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Product Description

High Pressure Sodium lamp with opalized ovoid outer bulb

Benefits

- SON is a cost-efficient and reliable solution in High Pressure Sodium

Features

- Ovoid, internally white coated outer bulb
- High luminous efficacy
- Robust construction is vibration- and shock-resistant leading to a reliable life
- Dimming possible with dedicated gear

Environment

- International text to be defined

Application

- Road and residential lighting
- Decorative floodlighting
- Commercial and industrial applications

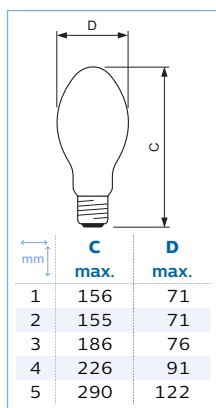
Warnings and Safety

- Control gear must include end-of-life protection (IEC 60662, 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.

Product Range



Dimension Drawing



Main Data

SON

Wattage/Light source color	Lamp system description	Cap-Base	Bulb Finish	SAP Packing (Piece)/Packaging configuration	Correlated Color Temperature (K)	Life To 10% Failures (h)	Energy Consumption kWh/1000 h (kWh)	Photo letter	Ordering number
50W/220	INTERNALIGNITOR	E27	COATED	CT / 24	2,000	13,000		1	871150018189330
50W/220	EXTERNALIGNITOR	E27	COATED	CT / 24	2,000	15,000	55	A	871150018195430
70W/220	EXTERNALIGNITOR	E27	COATED	CT / 24	2,000		77	A	871150021024130

More data see next page



SON

Wattage/Light source color	Lamp system description	Cap-Base	Bulb Finish	SAP Packing (Piece)/Packaging configuration	Correlated Color Temperature	Life To 10% Failures	Energy Consumption kWh/1000 h	mm		Photo letter	Ordering number
					(K)	(h)	(kWh)	A	B		
70W/220	EXTERNALIGNITOR	E27	COATED	CT/ 24	2,000		77	A	1	B	872790090663900
70W/220	INTERNALIGNITOR	E27	COATED	CT/ 24	2,000	13,000	77	A+	2	A	871150018186230
100W/220	EXTERNALIGNITOR	E40	COATED	SL/ 12	1,900	12,000	110	A+	3	C	872790030018515
100W/220	EXTERNALIGNITOR	E40	COATED	SL/ 12	1,900	12,000	110	A+	3	C	872790090677600
147W/220	EXTERNALIGNITOR	E40	COATED	SL/ 12	2,000		162	A+	4	C	871150021028915
250W/220	EXTERNALIGNITOR	E40	COATED	SL/ 12	2,000		275	A+	4	C	871150021038815
250W/220	EXTERNALIGNITOR	E40	COATED	SL/ 12	2,000		275	A+	4	C	872790090667700
400W/220	EXTERNALIGNITOR	E40	COATED	SL/ 12	2,000		440	A+	5	C	871150021032615
400W/220	EXTERNALIGNITOR	E40	COATED	SL/ 12	2,000		440	A+	5	C	872790090669100

Electrical data

Commercial product name	Lamp Current (EM)	Lamp power	Voltage	Ignition Time
	(A)	(W)	(V)	(sec. [max.])
SON 50W/220 E27 1CT/24	0.76	50	85	5
SON 50W/220 I E27 1CT/24	0.76	50	85	
SON 70W/220 I E27 1CT/24	0.98	70	90	
SON 70W E E27 CO 1CT	0.98	70	90	5
SON 70W E E27 CO 1CT/24	0.98	70	90	5
SON 100W E E40 1SL	1.20	100	100	5
SON 100W E E40 CO 1SL	1.20	100	100	5
SON 150W E E40 CO 1SL/12	1.80	147	100	5
SON 250W E E40 CO 1SL	3.00	250	100	5
SON 250W E E40 CO 1SL/12	3.00	250	100	5
SON 400W E E40 CO 1SL	4.45	400	105	5
SON 400W E E40 CO 1SL/12	4.45	400	105	5

