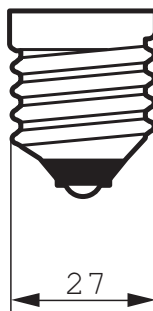
General Characteristics (2/2)

Order code	Full product name	LSF EM 4000h Rated, 12h cycle	LSF EM 6000h Rated, 12h cycle	LSF EM 8000h Rated, 12h cycle	LSF EM 12000h Rated, 12h cycle	LSF EM 16000h Rated, 12h cycle	LSF EM 20000h Rated, 12h cycle
192660 15	MASTER SON-T PIA Plus 70W/220 E27 1SL	99 %	99 %	99 %	99 %	96 %	90 %
179876 15	MASTER SON-T PIA Plus 250W E E40 1SL	99 %	99 %	99 %	99 %	98 %	95 %
180753 00	MASTER SON-T PIA Plus 250W E40 1SL	99 %	99 %	99 %	99 %	98 %	95 %
179883 15	MASTER SON-T PIA Plus 400W E E40 1SL	99 %	99 %	99 %	99 %	98 %	95 %
180777 00	MASTER SON-T PIA Plus 400W E40 1SL	99 %	99 %	99 %	99 %	98 %	95 %
547723 00	MASTER SON-T PIA Plus 400W E E40 1SL	99 %	99 %	99 %	99 %	98 %	95 %
192295 15	MASTER SON-T PIA Plus 150W/220 E40 1SL	99 %	99 %	99 %	99 %	98 %	95 %
192301 15	MASTER SON-T PIA Plus 100W/220 E40 1SL	99 %	99 %	99 %	98 %	96 %	91 %
197429 15	MASTER SON-T PIA Plus 600W/220 E40 1SL	-	-	-	-	-	-
180715 00	MASTER SON-T PIA Plus 100W E40 1SL	%	%	%	%	%	%
180739 00	MASTER SON-T PIA Plus 150W E40 1SL	%	%	%	%	%	%

Installation diagrams

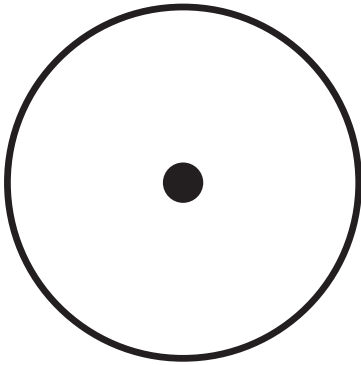


E40



E27

Installation diagrams



any

Light Technical Characteristics (1/3)

Order code	Full product name	Colour Code	Colour Rendering Index	Colour Temperature	Lamp Luminous Flux EM	Luminous Flux EM 25°C, Rated	Lamp Luminous Efficacy EM	Lum Efficacy Rated EM 25°C	Lumen Maintenance 2000h	Lumen Maintenance 4000h	Lumen Maintenance 5000h
192660 15	MASTER SON-T PIA Plus 70W/220 E27 1SL	220	25 (max) Ra8	2000 K	-	6600 Lm	-	91 Lm/W	90 %	-	86.5 %
179876 15	MASTER SON-T PIA Plus 250W E E40 1SL	220	25 (max) Ra8	2000 K	-	33000 Lm	-	127 Lm/W	-	-	-
180753 00	MASTER SON-T PIA Plus 250W E40 1SL	220	25 (max) Ra8	2000 K	-	33000 Lm	-	127 Lm/W	-	-	-
179883 15	MASTER SON-T PIA Plus 400W E E40 1SL	220	25 (max) Ra8	2000 K	-	55800 Lm	-	137 Lm/W	99 %	%	96.5 %
180777 00	MASTER SON-T PIA Plus 400W E40 1SL	220	25 (max) Ra8	2000 K	-	55800 Lm	-	137 Lm/W	99 %	%	96.5 %
547723 00	MASTER SON-T PIA Plus 400W E E40 1SL	220	25 (max) Ra8	2000 K	-	55800 Lm	-	137 Lm/W	99 %	%	96.5 %
192295 15	MASTER SON-T PIA Plus 150W/220 E40 1SL	220	25 (max) Ra8	2000 K	-	17700 Lm	-	116 Lm/W	-	-	-
192301 15	MASTER SON-T PIA Plus 100W/220 E40 1SL	220	25 (max) Ra8	2000 K	-	10700 Lm	-	106 Lm/W	-	-	-
197429 15	MASTER SON-T PIA Plus 600W/220 E40 1SL	220	25 (max) Ra8	2000 K	-	90000 Lm	148 Lm/W	-	96 %	%	90 %
180715 00	MASTER SON-T PIA Plus 100W E40 1SL	220	25 (max) Ra8	2000 K	10700 Lm	Lm	107 Lm/W	Lm/W	97 %	%	95 %
180739 00	MASTER SON-T PIA Plus 150W E40 1SL	220	25 (max) Ra8	2000 K	18000 Lm	Lm	117 Lm/W	Lm/W	97 %	%	95 %

