OSRAM LED
CREATING TOMORROW

Light with LED meets every need

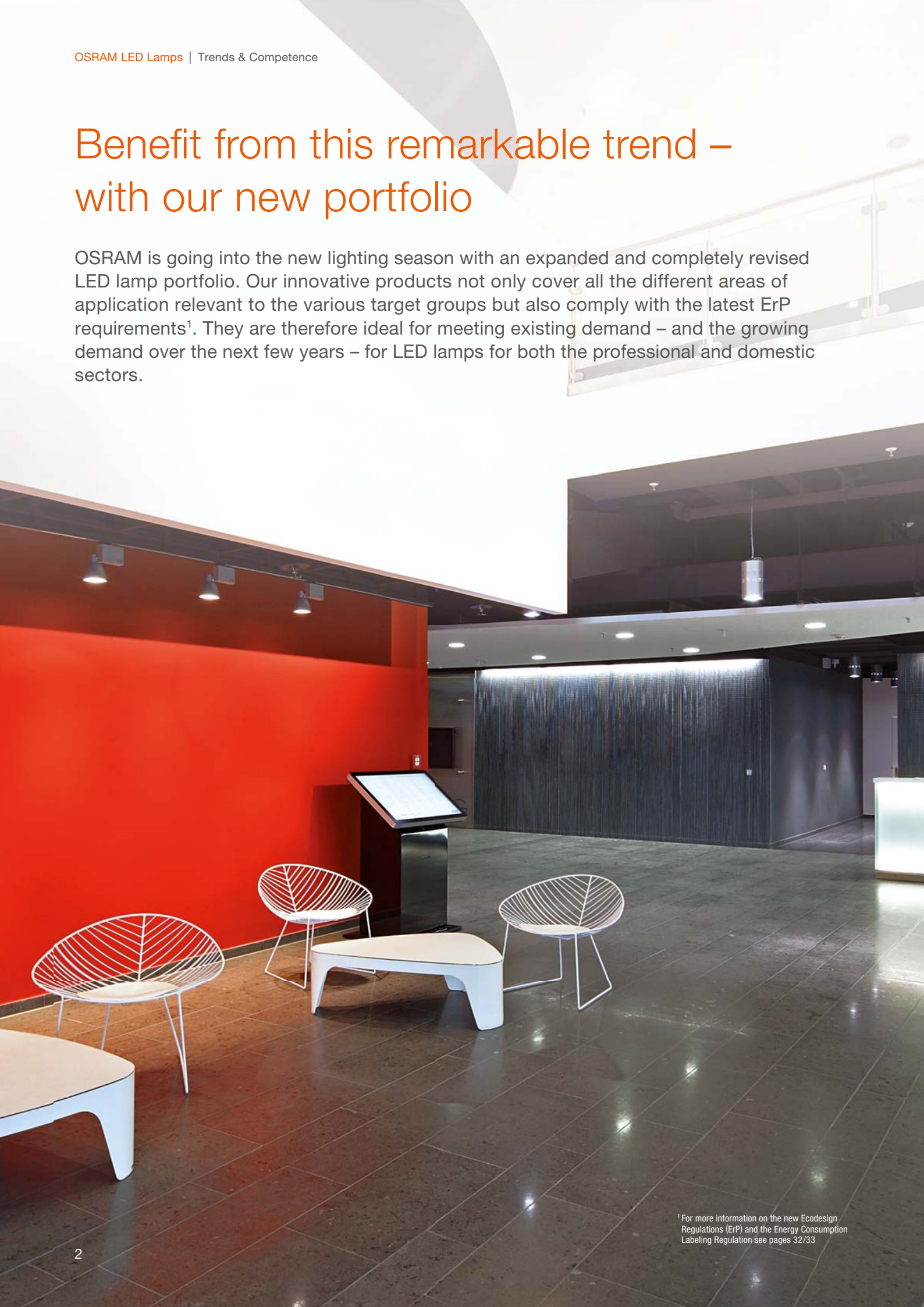
The wide range of the new OSRAM LED family

Light is OSRAM

OSRAM

Benefit from this remarkable trend – with our new portfolio

OSRAM is going into the new lighting season with an expanded and completely revised LED lamp portfolio. Our innovative products not only cover all the different areas of application relevant to the various target groups but also comply with the latest ErP requirements[1]. They are therefore ideal for meeting existing demand – and the growing demand over the next few years – for LED lamps for both the professional and domestic sectors.



[1] For more information on the new Ecodesign Regulations (ErP) and the Energy Consumption Labeling Regulation see pages 32/33

OSRAM LED lamps at a glance

PARATHOM® PRO advanced

	Base	Replacement for	PARATHOM® PRO advanced[1]		Page
Reflector	GU10	35 W	PRO PAR16 35 24°/36° advanced, 5.2 W		7
		50 W	PRO PAR16 50 24°/36° advanced, 6.8 W		7
			PRO LEDOTRON PAR16 50 6.8 W, 36°	 LEDOTRON	11
		75 W	PRO PAR16 75 36° advanced, 10.5 W		7
	GU5.3	20 W	PRO MR16 20 24°/36° advanced, 5 W		8
		35 W	PRO MR16 35 24°/36° advanced, 8 W		8
		42 W	PRO MR16 42 36° advanced, 8 W		8
		50 W	PRO MR16 50 36° advanced, 12 W		8
	G53	50 W	PRO LEDspot 111 50 24° advanced, 12 W		9
CLASSIC A	E27	60 W	PRO LEDOTRON CL A60 frosted, 12 W	 LEDOTRON	11

PARATHOM® advanced

	Base	Replacement for	PARATHOM® advanced[1]		Page
Reflector	GU10	20 W	PAR16 20 36° advanced, 3 W		13
		35 W	PAR16 35 36° advanced, 5 W		13
		50 W	PAR16 50 36° advanced, 7.5 W		13
	GU5.3	20 W	MR16 20 24°/36° advanced, 5 W		14
		35 W	MR16 35 24°/36° advanced, 6.5 W		14
CLASSIC A	E27	40 W	CL A40 advanced frosted/clear sparkling, 6 W		15
		60 W	CL A60 advanced frosted/clear sparkling, 10 W		15
		75 W	CL A75 advanced frosted, 13.5 W		15
CLASSIC B	E14	25 W	CL B25 advanced frosted/clear sparkling, 3.8 W		16
		40 W	CL B40 advanced frosted/clear sparkling, 6 W		16
CLASSIC P	E14	25 W	CL P25 advanced frosted/clear sparkling, 3.8 W		17
		40 W	CL P40 advanced frosted/clear sparkling, 6 W		17
	E27	25 W	CL P25 advanced frosted/clear sparkling, 3.8 W		17
		40 W	CL P40 advanced frosted/clear sparkling, 6 W		17

[1] LED lamps can be operated on a wide range of standard dimmers; for details and results of compatibility tests go to www.osram.com/dim and the links on that page to additional technical product information sheets.

PARATHOM®

	Base	Replacement for	PARATHOM®		Page
Reflector	GU10	20 W	PAR16 20 36°, 2.5 W		19
		35 W	PAR16 35 36°, 4.6 W		19
	GU5.3	20 W	MR16 20 36°, 4.5 W		19
		35 W	MR16 35 36°, 7 W		19
	GU4	20 W	MR11 20 30°, 3.7 W		21
	E27	75 W	PRO PAR30 90 30°, 13 W		20
		120 W	PRO PAR38 100 20°, 15 W		20
	E14	40 W	R50 40 30°, 3.9 W		21
CLASSIC A	E27	15 W	CL A15 clear, 2 W		22
		25 W	CL A25 frosted, 4 W		22
		40 W	CL A40 frosted, 7 W		22
		60 W	CL A60 frosted, 10 W		22
CLASSIC B	E14	15 W	CL B15 clear, 2 W		23
		25 W	CL B25 clear/frosted, 4 W/3.6 W		23
		40 W	CL B40 frosted/ clear sparkling, 6 W		23

	Base	Replacement for	PARATHOM®		Page
CLASSIC P	E14	15 W	CL P15 clear, 2 W		24
		25 W	CL P25 clear/frosted, 4 W/3.6 W		24
		40 W	CL P40 frosted/ clear sparkling, 6 W		24
	E27	15 W	CL P15 clear, 2 W		24
		25 W	CL P25 clear/frosted, 4 W/3.6 W		24
		40 W	CL P40 frosted/ clear sparkling, 6 W		24

SubstiTUBE®

Base	Replacement for	Basic	Page	Advanced	Page
G13	0.6 m*	ST8-HB2, 160°, 9 W	26	ST8-HA2, 130°, 10 W	27
	1.2 m*	ST8-HB4, 160°, 18 W	26	ST8-HA4, 130°, 20 W	27
	1.5 m*	ST8-HB5, 160°, 22 W	26	ST8-HA5, 130°, 30 W	27

* T8 fluorescent tube

PARATHOM® for special applications

Type/Base	Replacement for	PARATHOM®		Page
T26/E14	12 W	Special T26 15 frosted, 1.4 W		29
S14s	25 W	LEDinestra®, frosted, 6 W		29
S14d	25 W	LEDinestra®, frosted, 6 W		29

Innovative LED lamps for a wide range of standard and special applications

OSRAM LED lamps have been grouped into five segments for greater clarity and to make it easier for you and your customers to find the right lamps for your particular needs.