Lifetime data

Commercial product name	Life to 5% Failures	Life To 10% Failures	Life to 20% Failures	Life to 50% Failures
	(h)	(h)	(h)	(h)
SON 50W/220 E27 1CT/24	12,000	15,000	19,000	28,000
SON 50W/220 I E27 1CT/24	10,000	13,000	18,000	28,000
SON 70W/220 I E27 1CT/24	10,000	13,000	18,000	28,000
SON 70W E E27 CO 1CT	12,000		22,000	28,000
SON 70W E E27 CO 1CT/24	12,000		22,000	28,000
SON 100W E E40 1SL		12,000		24,000
SON 100W E E40 CO 1SL		12,000		24,000
SON 150W E E40 CO 1SL/12	12,000		20,000	28,000
SON 250W E E40 CO 1SL	12,000		20,000	28,000
SON 250W E E40 CO 1SL/12	12,000		20,000	28,000
SON 400W E E40 CO 1SL	12,000		20,000	28,000
SON 400W E E40 CO 1SL/12	12,000		20,000	28,000

Color data

Commercial product name	Colour Rendering Index	Light source color ¹	Bulb Finish	Chromaticity Coordinate X	Chromaticity Coordinate Y
	([max.])				
SON 50W/220 E27 1CT/24	25	220	Coated glass		
SON 50W/220 I E27 1CT/24	25	220	Coated glass	540	415
SON 70W/220 I E27 1CT/24	25	220	Coated glass	540	415
SON 70W E E27 CO 1CT	25	220	Coated glass		
SON 70W E E27 CO 1CT/24	25	220	Coated glass		
SON 100W E E40 1SL	25	220	Coated glass		
SON 100W E E40 CO 1SL	25	220	Coated glass		
SON 150W E E40 CO 1SL/12	25	220	Coated glass		

More data see next page



Commercial product name	Colour Rendering Index	Light source color ¹	Bulb Finish	Chromaticity Coordinate X	Chromaticity Coordinate Y
	([max.])				
SON 250W E E40 CO 1SL	25	220	Coated glass		
SON 250W E E40 CO 1SL/12	25	220	Coated glass		
SON 400W E E40 CO 1SL	25	220	Coated glass		
SON 400W E E40 CO 1SL/12	25	220	Coated glass		

¹ 'Light source color' value description(s): '220' = CCT of 2000K

Luminous flux/efficacy/intensity data

Commercial product name	Luminous Flux (Rated)	Luminous Efficacy (Rated)	Luminance	Ratio Scotopic/Photopic Lumens
	(lm)	(lm/W)	(cd/cm ²)	
SON 50W/220 E27 1CT/24	3,500	70.0		0.50
SON 50W/220 I E27 1CT/24	3,500	70.0	4.5	
SON 70W/220 I E27 1CT/24	5,600	80.0		
SON 70W E E27 CO 1CT	5,600	80.0		
SON 70W E E27 CO 1CT/24	5,600	80.0		
SON 100W E E40 1SL	8,000	85.0		
SON 100W E E40 CO 1SL	8,000	85.0		
SON 150W E E40 CO 1SL/12	13,750	93.0		
SON 250W E E40 CO 1SL	27,000	106.0		
SON 250W E E40 CO 1SL/12	27,000	106.0		
SON 400W E E40 CO 1SL	48,000	122.0		
SON 400W E E40 CO 1SL/12	48,000	122.0		