Light Technical Characteristics (2/3)

Order code	Full product name	Lumen Maintenance 12000h	Lumen Maintenance 20000h	LLMF EM 2000h Rated	LLMF EM 4000h Rated	LLMF EM 6000h Rated	LLMF EM 8000h Rated	LLMF EM 12000h Rated	LLMF EM 16000h Rated	LLMF EM 20000h Rated	Design Mean Lumens
192660 15	MASTER SON-T PIA Plus 70W/220 E27 1SL	-	81 %	90 %	87 %	86 %	85 %	83 %	82 %	81 %	Lm

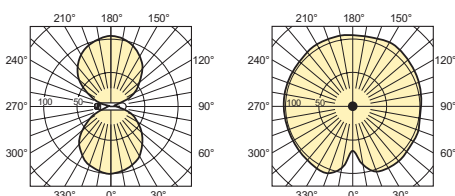
Order code	Full product name	Lumen Maintenance 12000h	Lumen Maintenance 20000h	LLMF EM 2000h Rated	LLMF EM 4000h Rated	LLMF EM 6000h Rated	LLMF EM 8000h Rated	LLMF EM 12000h Rated	LLMF EM 16000h Rated	LLMF EM 20000h Rated	Design Mean Lumens
179876 15	MASTER SON-T PIA Plus 250W E E40 1SL	-	-	99 %	98 %	97 %	96 %	96 %	95 %	94 %	Lm
180753 00	MASTER SON-T PIA Plus 250W E40 1SL	-	-	99 %	98 %	97 %	96 %	96 %	95 %	94 %	Lm
179883 15	MASTER SON-T PIA Plus 400W E E40 1SL	%	88 %	99 %	97 %	96 %	94 %	92 %	90 %	88 %	Lm
180777 00	MASTER SON-T PIA Plus 400W E40 1SL	%	88 %	99 %	97 %	96 %	94 %	92 %	90 %	88 %	Lm
547723 00	MASTER SON-T PIA Plus 400W E E40 1SL	%	88 %	99 %	97 %	96 %	94 %	92 %	90 %	88 %	Lm
192295 15	MASTER SON-T PIA Plus 150W/220 E40 1SL	-	-	99 %	98 %	97 %	96 %	96 %	95 %	94 %	Lm
192301 15	MASTER SON-T PIA Plus 100W/220 E40 1SL	-	-	98 %	96 %	95 %	94 %	92 %	90 %	89 %	Lm
197429 15	MASTER SON-T PIA Plus 600W/220 E40 1SL	%	77 %	-	-	-	-	-	-	-	Lm
180715 00	MASTER SON-T PIA Plus 100W E40 1SL	%	%	%	%	%	%	%	%	%	Lm
180739 00	MASTER SON-T PIA Plus 150W E40 1SL	%	%	%	%	%	%	%	%	%	Lm

Light Technical Characteristics (3/3)