OSRAM PARATHOM® PRO advanced 06

High-quality LED lamps for professional demands[1]
- Dimmable[2], LEDOTRON versions also available
- Extremely long life of up to 50,000 hours
- Good to excellent color rendering of up to $R_a \geq 90$
- Very good binning (SDCM ≤ 4)

OSRAM PARATHOM® advanced 12

Reliable LED lamps for demanding applications
- Dimmable[2]
- Long life of up to 25,000 hours
- Good color rendering of R_a 80
- Good binning

OSRAM PARATHOM® 18

Versatile LED lamps for standard applications
- Basic range
- Very good price/performance ratio
- Long life of up to 20,000 hours
- Good color rendering of R_a 80
- Good binning

OSRAM SubstiTUBE® 25

LED tubes as alternatives to T8 fluorescent tubes
- SubstiTUBE® Basic for simple lighting tasks and SubstiTUBE® Advanced for demanding lighting tasks with high luminous flux
- Quick, simple and safe relamping with no rewiring
- Uniform illumination with no warm-up phase or flickering
- Extremely long life of up to 40,000 hours

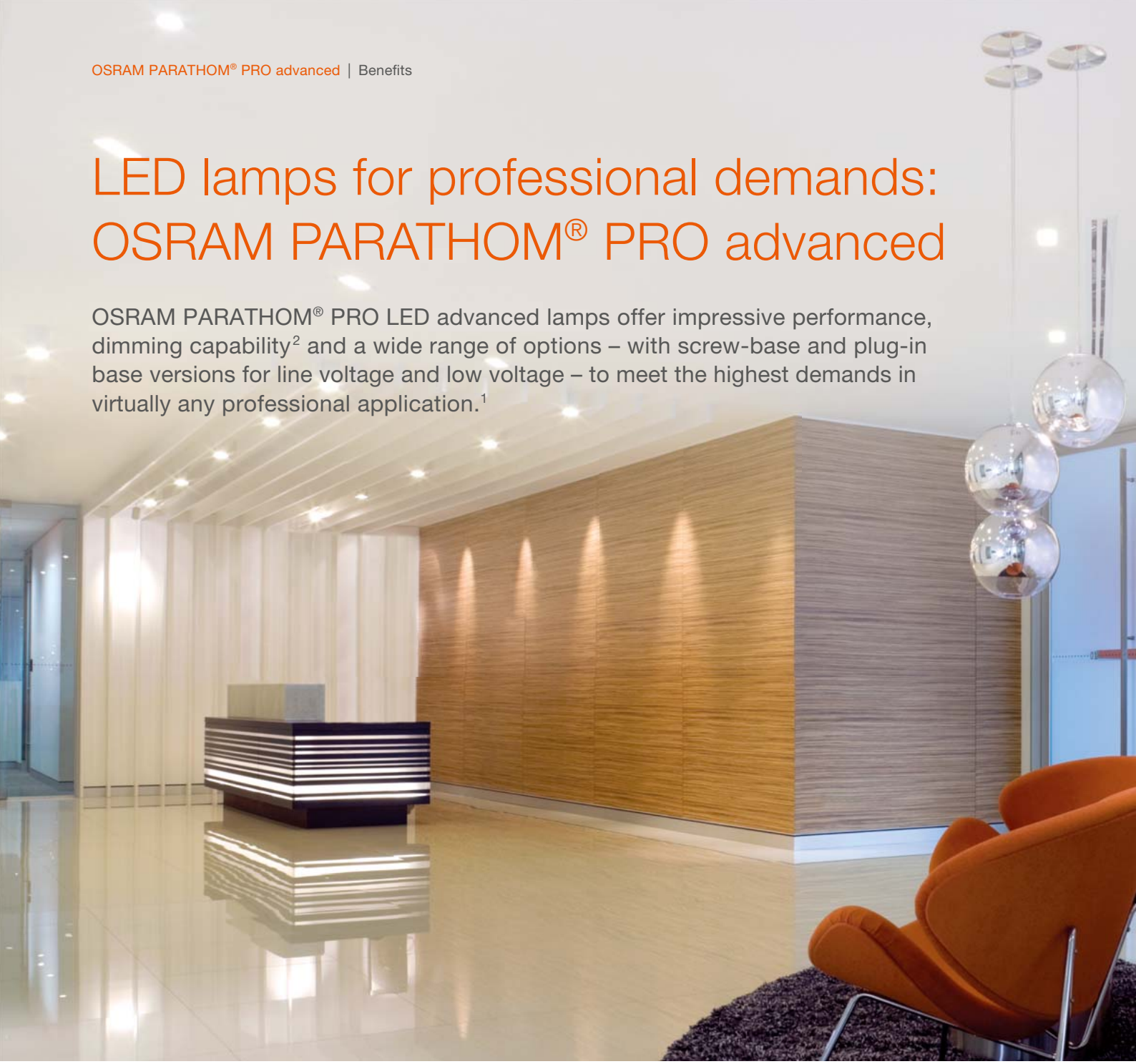
OSRAM PARATHOM® for special applications 28

LED lamps for special tasks
- OSRAM PARATHOM® Special T26 – e. g. for luminaires with very small dimensions
- OSRAM LEDinestra® – e. g. for conventional tubular incandescent fittings

[1] The product characteristics of the PRO range do not apply to PARATHOM® PRO PAR30 or PARATHOM® PRO PAR38.
[2] LED lamps can be operated on a wide range of standard dimmers; for details and results of compatibility tests go to www.osram.com/dim and the links on that page to additional technical product information sheets.

LED lamps for professional demands: OSRAM PARATHOM® PRO advanced

OSRAM PARATHOM® PRO LED advanced lamps offer impressive performance, dimming capability[2] and a wide range of options – with screw-base and plug-in base versions for line voltage and low voltage – to meet the highest demands in virtually any professional application.[1]



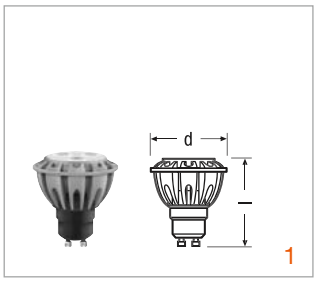
OSRAM PARATHOM® PRO advanced[1]

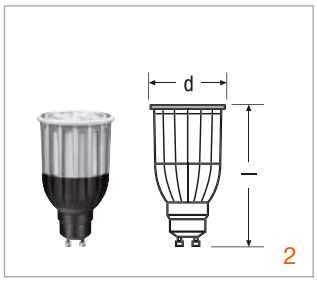
- Dimmable[2]
- From September 2013 all the lamps will comply with the requirements of the ErP Regulations
- LEDOTRON versions also available
- Extremely long life
- Extremely high resistance to switching transients
- Very good binning (SDCM ≤ 4)
- Good to excellent color rendering

[1] The product characteristics of the PRO range do not apply to PARATHOM® PRO PAR30 or PARATHOM® PRO PAR38.
[2] LED lamps can be operated on a wide range of standard dimmers; for details and results of compatibility tests go to www.osram.com/dim and the links on that page to additional technical product information sheets.

Better safe than sorry
OSRAM offers a five-year guarantee on PARATHOM® PRO LED advanced lamps operated in accordance with OSRAM specifications (for precise terms and conditions of the guarantee go to www.osram.com/guarantee).

OSRAM PARATHOM® PRO PAR16 advanced





Product reference	No.	Product number (EAN)	W [1]	lm [1]	cd	K	Ra	[2]	l [mm]	d [mm]	t [h]	
GU10 – 220–240 V – 24° – Box												
PRO PAR16 35 24° advanced	1	4052899**902213**	5.2	230	900	2700	90	✓	58	50	50,000	A
PRO PAR16 50 24° advanced	1	4052899**901384**	6.8	350	1700	2700	90	✓	58	50	30,000	A
GU10 – 220–240 V – 36° – Box												
PRO PAR16 35 36° advanced	1	4052899**902244**	5.2	230	600	2700	90	✓	58	50	50,000	A
PRO PAR16 35 36° advanced	1	4052899**902251**	5.2	230	600	3000	90	✓	58	50	50,000	A
PRO PAR16 35 36° advanced	1	4052899**902268**	5.2	230	600	4000	90	✓	58	50	50,000	A
PRO PAR16 50 36° advanced	1	4052899**901414**	6.8	350	900	2700	90	✓	58	50	30,000	A
PRO PAR16 50 36° advanced	1	4052899**901421**	6.8	350	900	3000	90	✓	58	50	30,000	A
PRO PAR16 50 36° advanced	1	4052899**901438**	6.8	350	900	4000	90	✓	58	50	30,000	A
PRO PAR16 75 36° advanced	2	4052899**906259**	10.5	540	1300	2700	80	✓	85	50	24,000	A
PRO PAR16 75 36° advanced	2	4052899**906266**	10.5	540	1300	3000	80	✓	85	50	24,000	A
PRO PAR16 75 36° advanced	2	4052899**906273**	10.5	540	1300	4000	80	✓	85	50	24,000	A

OSRAM PARATHOM® PRO PAR16 advanced

PRO PAR16 advanced line-voltage reflector lamps with GU10 retrofit base

- Average life of up to 50,000 hours
- Extremely high resistance to switching transients (up to 1,000,000 switching cycles)
- Good to excellent color rendering of up to CRI ≥ 90
- Very small differences in color temperature
- Dimmable[2]
- Available in light colors 2700, 3000 and 4000 and with beam angles of 24° and 36°
- Replacement options:
  - 35 W halogen lamp – PRO PAR16 35 advanced
  - 50 W halogen lamp – PRO PAR16 50 advanced
  - 75 W halogen lamp – PRO PAR16 75 advanced
- Standard pack: 10

Impressive facts & figures: Replacing a conventional halogen lamp with a PARATHOM® PRO PAR16 35 36° advanced lamp can pay for itself after only 7 months.