Rated Lumen Maintenance data


Commercial product name	Lumen Maintenance 2000 h	LLMF 2000 h Rated	LLMF 4000 h Rated	Lumen Maintenance 5000 h	LLMF 6000 h Rated	LLMF 8000 h Rated	Lumen Maintenance 10000 h	LLMF 12000 h Rated	LLMF 16000 h Rated	Lumen Maintenance 20000 h	LLMF 20000 h Rated
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
SON 50W/220 E27 1CT/24	89	89	86	85.0	85	84	83	81	81	80	80
SON 50W/220 I E27 1CT/24		88	84		83	81		80	79		78
SON 70W/220 I E27 1CT/24	88	88	84	83.5	83	81	81	80	79	78	78
SON 70W E E27 CO 1CT	93	93	89	88.0	86	84	85	81	79		78
SON 70W E E27 CO 1CT/24	93	93	89	88.0	86	84	85	81	79		78
SON 100W E E40 1SL	90			85.0							
SON 100W E E40 CO 1SL	90			85.0							
SON 150W E E40 CO 1SL/12	95			90.0			85				
SON 250W E E40 CO 1SL	98			96.0			95				
SON 250W E E40 CO 1SL/12	98			96.0			95				
SON 400W E E40 CO 1SL	97			94.0			88				
SON 400W E E40 CO 1SL/12	97			94.0			88				

Temperature data

Commercial product name	Correlated Color Temperature	Bulb Temperature	Cap-Base Temperature	Default Ambient Temperature
	(K)	(°C [max.])	(°C [max.])	(°C)
SON 50W/220 E27 1CT/24	2,000	350	200	25
SON 50W/220 I E27 1CT/24	2,000	350	200	25
SON 70W/220 I E27 1CT/24	2,000	350	200	25
SON 70W E E27 CO 1CT	2,000	350	200	25
SON 70W E E27 CO 1CT/24	2,000	350	200	25
SON 100W E E40 1SL	1,900	350	200	25
SON 100W E E40 CO 1SL	1,900	350	200	25
SON 150W E E40 CO 1SL/12	2,000	350	250	25
SON 250W E E40 CO 1SL	2,000	350	250	25
SON 250W E E40 CO 1SL/12	2,000	350	250	25
SON 400W E E40 CO 1SL	2,000	350	250	25
SON 400W E E40 CO 1SL/12	2,000	350	250	25



Environmental data & ETIM group & Design Requirements

Commercial product name	Energy Consumption kWh/ 1000 h (kWh)		Mercury (Hg) Content	ETIM Group ²
			(mg)	
SON 50W/220 E27 1CT/24	55	A	12.0	EC000821
SON 50W/220 I E27 1CT/24			12.0	EC000821
SON 70W/220 I E27 1CT/24	77	A+	16.3	EC000821
SON 70W E E27 CO 1CT	77	A	16.3	EC000821
SON 70W E E27 CO 1CT/24	77	A	16.3	EC000821
SON 100W E E40 1SL	110	A+	20.2	EC000821
SON 100W E E40 CO 1SL	110	A+	20.2	EC000821
SON 150W E E40 CO 1SL/12	162	A+	20.4	EC000821
SON 250W E E40 CO 1SL	275	A+	20.4	EC000821
SON 250W E E40 CO 1SL/12	275	A+	20.4	EC000821
SON 400W E E40 CO 1SL	440	A+	24.5	EC000821
SON 400W E E40 CO 1SL/12	440	A+	24.5	EC000821

² 'ETIM Group' value description(s): 'EC000821' = High Pressure Sodium Lamp



Rated Survival Factor data

Commercial product name	LSF 2000 h Rated	LSF 4000 h Rated	LSF 6000 h Rated	LSF 8000 h Rated	LSF 12000 h Rated	LSF 16000 h Rated	LSF 20000 h Rated
	(%)	(%)	(%)	(%)	(%)	(%)	(%)
SON 50W/220 E27 1CT/24	99	99	99	98	95	88	78
SON 50W/220 I E27 1CT/24	99	99	98	97	92	84	74
SON 70W/220 I E27 1CT/24	99	99	98	97	92	84	74
SON 70W E E27 CO 1CT	99	99	99	98	94	86	76
SON 70W E E27 CO 1CT/24	99	99	99	98	94	86	76
SON 100W E E40 1SL							
SON 100W E E40 CO 1SL							
SON 150W E E40 CO 1SL/12							
SON 250W E E40 CO 1SL							
SON 250W E E40 CO 1SL/12							
SON 400W E E40 CO 1SL							
SON 400W E E40 CO 1SL/12							