Order code	Full product name	Chromaticity Coordinate X	Chromaticity Coordinate Y
192660 15	MASTER SON-T PIA Plus 70W/220 E27 1SL	540 -	420 -
179876 15	MASTER SON-T PIA Plus 250W E E40 1SL	530 -	420 -
180753 00	MASTER SON-T PIA Plus 250W E40 1SL	530 -	420 -
179883 15	MASTER SON-T PIA Plus 400W E E40 1SL	525 -	425 -
180777 00	MASTER SON-T PIA Plus 400W E40 1SL	525 -	425 -
547723 00	MASTER SON-T PIA Plus 400W E E40 1SL	525 -	425 -

Order code	Full product name	Chromaticity Coordinate X	Chromaticity Coordinate Y
192295 15	MASTER SON-T PIA Plus 150W/220 E40 1SL	535 -	420 -
192301 15	MASTER SON-T PIA Plus 100W/220 E40 1SL	535 -	420 -
197429 15	MASTER SON-T PIA Plus 600W/220 E40 1SL	526 -	424 -
180715 00	MASTER SON-T PIA Plus 100W E40 1SL	525 -	420 -
180739 00	MASTER SON-T PIA Plus 150W E40 1SL	535 -	420 -

Light technical

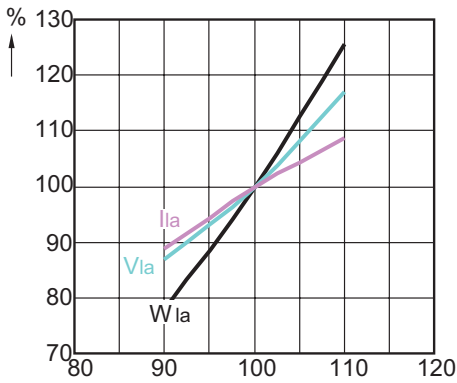


MASTER SON-T PIA

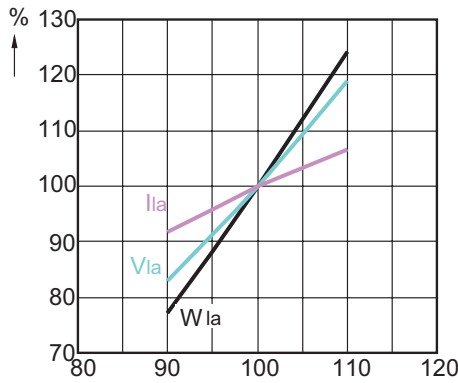
Electrical Characteristics

Order code	Full product name	Lamp Wattage	Lamp Wattage EM 25°C, Nominal	Lamp Wattage EM 25°C, Rated	Voltage	Lamp Voltage	Lamp Current EM	Dimmable	Re-ignition Time [sec]	Ratio scotopic/ photopic lumens
192660 15	MASTER SON-T PIA Plus 70W/220 E27 1SL	70 W	70.0 W	73.0 W	230 V	90 V	0.975 A	yes	30 (max) s	0.50 -
179876 15	MASTER SON-T PIA Plus 250W E E40 1SL	250 W	250.0 W	250.0 W	230 V	100 V	3 A	yes	120 (max) s	0.60 -
180753 00	MASTER SON-T PIA Plus 250W E40 1SL	250 W	250.0 W	250.0 W	230 V	100 V	3 A	yes	120 (max) s	0.60 -
179883 15	MASTER SON-T PIA Plus 400W E E40 1SL	400 W	400.0 W	400.0 W	230 V	100 V	4.5 A	yes	120 (max) s	0.60 -
180777 00	MASTER SON-T PIA Plus 400W E40 1SL	400 W	400.0 W	400.0 W	230 V	100 V	4.5 A	yes	120 (max) s	0.60 -
547723 00	MASTER SON-T PIA Plus 400W E E40 1SL	400 W	400.0 W	400.0 W	230 V	100 V	4.5 A	yes	120 (max) s	0.60 -
192295 15	MASTER SON-T PIA Plus 150W/220 E40 1SL	150 W	150.0 W	154.0 W	230 V	100 V	1.8 A	yes	180 (max) s	0.55 -
192301 15	MASTER SON-T PIA Plus 100W/220 E40 1SL	100 W	100.0 W	100.0 W	230 V	100 V	1.2 A	yes	120 (max) s	0.55 -
197429 15	MASTER SON-T PIA Plus 600W/220 E40 1SL	600 W	600.0 W	605.0 W	230 V	115 V	5.8 A	no	60 (max) s	0.60 -
180715 00	MASTER SON-T PIA Plus 100W E40 1SL	100 W	100.0 W	100.0 W	110 V	100 V	1.2 A	no	120 (max) s	-
180739 00	MASTER SON-T PIA Plus 150W E40 1SL	150 W	150.0 W	154.0 W	110 V	100 V	1.8 A	no	180 (max) s	-