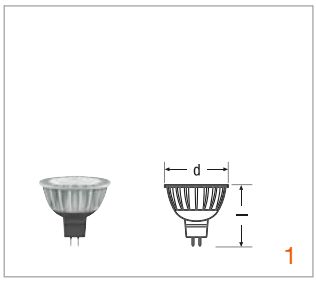
Lamp type	HALOPAR® 16	PARATHOM® PRO PAR16 35 36° advanced
Number of light points	1	1
Lamp wattage	35 W	5.2 W
Average life	2000 h	50,000 h
Lamp replacement costs	3.32 EUR/unit	23.60 EUR/unit
Connected load	0.035 kW	0.0052 kW
Number of lamps required in 12 months	3 lamps	1 lamp
Lamp purchase and relamping costs	15.96 EUR	25.60 EUR
Power consumption after 12 months	152.9 kWh	22.7 kWh
Savings after 1 year		**22.90 EUR**
Savings after 2 years		**66.08 EUR**

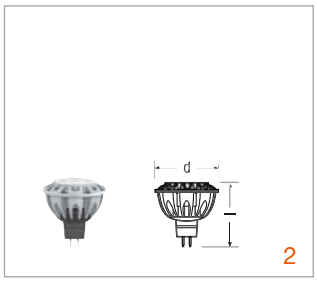
Basis: Electricity price EUR 0.25/kWh, lamp costs = RRP (European average), relamping costs/light source EUR 2.00 (0.05 hours at EUR 40/hour), hours burned per day/year: 12 h/4368 h

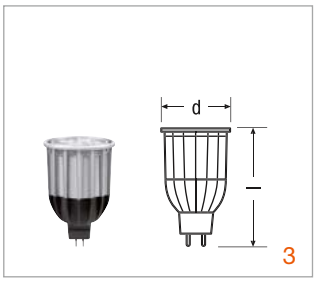
[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

[2] LED lamps can be operated on a wide range of standard dimmers; for details and results of compatibility tests go to www.osram.com/dim and the links on that page to additional technical product information sheets.

OSRAM PARATHOM® PRO MR16 advanced







Product reference	No.	Product number (EAN)	W [1]	lm [1]	cd	K	Ra	[2]	l [mm]	d [mm]	t [h]	
GU5.3 – 12 V – 24° – Box												
PRO MR16 20 24° advanced	1	4052899**904668**	5	210	950	2700	90	✓	46	50	50,000	A
PRO MR16 20 24° advanced	1	4052899**904675**	5	210	950	3000	90	✓	46	50	50,000	A
PRO MR16 35 24° advanced	2	4052899**901148**	8	350	1600	2700	90	✓	50	50	30,000	A
PRO MR16 35 24° advanced	2	4052899**901155**	8	350	1600	3000	90	✓	50	50	30,000	A
GU5.3 – 12 V – 36° – Box												
PRO MR16 20 36° advanced	1	4052899**904699**	5	210	530	2700	90	✓	46	50	50,000	A
PRO MR16 20 36° advanced	1	4052899**904705**	5	210	530	3000	90	✓	46	50	50,000	A
PRO MR16 20 36° advanced	1	4052899**904712**	5	210	530	4000	90	✓	46	50	50,000	A
PRO MR16 35 36° advanced	2	4052899**901179**	8	350	900	2700	90	✓	50	50	30,000	A
PRO MR16 35 36° advanced	2	4052899**901186**	8	350	900	3000	90	✓	50	50	30,000	A
PRO MR16 35 36° advanced	2	4052899**901193**	8	350	900	4000	90	✓	50	50	30,000	A
PRO MR16 42 36° advanced	2	4052899**014312**	8	470	1200	2700	80	✓	50	50	30,000	A
PRO MR16 42 36° advanced	2	4052899**014350**	8	470	1200	3000	80	✓	50	50	30,000	A
PRO MR16 42 36° advanced	2	4052899**014381**	8	470	1200	4000	80	✓	50	50	30,000	A
PRO MR16 50 36° advanced	3	4052899**906198**	12	620	1600	2700	80	✓	77	50	30,000	A
PRO MR16 50 36° advanced	3	4052899**906204**	12	620	1600	3000	80	✓	77	50	30,000	A
PRO MR16 50 36° advanced	3	4052899**906211**	12	620	1600	4000	80	✓	77	50	30,000	A

OSRAM PARATHOM® PRO MR16 advanced

PRO MR16 advanced low-voltage reflector lamps with GU5.3 retrofit base

- Compatible with leading-edge and trailing-edge dimmers for ≥ 35 W replacement lamps[2]
- Compatible with a large number of transformers available on the market[3]
- Average life of up to 50,000 hours
- Extremely high resistance to switching transients (up to 1,000,000 switching cycles)
- Good to excellent color rendering of up to CRI ≥ 90
- Very good binning (SDCM ≤ 4)
- Dimmable[2]
- Available in light colors 2700, 3000 and 4000 and with beam angles of 24° and 36°
- Replacement options:
  - 20 W halogen lamp – PRO MR16 20 advanced
  - 35 W halogen lamp – PRO MR16 35 advanced
  - 50 W halogen lamp – PRO MR16 50 advanced
- Standard pack: 10

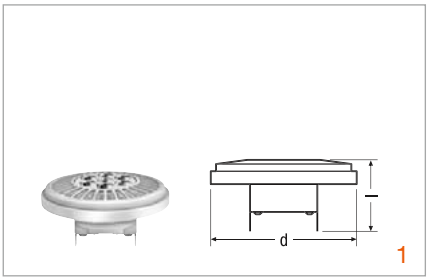
Impressive facts & figures: Replacing a conventional halogen lamp with a PARATHOM® PRO MR16 20 36° advanced lamp can pay for itself after only 11 months.

Lamp type	DECOSTAR® 51	PARATHOM® PRO MR16 20 36° advanced
Number of light points	1	1
Lamp wattage	20 W	5 W
Average life	2000 h	50,000 h
Lamp replacement costs	2.88 EUR/unit	20.72 EUR/unit
Connected load	0.02 kW	0.005 kW
Number of lamps required in 12 months	3 lamps	1 lamp
Lamp purchase and relamping costs	14.64 EUR	22.72 EUR
Power consumption after 12 months	87.4 kWh	21.8 kWh
Savings after 1 year		**8.30 EUR**
Savings after 2 years		**34.44 EUR**

Basis: Electricity price EUR 0.25/kWh, lamp costs = RRP (European average), relamping costs/light source EUR 2.00 (0.05 hours at EUR 40/hour), hours burned per day/year: 12 h/4368 h

[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.
[2] LED lamps can be operated on a wide range of standard dimmers; for details and results of compatibility tests go to www.osram.com/dim and the links on that page to additional technical product information sheets.
[3] For details go to www.osram.com/low-voltage-ledlamps

OSRAM PARATHOM® PRO LEDspot 111 advanced



Product reference	No.	Product number (EAN)	W [1]	lm [1]	cd	K	Ra	[2]	l [mm]	d [mm]	t [h]	
G53 – 12 V – 24° – Box												
PRO LEDspot 111 50 advanced	1	4008321**972392**	12	500	3600	2700	85	✓	58.5	111	45,000	A
PRO LEDspot 111 50 advanced	1	4008321**972415**	12	550	4000	3000	85	✓	58.5	111	45,000	A

OSRAM PARATHOM® PRO LEDspot 111 advanced

PRO111 advanced low-voltage LED reflector lamps with G53 retrofit base

- Average life of up to 45,000 hours
- Excellent compatibility with transformers available on the market[3]
- Good color rendering
- Optimum design for glare-free light
- Dimmable[2]
- Replacement options:
  – 50 W AR111 halogen lamp –
  PRO LEDspot 111 50 advanced
- Standard pack: 6

Impressive facts & figures: Replacing a conventional halogen lamp with a PARATHOM® PRO LEDspot 111 advanced lamp can pay for itself after only 7 months.

Lamp type	HALOSPOT® 111	PARATHOM® PRO LEDspot 111 advanced
Number of light points	1	1
Lamp wattage	50 W	12 W
Average life	3000 h	45,000 h
Lamp replacement costs	12.75 EUR/unit	47.84 EUR/unit
Connected load	0.05 kW	0.012 kW
Number of lamps required in 12 months	2 lamps	1 lamp
Lamp purchase and relamping costs	29.50 EUR	49.84 EUR
Power consumption after 12 months	218.4 kWh	52.4 kWh
Savings after 1 year		**21.16 EUR**
Savings after 2 years		**77.40 EUR**

Basis: Electricity price EUR 0.25/kWh, lamp costs = RRP (European average), relamping costs/light source EUR 2.00 (0.05 hours at EUR 40/hour), hours burned per day/year: 12 h/4368 h

[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.
[2] LED lamps can be operated on a wide range of standard dimmers; for details and results of compatibility tests go to www.osram.com/dim and the links on that page to additional technical product information sheets.
[3] For details go to www.osram.com/low-voltage-ledlamps

Pioneering: OSRAM PARATHOM® PRO LEDOTRON

LEDOTRON takes dimming into the digital age. This new open standard provides the basis for trouble-free dimming thanks to perfectly matched light sources and controllers.

New digital dimming standard: LEDOTRON

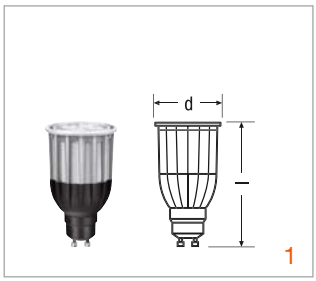
Modern LED lamps are superior to conventional light sources such as incandescent lamps in almost every respect. However, perfect dimming has not always been possible when conventional controllers have been used in conjunction with new LED technology. Leading players in the electrical industry, namely Gira, Jung, Merten, Schneider Electric, Radium and OSRAM, therefore cooperated on the development of an open, future-proof and compliant dimming standard for LED lamps and compact fluorescent lamps. It goes by the name of LEDOTRON.