System data

Commercial product name	Lamp system description
SON 50W/220 E27 1CT/24	External Ignitor
SON 50W/220 I E27 1CT/24	Internal Ignitor
SON 70W/220 I E27 1CT/24	Internal Ignitor
SON 70W E E27 CO 1CT	External Ignitor
SON 70W E E27 CO 1CT/24	External Ignitor
SON 100W E E40 1SL	External Ignitor
SON 100W E E40 CO 1SL	External Ignitor
SON 150W E E40 CO 1SL/12	External Ignitor
SON 250W E E40 CO 1SL	External Ignitor
SON 250W E E40 CO 1SL/12	External Ignitor
SON 400W E E40 CO 1SL	External Ignitor
SON 400W E E40 CO 1SL/12	External Ignitor

Operating data

Commercial product name		Default Burning Position	Ignition Supply Voltage	Default Gear		Default Cycle Time
			(V [max.])			
SON 50W/220 E27 1CT/24	UNIVERSAL	Horizontal	198	Electromagnetic	Yes	12 hour cycle
SON 50W/220 I E27 1CT/24	UNIVERSAL	Horizontal	198	Electromagnetic	Yes	12 hour cycle
SON 70W/220 I E27 1CT/24	UNIVERSAL	Horizontal	198	Electromagnetic	Yes	12 hour cycle
SON 70W E E27 CO 1CT	UNIVERSAL	Horizontal	198	Electromagnetic	Yes	12 hour cycle
SON 70W E E27 CO 1CT/24	UNIVERSAL	Horizontal	198	Electromagnetic	Yes	12 hour cycle
SON 100W E E40 1SL	UNIVERSAL	Horizontal	198	Electromagnetic	Yes	12 hour cycle
SON 100W E E40 CO 1SL	UNIVERSAL	Horizontal	198	Electromagnetic	Yes	12 hour cycle

More data see next page

Commercial product name	 ³	Default Burning Position	Ignition Supply Voltage (V [max.])	Default Gear		Default Cycle Time
SON 150W E E40 CO 1SL/12	UNIVERSAL	Horizontal	198	Electromagnetic	Yes	12 hour cycle
SON 250W E E40 CO 1SL	UNIVERSAL	Horizontal	198	Electromagnetic	Yes	12 hour cycle
SON 250W E E40 CO 1SL/12	UNIVERSAL	Horizontal	198	Electromagnetic	Yes	12 hour cycle
SON 400W E E40 CO 1SL	UNIVERSAL	Horizontal	198	Electromagnetic	Yes	12 hour cycle
SON 400W E E40 CO 1SL/12	UNIVERSAL	Horizontal	198	Electromagnetic	Yes	12 hour cycle

³  value description(s): 'UNIVERSAL' = Any or Universal (U)

Miscellaneous & General data

Commercial product name	Bulb Shape ⁴	Cap-Base	ILCOS Code
SON 50W/220 E27 1CT/24	B70	E27	SE-50-H/E-E27
SON 50W/220 I E27 1CT/24	B70	E27	SE-50-H/I-E27
SON 70W/220 I E27 1CT/24	B70	E27	SE-70-H/I-E27
SON 70W E E27 CO 1CT	BF70	E27	
SON 70W E E27 CO 1CT/24	BF70	E27	
SON 100W E E40 1SL	ED75	E40	
SON 100W E E40 CO 1SL	ED75	E40	
SON 150W E E40 CO 1SL/12	ED90	E40	
SON 250W E E40 CO 1SL	ED90	E40	
SON 250W E E40 CO 1SL/12	ED90	E40	
SON 400W E E40 CO 1SL	ED120	E40	
SON 400W E E40 CO 1SL/12	ED120	E40	