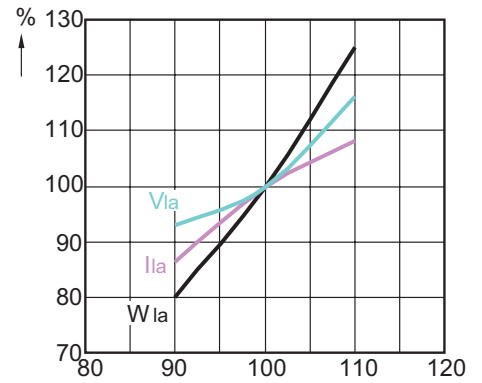
Performance diagrams



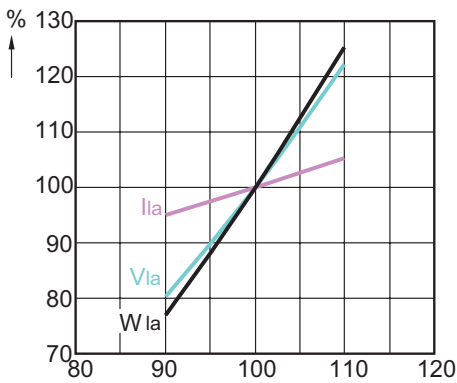
MASTER SON-T PIA Plus 100W - 250W E40



MASTER SON-T PIA Plus 400W

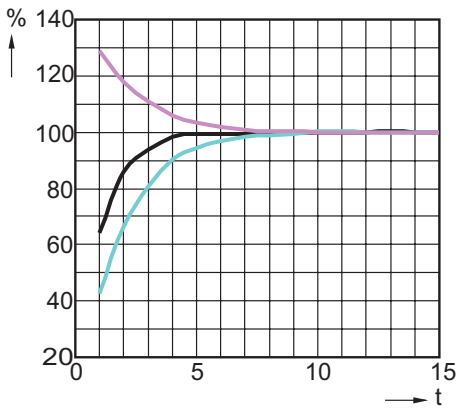


MASTER SON-T PIA Plus 50W, 70W E27

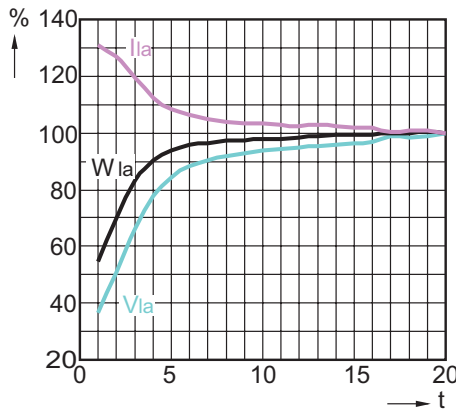


MASTER SON-T PIA Plus 600W

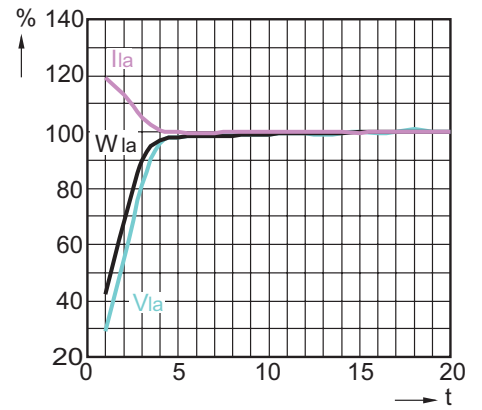
Performance diagrams



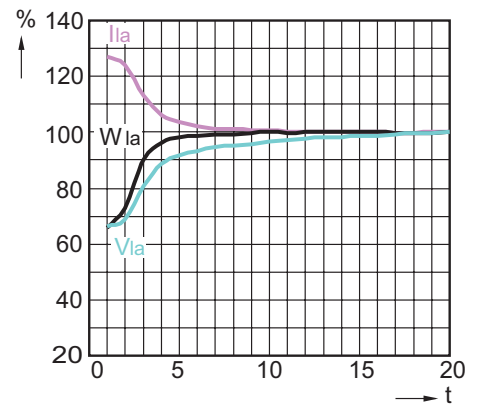
MASTER SON-T PIA Plus 100W - 250W E40



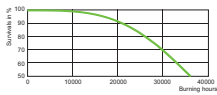
MASTER SON-T PIA Plus 400W



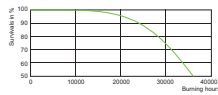
MASTER SON-T PIA Plus 50W, 70W E27



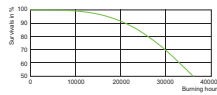
MASTER SON-T PIA Plus 600W