LEDOTRON: digital dimming technology for LED lamps and energy-saving lamps

The benefits of LEDOTRON are clear:

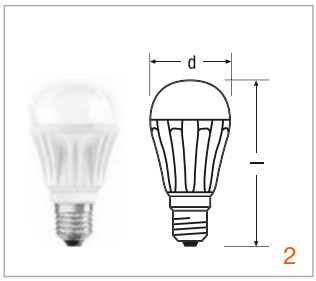
- LEDOTRON uses existing cabling and does not require any chasing or plastering work
- LEDOTRON is easy to install and ready for use immediately
- LEDOTRON controls brightness and is easy to operate
- LEDOTRON will in future also be able to control white tones and lighting scenes with appropriate lamps
- LEDOTRON complies with all relevant standards and offers high levels of reliability
- LEDOTRON is a future-proof industry standard that offers impressive scalability

OSRAM PARATHOM® PRO LEDOTRON PAR16



Product reference	No.	Product number (EAN)	W [1]	lm [1]	cd	K	Ra	[2]	l [mm]	d [mm]	t [h]	
GU10 – 220–240 V – 36° – Box												
PRO LEDOTRON PAR16 50 36°	1	4008321**988560**	6.8	350	900	2700	80	✓	85	50	30,000	A

OSRAM PARATHOM® PRO LEDOTRON CLASSIC A



Product reference	No.	Product number (EAN)	W [1]	lm [1]	cd	K	Ra	[2]	l [mm]	d [mm]	t [h]	
E27 – 220–240 V – Box												
PRO LEDOTRON CL A60 frosted	2	4008321**988553**	12	810	–	2700	80	✓	116	62	30,000	A

OSRAM PARATHOM® PRO LEDOTRON PAR16/CLASSIC A

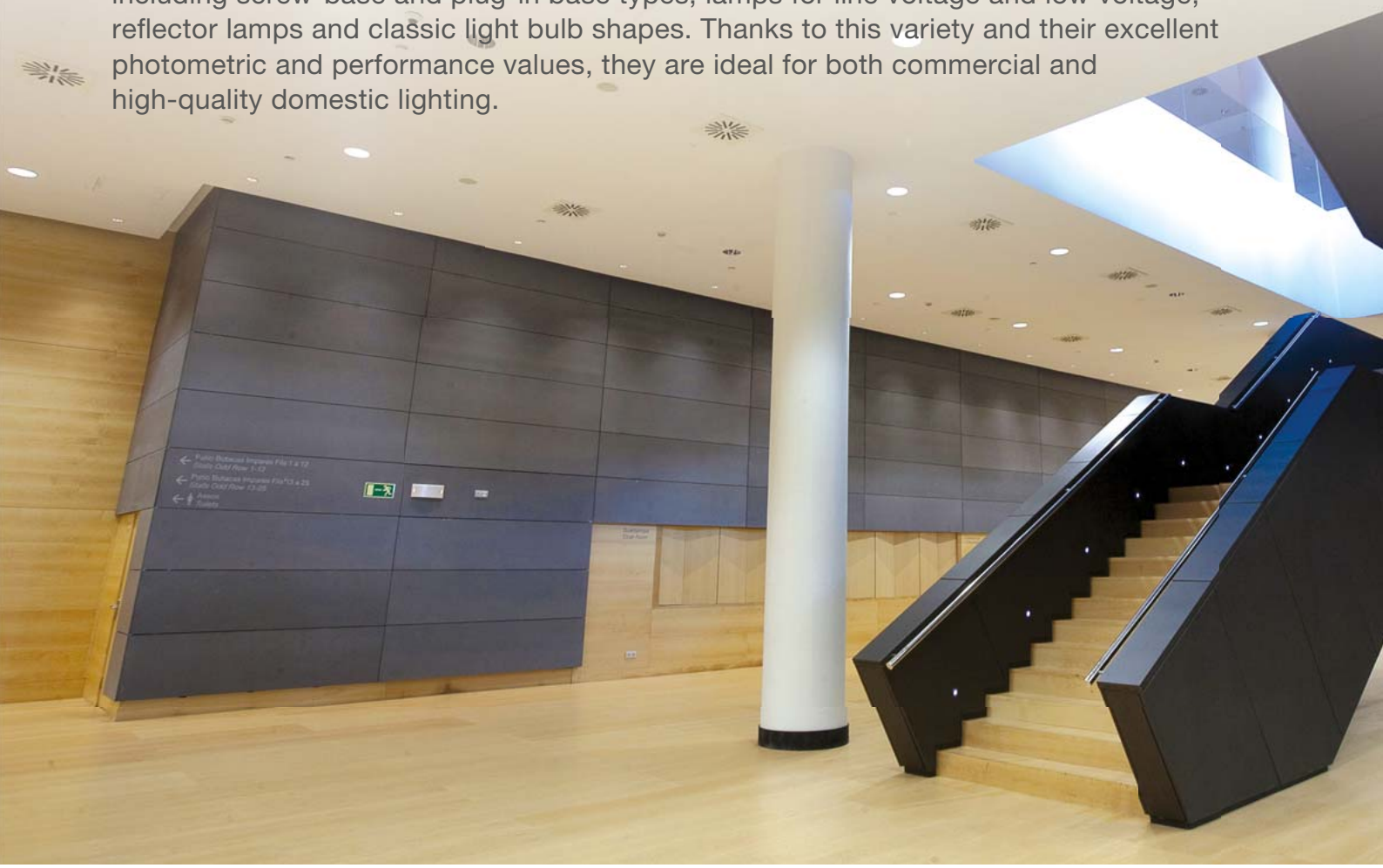
- Compatibility between the LED lamp and controller guaranteed
- Equipped with Flexible Scene Control
- Excellent dimmability: digital dimming
- Average life of up to 30,000 hours
- 5-year guarantee [3]
- Standard pack: 10

Flexible Scene Control

[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.
[2] With LEDOTRON dimmer.
[3] For terms and conditions of the guarantee go to www.osram.com/guarantee

Reliable LED lamps for demanding applications: OSRAM PARATHOM® advanced

OSRAM PARATHOM® advanced LED lamps are available in many different versions, including screw-base and plug-in base types, lamps for line voltage and low voltage, reflector lamps and classic light bulb shapes. Thanks to this variety and their excellent photometric and performance values, they are ideal for both commercial and high-quality domestic lighting.

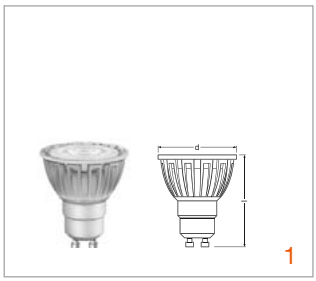


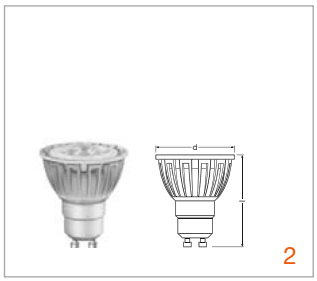
Better safe than sorry
OSRAM offers a four-year guarantee on PARATHOM® LED lamps operated in accordance with OSRAM specifications (for precise terms and conditions of the guarantee go to www.osram.com/guarantee).

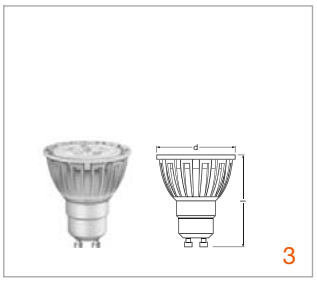
OSRAM PARATHOM® advanced
- Dimmable[1]
- All LED lamps comply with the ErP requirements which come into force in September 2013
- Long life
- High resistance to switching transients
- Small differences in color temperature from lamp to lamp
- Good color rendering

[1] LED lamps can be operated on a wide range of standard dimmers; for details and results of compatibility tests go to www.osram.com/dim and the links on that page to additional technical product information sheets.

OSRAM PARATHOM® PAR16 advanced







Product reference	No.	Product number (EAN)	W [1]	lm [1]	cd	K	Ra	[2]	l [mm]	d [mm]	t [h]	
GU10 – 220–240 V – 36° – Box												
PAR16 20 36° advanced	1	4008321**881816**	3	130	330	2700	80	✓	58	50	25,000	A
PAR16 35 36° advanced	2	4008321**881960**	5	250	600	2700	80	✓	58	50	25,000	A
PAR16 35 36° advanced	2	4008321**882035**	5	260	600	3000	80	✓	58	50	25,000	A
PAR16 35 36° advanced	2	4008321**882066**	5	265	700	4000	80	✓	58	50	25,000	A
PAR16 50 36° advanced	3	4008321**882097**	7.5	385	950	2700	80	✓	58	50	25,000	A
PAR16 50 36° advanced	3	4008321**882127**	7.5	390	950	3000	80	✓	58	50	25,000	A
PAR16 50 36° advanced	3	4008321**882158**	7.5	400	1000	4000	80	✓	58	50	25,000	A

OSRAM PARATHOM® PAR16 advanced

PAR16 line-voltage reflector lamps with GU10 retrofit base

- Average life of 25,000 hours
- High resistance to switching transients (up to 100,000 switching cycles)
- Good color rendering
- High luminous efficacy
- Very narrow color location
- Dimmable[2]
- Available in three light colors: 2700, 3000 and 4000 K
- Replacement options:
  - 20 W halogen lamp – PAR16 20 advanced
  - 35 W halogen lamp – PAR16 35 advanced
  - 50 W halogen lamp – PAR16 50 advanced
- Standard pack: 10

Impressive facts & figures: Replacing a conventional halogen lamp with a PARATHOM® PAR16 50 36° advanced lamp can pay for itself after only 5 months.