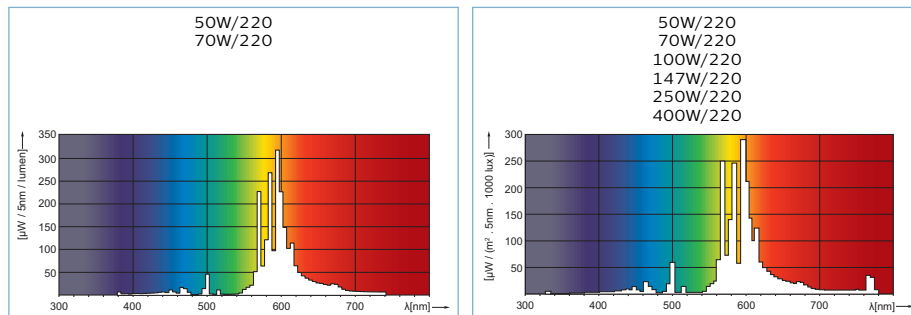
⁴ 'Bulb Shape' value description(s): 'B70' = B 70mm, 'BF70' = BF 70mm, 'ED120' = ED 120mm, 'ED75' = ED 75mm, 'ED90' = ED 90mm

Logistic data

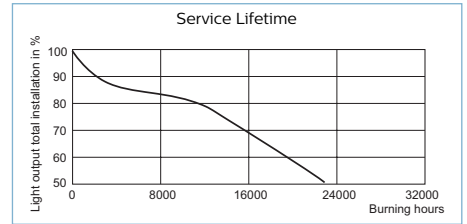
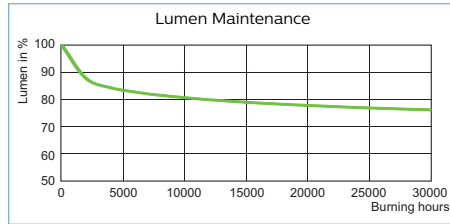
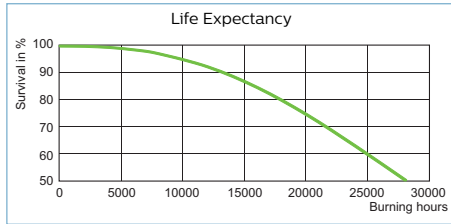
Commercial product name	SAP Packing (Piece)/Packaging configuration ⁵	Numerator - Packs per outer box	Ordering number	Material Nr. (12NC)	SAP Gross Weight (Piece) (g)	Net Weight (Piece) (g)	EAN-3
SON 50W/220 E27 1CT/24	CT / 24	24	871150018195430	928152908835	102	59	8711500181961
SON 50W/220 I E27 1CT/24	CT / 24	24	871150018189330	928150808828	105	62	8711500181909
SON 70W/220 I E27 1CT/24	CT / 24	24	871150018186230	928150108828	108	65	8711500181879
SON 70W E E27 CO 1CT	CT / 24	24	872790090663900	928486700097	102	62	8727900906646
SON 70W E E27 CO 1CT/24	CT / 24	24	871150021024130	928486700091	88	59	8711500210258
SON 100W E E40 1SL	SL / 12	12	872790090677600	928490000097	181	155	8727900906783
SON 100W E E40 CO 1SL	SL / 12	12	872790030018515	928490000091	172	121	8727900300192
SON 150W E E40 CO 1SL/12	SL / 12	12	871150021028915	928486800091	208	161	8711500210296
SON 250W E E40 CO 1SL	SL / 12	12	872790090667700	928486900097	256	168	8727900906684
SON 250W E E40 CO 1SL/12	SL / 12	12	871150021038815	928486900091	100	63	8711500210395
SON 400W E E40 CO 1SL	SL / 12	12	872790090669100	928487000097	433	278	8727900906707
SON 400W E E40 CO 1SL/12	SL / 12	12	871150021032615	928487000091	329	246	8711500210333

⁵ 'SAP Packing (Piece)/Packaging configuration' value description(s): 'CT / 24' = CARTON, 'SL / 12' = SLEEVE

Spectral power distribution



Performance diagrams



Cap-Base Overview