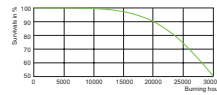
MASTER SON-T PIA Plus 100 W, 150 W Life Expectancy E40



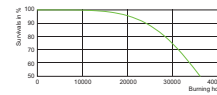
MASTER SON-T PIA Plus 150 W, 250 W, 400 W Life Expectancy E40



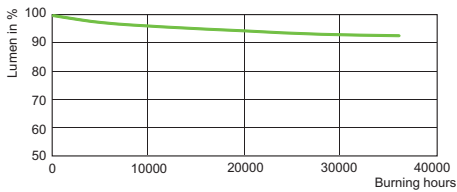
MASTER SON-T Plus 100 W Life Expectancy E40



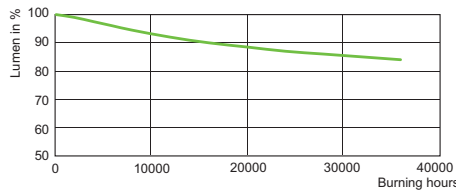
MASTER SON-T PIA Plus 70 W Life Expectancy E27



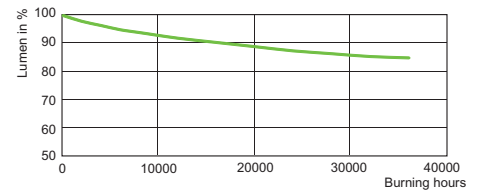
MASTER SON-T PIA Plus 600 W Life Expectancy



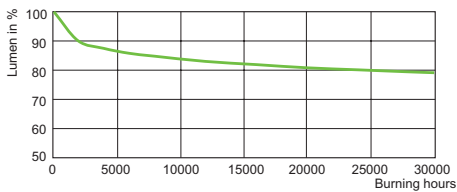
MASTER SON-T PIA Plus 150 W, 250 W Lumen Maintenance E40



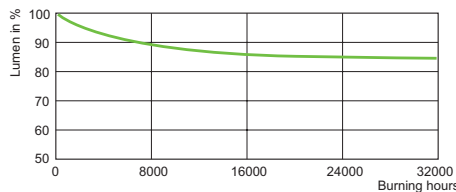
MASTER SON-T PIA Plus 400 W Lumen Maintenance E40