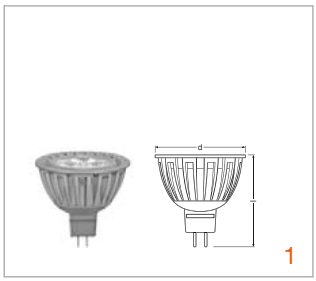
Lamp type	HALOPAR® 16	PARATHOM® PAR16 50 36° advanced
Number of light points	1	1
Lamp wattage	50 W	7.5 W
Average life	2000 h	25,000 h
Lamp replacement costs	3.22 EUR/unit	22.24 EUR/unit
Connected load	0.05 kW	0.0075 kW
Number of lamps required in 12 months	3 lamps	1 lamp
Lamp purchase and relamping costs	15.66 EUR	24.24 EUR
Power consumption after 12 months	218.4 kWh	32.8 kWh
Savings after 1 year		**37.83 EUR**
Savings after 2 years		**94.68 EUR**

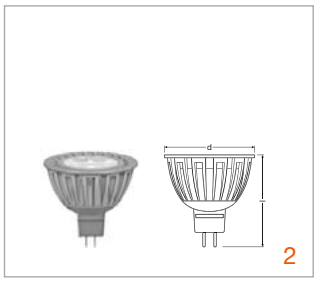
Basis: Electricity price EUR 0.25/kWh, lamp costs = RRP (European average), relamping costs/light source EUR 2.00 (0.05 hours at EUR 40/hour), hours burned per day/year: 12 h/4368 h

[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

[2] LED lamps can be operated on a wide range of standard dimmers; for details and results of compatibility tests go to www.osram.com/dim and the links on that page to additional technical product information sheets.

OSRAM PARATHOM® MR16 advanced





Product reference	No.	Product number (EAN)	W [1]	lm [1]	cd	K	Ra	[2]	l [mm]	d [mm]	t [h]	
GU5.3 – 12 V – 24° – Box												
MR16 20 24° advanced	1	4008321**884695**	5	210	900	2700	80	✓	48	50	25,000	A
MR16 35 24° advanced	2	4008321**884985**	6.5	350	1050	2700	80	✓	48	50	25,000	A
GU5.3 – 12 V – 36° – Box												
MR16 20 36° advanced	1	4008321**884923**	5	210	550	2700	80	✓	48	50	25,000	A
MR16 20 36° advanced	1	4008321**884756**	5	210	550	3000	80	✓	48	50	25,000	A
MR16 20 36° advanced	1	4008321**884954**	5	210	550	4000	80	✓	48	50	25,000	A
MR16 35 36° advanced	2	4008321**885135**	6.5	350	780	2700	80	✓	48	50	25,000	A
MR16 35 36° advanced	2	4008321**885166**	6.5	350	780	3000	80	✓	48	50	25,000	A
MR16 35 36° advanced	2	4008321**885197**	6.5	350	780	4000	80	✓	48	50	25,000	A

OSRAM PARATHOM® MR16 advanced

MR16 low-voltage reflector lamps with GU5.3 retrofit base

- Average life of 25,000 hours
- Compatible with transformers available on the market[3]
- High resistance to switching transients (up to 100,000 switching cycles)
- Good color rendering
- Very narrow color location
- Dimmable[2]
- Available in light colors 2700, 3000, 4000 K
- Replacement options:
  - 20 W halogen lamp – MR16 20 advanced
  - 35 W halogen lamp – MR16 35 advanced
- Standard pack: 10

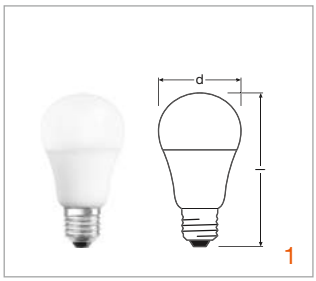
Impressive facts & figures: Replacing a conventional halogen lamp with a PARATHOM® MR16 35 36° advanced lamp can pay for itself after only 6 months.

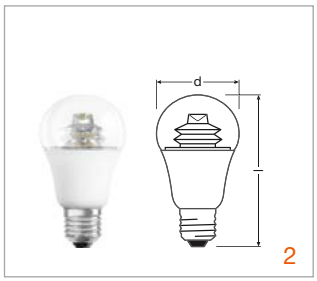
Lamp type	DECOSTAR® 51	PARATHOM® MR16 35 36° advanced
Number of light points	1	1
Lamp wattage	35 W	6.5 W
Average life	2000 h	25,000 h
Lamp replacement costs	2.88 EUR/unit	18.80 EUR/unit
Connected load	0.035 kW	0.0065 kW
Number of lamps required in 12 months	3 lamps	1 lamp
Lamp purchase and relamping costs	14.64 EUR	20.80 EUR
Power consumption after 12 months	152.9 kWh	28.4 kWh
Savings after 1 year		**24.96 EUR**
Savings after 2 years		**65.84 EUR**

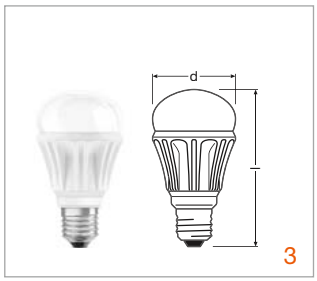
Basis: Electricity price EUR 0.25/kWh, lamp costs = RRP (European average), relamping costs/light source EUR 2.00 (0.05 hours at EUR 40/hour), hours burned per day/year: 12 h/4368 h

[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.
[2] LED lamps can be operated on a wide range of standard dimmers; for details and results of compatibility tests go to www.osram.com/dim and the links on that page to additional technical product information sheets.
[3] For details go to www.osram.com/low-voltage-ledlamps

OSRAM PARATHOM® CLASSIC A advanced







Product reference	No.	Product number (EAN)	W [1]	lm [1]	K	Ra	[2]	l [mm]	d [mm]	t [h]	
E27 – 220–240 V – Box											
CL A40 advanced frosted	1	4052899**911161**	6	470	2700	80	✓	110	60	20,000	A+
CL A40 advanced clear sparkling	2	4052899**913806**	6	470	2700	80	✓	110	60	20,000	A+
CL A60 advanced frosted	1	4052899**911208**	10	810	2700	80	✓	110	60	20,000	A+
CL A60 advanced clear sparkling	2	4052899**913820**	10	810	2700	80	✓	110	60	20,000	A+
CL A75 advanced frosted	3	4052899**914384**	13.5	1055	2700	80	✓	116	62	20,000	A+

OSRAM PARATHOM® CLASSIC A advanced

Line-voltage LED lamps with classic bulb shape and E27 retrofit-screw base

- Average life of up to 20,000 hours
- Complete A40 and A60 product portfolio “Made in Italy”
- Dimmable[2]
- New: CLASSIC A40 and A60 advanced now also available in clear sparkling
- Replacement options:
  - 40 W incandescent lamp – CLASSIC A40 advanced
  - 60 W incandescent lamp – CLASSIC A60 advanced
  - 75 W incandescent lamp – CLASSIC A75 advanced
- Standard pack: 10

Impressive facts & figures: Replacing a conventional incandescent lamp with a PARATHOM® CLASSIC A60 advanced lamp can pay for itself after only 4 months.

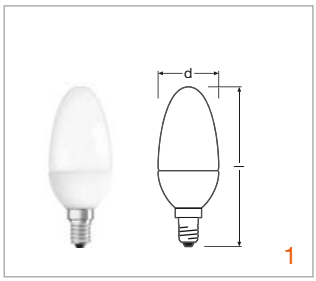
Lamp type	Incandescent lamp CLASSIC A60	PARATHOM® CLASSIC A60 advanced
Number of light points	1	1
Lamp wattage	60 W	10 W
Average life	1000 h	20,000 h
Lamp replacement costs	1.39 EUR/unit	21.20 EUR/unit
Connected load	0.06 kW	0.01 kW
Number of lamps required in 12 months	5 lamps	1 lamp
Lamp purchase and relamping costs	16.95 EUR	23.20 EUR
Power consumption after 12 months	262.1 kWh	43.7 kWh
Savings after 1 year		**48.35 EUR**
Savings after 2 years		**116.51 EUR**

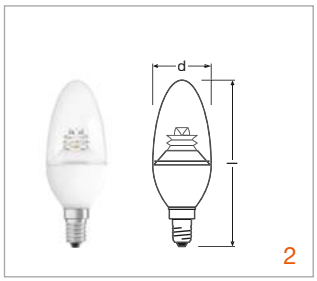
Basis: Electricity price EUR 0.25/kWh, lamp costs = RRP (European average), relamping costs/light source EUR 2.00 (0.05 hours at EUR 40/hour), hours burned per day/year: 12 h/4368 h

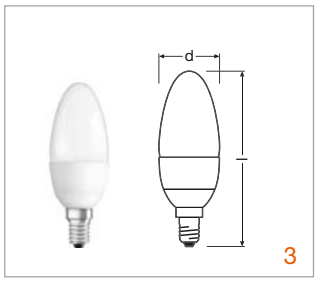
[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

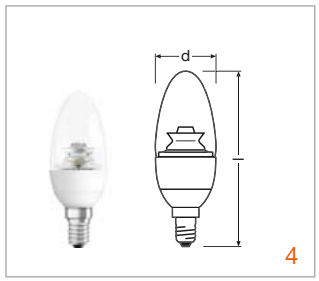
[2] LED lamps can be operated on a wide range of standard dimmers; for details and results of compatibility tests go to www.osram.com/dim and the links on that page to additional technical product information sheets.

OSRAM PARATHOM® CLASSIC B advanced









Product reference	No.	Product number (EAN)	W [1]	lm [1]	K	Ra	[2]	l [mm]	d [mm]	t [h]	
E14 – 220–240 V – Box											
CL B25 advanced frosted	1	4008321**994035**	3.8	250	2700	80	✓	102	38	25,000	A+
CL B25 advanced clear sparkling	2	4008321**979230**	3.8	250	2700	80	✓	102	38	25,000	A+
CL B40 advanced frosted	3	4052899**911437**	6	470	2700	80	✓	110	38	20,000	A+
CL B40 advanced clear sparkling	4	4052899**911413**	6	470	2700	80	✓	110	38	20,000	A+

OSRAM PARATHOM® CLASSIC B advanced

Line-voltage LED lamps with classic candle shape and E14 retrofit-screw base

- Average life of up to 25,000 hours
- New: Genuine 40 W replacement for incandescent candle lamps
- Dimmable[2]
- Replacement options:
  - 25 W incandescent lamp – CLASSIC B25
  - 40 W incandescent lamp – CLASSIC B40
- Standard pack: 10

Impressive facts & figures: Replacing a conventional incandescent lamp with a PARATHOM® CLASSIC B40 advanced lamp can pay for itself after only 4 months.

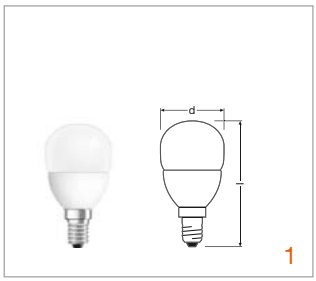
Lamp type	Incandescent lamp CLASSIC B40	PARATHOM® CLASSIC B40 advanced
Number of light points	1	1
Lamp wattage	40 W	6 W
Average life	1000 h	20,000 h
Lamp replacement costs	1.83 EUR/unit	16.72 EUR/unit
Connected load	0.04 kW	0.006 kW
Number of lamps required in 12 months	5 lamps	1 lamp
Lamp purchase and relamping costs	19.15 EUR	18.72 EUR
Power consumption after 12 months	174.7 kWh	26.2 kWh
Savings after 1 year		**37.56 EUR**
Savings after 2 years		**90.01 EUR**

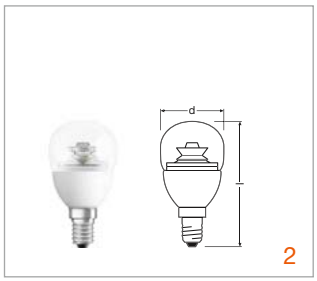
Basis: Electricity price EUR 0.25/kWh, lamp costs = RRP (European average), relamping costs/light source EUR 2.00 (0.05 hours at EUR 40/hour), hours burned per day/year: 12 h/4368 h

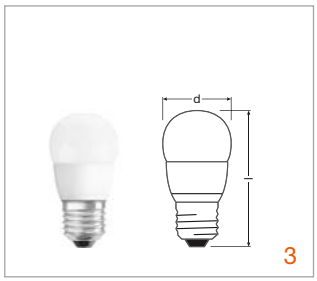
[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

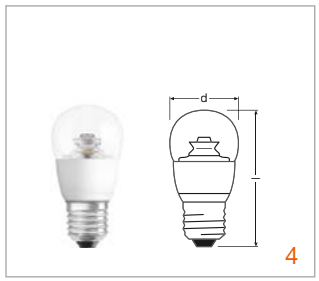
[2] LED lamps can be operated on a wide range of standard dimmers; for details and results of compatibility tests go to www.osram.com/dim and the links on that page to additional technical product information sheets.

OSRAM PARATHOM® CLASSIC P advanced









Product reference	No.	Product number (EAN)	W [1]	lm [1]	K	Ra	[2]	l [mm]	d [mm]	t [h]	
E14 – 220–240 V – Box											
CL P25 advanced frosted	1	4052899**911444**	3.8	250	2700	80	✓	82	42.8	25,000	A+
CL P25 advanced clear sparkling	2	4008321**980373**	3.8	250	2700	80	✓	82	42.8	25,000	A+
CL P40 advanced frosted	–	4052899**911918**	6	470	2700	80	✓	89	43	20,000	A+
CL P40 advanced clear sparkling	–	4052899**911451**	6	470	2700	80	✓	89	43	20,000	A+
E27 – 220–240 V – Box											
CL P25 advanced frosted	–	4052899**911468**	3.8	250	2700	80	✓	79	42.8	25,000	A+
CL P25 advanced clear sparkling	–	4008321**992352**	3.8	250	2700	80	✓	79	42.8	25,000	A+
CL P40 advanced frosted	3	4052899**911925**	6	470	2700	80	✓	89	43	20,000	A+
CL P40 advanced clear sparkling	4	4052899**911475**	6	470	2700	80	✓	89	43	20,000	A+

OSRAM PARATHOM® CLASSIC P advanced

Line-voltage LED lamps with classic round bulb shape and E14 or E27 retrofit-screw base

- Average life of up to 25,000 hours
- New: Genuine 40 W replacement for incandescent round bulb lamps
- Dimmable[2]
- Replacement options:
  - 25 W incandescent lamp – CLASSIC P25
  - 40 W incandescent lamp – CLASSIC P40
- Standard pack: 10

Impressive facts & figures: Replacing a conventional incandescent lamp with a PARATHOM® CLASSIC P25 advanced lamp can pay for itself after only 6 months.

Lamp type	Incandescent lamp CLASSIC P25	PARATHOM® CLASSIC P25 advanced
Number of light points	1	1
Lamp wattage	25 W	3.8 W
Average life	1000 h	25,000 h
Lamp replacement costs	1.83 EUR/unit	14.35 EUR/unit
Connected load	0.025 kW	0.0038 kW
Number of lamps required in 12 months	5 lamps	1 lamp
Lamp purchase and relamping costs	19.15 EUR	16.35 EUR
Power consumption after 12 months	109.2 kWh	16.6 kWh
Savings after 1 year		**25.95 EUR**
Savings after 2 years		**64.42 EUR**

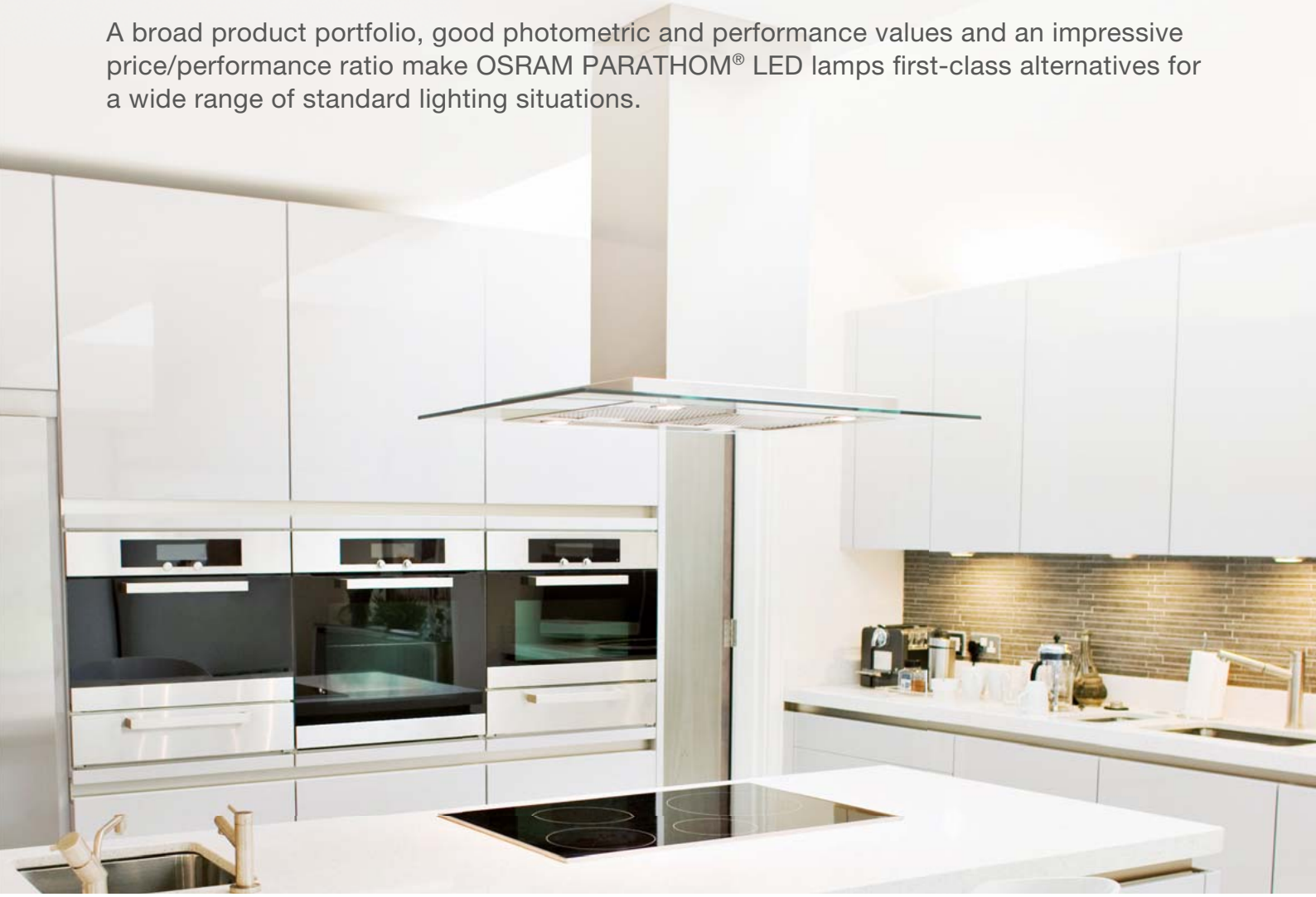
Basis: Electricity price EUR 0.25/kWh, lamp costs = RRP (European average), relamping costs/light source EUR 2.00 (0.05 hours at EUR 40/hour), hours burned per day/year: 12 h/4368 h

[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

[2] LED lamps can be operated on a wide range of standard dimmers; for details and results of compatibility tests go to www.osram.com/dim and the links on that page to additional technical product information sheets.