MASTER SON-T PIA Plus 100 W Lumen Maintenance E40

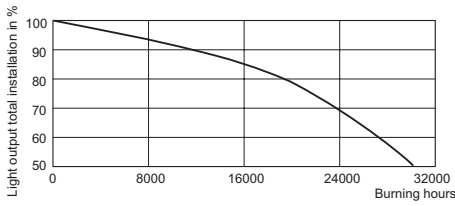


MASTER SON-T PIA Plus 70 W Lumen Maintenance

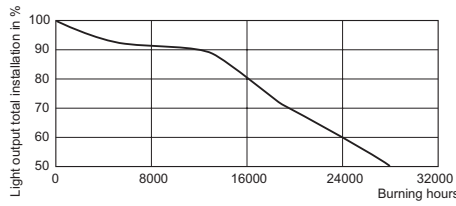


MASTER SON-T PIA Plus 600 W Lumen Maintenance

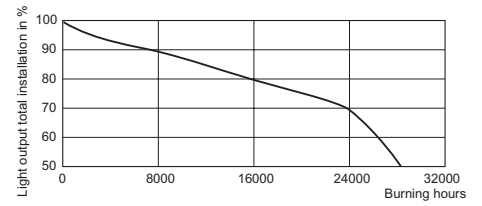
Performance diagrams



MASTER SON-T PIA 100 W - 400 W Service Lifetime



MASTER SON-T PIA Plus 50 W, 70 W Service Lifetime



MASTER SON-T PIA Plus 600 W Service Lifetime

Environmental Characteristics

Order code	Full product name	Energy Efficiency Label (EEL)	Mercury (Hg) Content	Energy consumption kWh/1000h
192660 15	MASTER SON-T PIA Plus 70W/220 E27 1SL	A+	12 mg	80 kWh
179876 15	MASTER SON-T PIA Plus 250W E E40 1SL	A+	15 mg	275 kWh
180753 00	MASTER SON-T PIA Plus 250W E40 1SL	A+	15 mg	275 kWh
179883 15	MASTER SON-T PIA Plus 400W E E40 1SL	A++	20 mg	440 kWh
180777 00	MASTER SON-T PIA Plus 400W E40 1SL	A++	20 mg	440 kWh
547723 00	MASTER SON-T PIA Plus 400W E E40 1SL	A++	20 mg	440 kWh
192295 15	MASTER SON-T PIA Plus 150W/220 E40 1SL	A+	15 mg	169 kWh
192301 15	MASTER SON-T PIA Plus 100W/220 E40 1SL	A+	16 mg	110 kWh
197429 15	MASTER SON-T PIA Plus 600W/220 E40 1SL	A++	24 mg	665 kWh
180715 00	MASTER SON-T PIA Plus 100W E40 1SL	A+	16.3 mg	110 kWh
180739 00	MASTER SON-T PIA Plus 150W E40 1SL	A+	20.4 mg	169 kWh

Luminaire Design Requirements

Order code	Full product name	Cap-Base Temperature	Bulb Temperature
192660 15	MASTER SON-T PIA Plus 70W/220 E27 1SL	200 (max) C	350 (max) C
179876 15	MASTER SON-T PIA Plus 250W E E40 1SL	250 (max) C	450 (max) C
180753 00	MASTER SON-T PIA Plus 250W E40 1SL	250 (max) C	450 (max) C
179883 15	MASTER SON-T PIA Plus 400W E E40 1SL	250 (max) C	450 (max) C
180777 00	MASTER SON-T PIA Plus 400W E40 1SL	250 (max) C	450 (max) C
547723 00	MASTER SON-T PIA Plus 400W E E40 1SL	250 (max) C	450 (max) C
192295 15	MASTER SON-T PIA Plus 150W/220 E40 1SL	250 (max) C	450 (max) C
192301 15	MASTER SON-T PIA Plus 100W/220 E40 1SL	250 (max) C	450 (max) C
197429 15	MASTER SON-T PIA Plus 600W/220 E40 1SL	250 (max) C	450 (max) C
180715 00	MASTER SON-T PIA Plus 100W E40 1SL	250 (max) C	450 (max) C
180739 00	MASTER SON-T PIA Plus 150W E40 1SL	250 (max) C	450 (max) C



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2015, May 8  
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