Versatile LED lamps for standard applications: OSRAM PARATHOM®

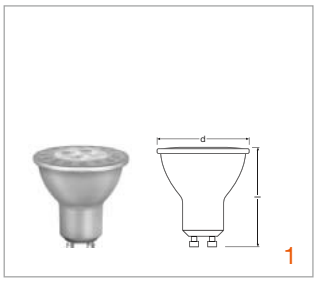
A broad product portfolio, good photometric and performance values and an impressive price/performance ratio make OSRAM PARATHOM® LED lamps first-class alternatives for a wide range of standard lighting situations.

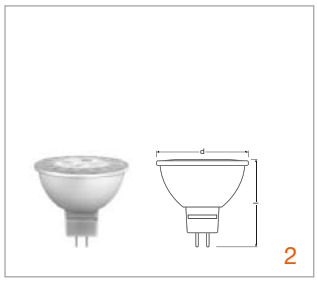


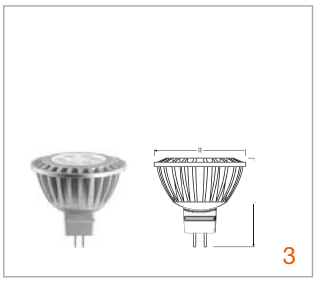
OSRAM PARATHOM®
- Wide basic range
- Very good price/performance ratio
- Good color rendering
- All LED lamps comply with the ErP requirements which come into force in September 2013

Better safe than sorry
OSRAM offers a four-year guarantee on PARATHOM® LED lamps operated in accordance with OSRAM specifications (for precise terms and conditions of the guarantee go to www.osram.com/guarantee).

OSRAM PARATHOM® PAR16/MR16







Product reference	No.	Product number (EAN)	W [1]	lm [1]	cd	K	Ra		l [mm]	d [mm]	t [h]	
OSRAM PARATHOM® PAR16 GU10 – 220–240 V – 36° – Box												
PAR16 20 36°	1	4052899**910362**	2.5	130	350	2700	80	–	53	50	15,000	A+
PAR16 35 36°	1	4052899**910379**	4.6	245	600	2700	80	–	53	50	15,000	A+
OSRAM PARATHOM® MR16 GU5.3 – 12 V – 36° – Box												
MR16 20 36°	2	4052899**910409**	4.5	231	600	2700	80	–	46	50	15,000	A
MR16 35 36°	3	4052899**910782**	7	365	800	2700	80	–	48	50	15,000	A

OSRAM PARATHOM® PAR16

PAR16 line-voltage reflector lamps with GU10 retrofit base

- Very good price/performance ratio
- Ideal replacement in existing halogen luminaires
- Beam angle of 36°
- Replacement options:
  - 20 W halogen lamp – PAR16 20
  - 35 W halogen lamp – PAR16 35
- Standard pack: 10

Impressive facts & figures: Replacing a conventional halogen lamp with a PARATHOM® PAR16 35 36° lamp can pay for itself after only 4 months.

Lamp type	HALOPAR® 16	PARATHOM® PAR16 35 36°
Number of light points	1	1
Lamp wattage	35 W	4.6 W
Average life	2000 h	15,000 h
Lamp replacement costs	3.32 EUR/unit	12.24 EUR/unit
Connected load	0.035 kW	0.0046 kW
Number of lamps required in 12 months	3 lamps	1 lamp
Lamp purchase and relamping costs	15.96 EUR	14.25 EUR
Power consumption after 12 months	152.9 kWh	20.1 kWh
Savings after 1 year		**34.92 EUR**
Savings after 2 years		**78.75 EUR**

OSRAM PARATHOM® MR16

MR16 low-voltage reflector lamps with GU5.3 retrofit base

- Very good price/performance ratio
- Compatible with a large number of transformers available on the market[2]
- Ideal replacement in existing low-voltage halogen reflector luminaires
- Replacement options:
  - 20 W halogen lamp – MR16 20
  - 35 W halogen lamp – MR16 35
- Standard pack: 10

Impressive facts & figures: Replacing a conventional halogen lamp with a PARATHOM® MR16 20 36° lamp can pay for itself after only 6 months.

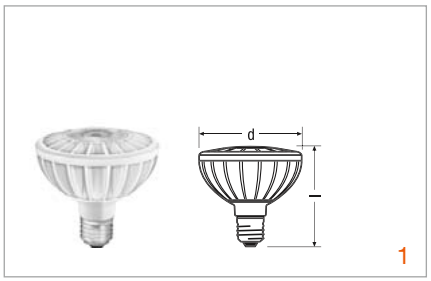
Lamp type	DECOSTAR® 51	PARATHOM® MR16 20 36°
Number of light points	1	1
Lamp wattage	20 W	4.5 W
Average life	2000 h	15,000 h
Lamp replacement costs	2.88 EUR/unit	11.76 EUR/unit
Connected load	0.02 kW	0.0045 kW
Number of lamps required in 12 months	3 lamps	1 lamp
Lamp purchase and relamping costs	14.64 EUR	13.76 EUR
Power consumption after 12 months	84.4 kWh	19.7 kWh
Savings after 1 year		**17.81 EUR**
Savings after 2 years		**44.49 EUR**

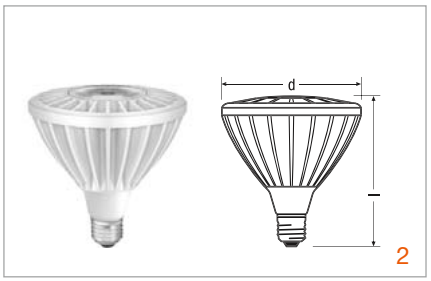
Basis: Electricity price EUR 0.25/kWh, lamp costs = RRP (European average), relamping costs/light source EUR 2.00 (0.05 hours at EUR 40/hour), hours burned per day/year: 12 h/4368 h

[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

[2] For details go to www.osram.com/low-voltage-ledlamps

OSRAM PARATHOM® PRO PAR30/38





Product reference	No.	Product number (EAN)	W [1]	lm [1]	cd	K	Ra		l [mm]	d [mm]	t [h]	
OSRAM PARATHOM® PRO PAR30 E27 – 100–240 V – 30° – Box												
PRO PAR30 90 30°	1	4008321**746238**	13	800	2600	3000	80	–	92	96	40,000	A
OSRAM PARATHOM® PRO PAR38 E27 – 220–240 V – 20° – Box												
PRO PAR38 100 20°	2	4008321**746252**	15	900	5000	3000	80	–	130	121	40,000	A

OSRAM PARATHOM® PRO PAR30

PRO PAR30 line-voltage LED reflector lamps with E27 retrofit screw base

- High resistance to switching transients (up to 100,000 switching cycles)
- Good color rendering
- High luminous efficacy
- High luminous intensity
- Warm light color (3000 K)
- Replacement options:
  – 90 W halogen lamp – PRO PAR30 90
- Standard pack: 15

Impressive facts & figures: Replacing a conventional halogen lamp with a PARATHOM® PRO PAR30 90 30° lamp can pay for itself after only 6 months.

Lamp type	HALOPAR® 30	PARATHOM® PRO PAR30 90 30°
Number of light points	1	1
Lamp wattage	75 W	13 W
Average life	2000 h	40,000 h
Lamp replacement costs	12.88 EUR/unit	50.60 EUR/unit
Connected load	0.075 kW	0.013 kW
Number of lamps required in 12 months	3 lamps	1 lamp
Lamp purchase and relamping costs	44.64 EUR	52.60 EUR
Power consumption after 12 months	327.6 kWh	56.8 kWh
Savings after 1 year		**59.74 EUR**
Savings after 2 years		**157.21 EUR**

OSRAM PARATHOM® PRO PAR38

PRO PAR38 line-voltage LED reflector lamps with E27 retrofit screw base

- High resistance to switching transients (up to 100,000 switching cycles)
- Good color rendering
- High luminous efficacy
- High luminous intensity
- Warm light color (3000 K)
- Replacement options:
  – 100 W halogen lamp – PRO PAR38 100
- Standard pack: 12

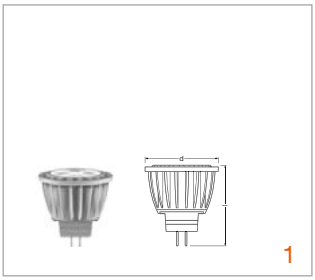
Impressive facts & figures: Replacing a conventional halogen lamp with a PARATHOM® PRO PAR38 100 20° lamp can pay for itself after only 6 months.

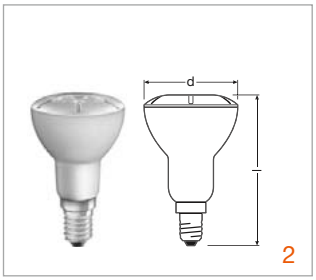
Lamp type	HALOPAR® 38	PARATHOM® PRO PAR38 100 20°
Number of light points	1	1
Lamp wattage	100 W	15 W
Average life	2000 h	40,000 h
Lamp replacement costs	15.48 EUR/unit	58.80 EUR/unit
Connected load	0.1 kW	0.015 kW
Number of lamps required in 12 months	3 lamps	1 lamp
Lamp purchase and relamping costs	52.44 EUR	60.80 EUR
Power consumption after 12 months	436.8 kWh	65.5 kWh
Savings after 1 year		**84.46 EUR**
Savings after 2 years		**212.24 EUR**

[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

Basis: Electricity price EUR 0.25/kWh, lamp costs = RRP (European average), relamping costs/light source EUR 2.00 (0.05 hours at EUR 40/hour), hours burned per day/year: 12 h/4368 h

OSRAM PARATHOM® MR11/R50





Product reference	No.	Product number (EAN)	W [1]	lm [1]	cd	K	Ra		l [mm]	d [mm]	t [h]	
OSRAM PARATHOM® MR11 GU4 – 12 V – 30° – Box												
MR11 20 30°	1	4052899**910423**	3.7	200	550	2700	80	–	39	34.7	15,000	A+
OSRAM PARATHOM® R50 E14 – 220–240 V – 30° – Box												
R50 40 30°	2	4052899**920514**	3.9	196	540	2700	80	–	85	50	15,000	A+

OSRAM PARATHOM® MR11

MR11 low-voltage reflector lamps with GU4 retrofit base

- Very good price/performance ratio
- Average life of up to 15,000 hours
- Compatible with a large number of transformers available on the market[2]
- Ideal replacement in existing low-voltage halogen reflector luminaires
- Replacement options:
  – 20 W halogen lamp – MR11 20
- Standard pack: 10

Impressive facts & figures: Replacing a conventional halogen lamp with a PARATHOM® MR11 lamp can pay for itself after only 3 months.

Lamp type	DECOSTAR® 35	PARATHOM® MR11 20 30°
Number of light points	1	1
Lamp wattage	20 W	3.7 W
Average life	2000 h	15,000 h
Lamp replacement costs	3.61 EUR/unit	18.82 EUR/unit
Connected load	0.02 kW	0.0037 kW
Number of lamps required in 12 months	3 lamps	1 lamp
Lamp purchase and relamping costs	16.83 EUR	20.82 EUR
Power consumption after 12 months	87.4 kWh	16.2 kWh
Savings after 1 year		**13.81 EUR**
Savings after 2 years		**42.83 EUR**

OSRAM PARATHOM® R50

R50 line-voltage LED reflector lamp with E14 retrofit-screw base

- Very good price/performance ratio
- Energy savings of up to 90 % compared with a standard incandescent lamp
- Average life of up to 15,000 hours
- Replacement options:
  – 40 W incandescent spot lamp – R50 40
- Standard pack: 10

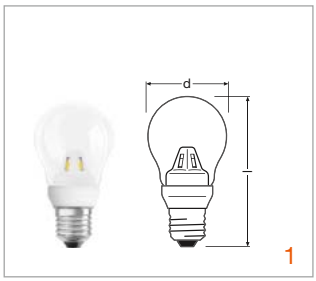
Impressive facts & figures: Replacing a conventional incandescent lamp with a PARATHOM® R50 lamp can pay for itself after only 3 months

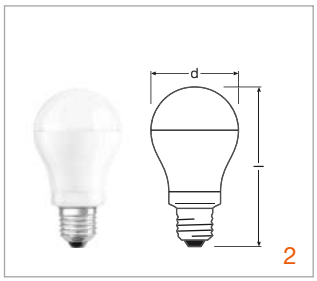
Lamp type	CONCENTRA SPOT R50	PARATHOM® R50 40 30°
Number of light points	1	1
Lamp wattage	40 W	3.9 W
Average life	1000 h	15,000 h
Lamp replacement costs	3.46 EUR/unit	14.95 EUR/unit
Connected load	0.04 kW	0.004 kW
Number of lamps required in 12 months	5 lamps	1 lamp
Lamp purchase and relamping costs	27.30 EUR	16.95 EUR
Power consumption after 12 months	174.7 kWh	17.0 kWh
Savings after 1 year		**49.77 EUR**
Savings after 2 years		**111.03 EUR**

[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.
[2] For details go to www.osram.com/low-voltage-ledlamps

Basis: Electricity price EUR 0.25/kWh, lamp costs = RRP (European average), relamping costs/light source EUR 2.00 (0.05 hours at EUR 40/hour), hours burned per day/year: 12 h/4368 h

OSRAM PARATHOM® CLASSIC A





Product reference	No.	Product number (EAN)	W [1]	lm [1]	K	Ra		l [mm]	d [mm]	t [h]	
E27 – 220–240 V – Box											
CL A15 clear	1	4052899**911284**	2	136	2700	80	–	102	55	15,000	A+
CL A25 frosted	2	4052899**911710**	4	250	2700	80	–	110	60	15,000	A+
CL A40 frosted	2	4052899**911727**	7	470	2700	80	–	110	60	15,000	A+
CL A60 frosted	2	4052899**911734**	10	810	2700	80	–	110	60	15,000	A+

OSRAM PARATHOM® CLASSIC A

Line-voltage LED lamps with classic bulb shape and E27 retrofit-screw base

- Very good price/performance ratio
- Average life of up to 15,000 hours
- Pleasant beam angle
- Replacement options:
  - 15 W incandescent lamp – CLASSIC A15
  - 25 W incandescent lamp – CLASSIC A25
  - 40 W incandescent lamp – CLASSIC A40
  - 60 W incandescent lamp – CLASSIC A60
- Standard pack: 10

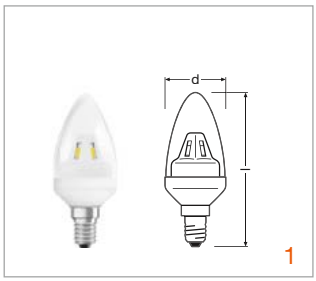
Impressive facts & figures: Replacing a conventional incandescent lamp with a PARATHOM® CLASSIC A40 lamp can pay for itself after only 3 months.

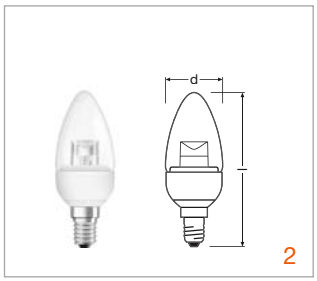
Lamp type	Incandescent lamp CLASSIC A40	PARATHOM® CLASSIC A40
Number of light points	1	1
Lamp wattage	40 W	7 W
Average life	1000 h	15,000 h
Lamp replacement costs	1.39 EUR/unit	9.24 EUR/unit
Connected load	0.04 kW	0.007 kW
Number of lamps required in 12 months	5 lamps	1 lamp
Lamp purchase and relamping costs	16.95 EUR	11.24 EUR
Power consumption after 12 months	174.7 kWh	30.6 kWh
Savings after 1 year		**41.75 EUR**
Savings after 2 years		**91.34 EUR**

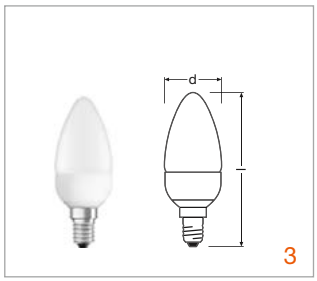
Basis: Electricity price EUR 0.25/kWh, lamp costs = RRP (European average), relamping costs/light source EUR 2.00 (0.05 hours at EUR 40/hour), hours burned per day/year: 12 h/4368 h

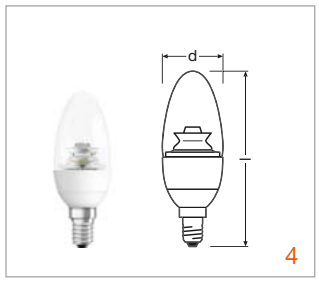
[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

OSRAM PARATHOM® CLASSIC B









Product reference	No.	Product number (EAN)	W [1]	lm [1]	K	Ra		l [mm]	d [mm]	t [h]	
E14 – 220–240 V – Box											
CL B15 clear	1	4052899**911291**	2	136	2700	80	–	92	35	15,000	A+
CL B25 clear	2	4052899**913639**	4	250	2700	80	–	97	35	15,000	A+
CL B25 frosted	3	4052899**031920**	3.6	250	2700	80	–	100	35	15,000	A+
CL B40 frosted	–	4052899**912007**	6	470	2700	80	–	110	38	20,000	A+
CL B40 clear sparkling	4	4052899**911994**	6	470	2700	80	–	110	38	20,000	A+

OSRAM PARATHOM® CLASSIC B

Line-voltage LED lamps with classic candle shape and E14 retrofit-screw base

- Very good price/performance ratio
- Average life of up to 20,000 hours
- Replacement options:
  - 15 W incandescent lamp – CLASSIC B15
  - 25 W incandescent lamp – CLASSIC B25
  - 40 W incandescent lamp – CLASSIC B40
- Standard pack: 10

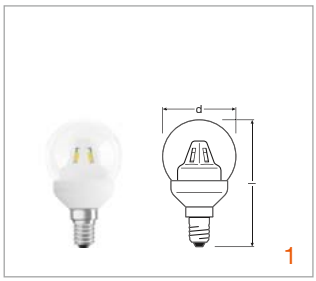
Impressive facts & figures: Replacing a conventional incandescent lamp with a PARATHOM® CLASSIC B25 clear lamp can pay for itself after only 4 months.

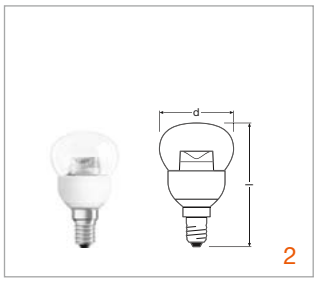
Lamp type	Incandescent lamp CLASSIC B25	PARATHOM® CLASSIC B25 clear
Number of light points	1	1
Lamp wattage	25 W	4 W
Average life	1000 h	15,000 h
Lamp replacement costs	1.83 EUR/unit	11.76 EUR/unit
Connected load	0.025 kW	0.004 kW
Number of lamps required in 12 months	5 lamps	1 lamp
Lamp purchase and relamping costs	19.15 EUR	13.76 EUR
Power consumption after 12 months	109.2 kWh	17.5 kWh
Savings after 1 year		**28.32 EUR**
Savings after 2 years		**66.57 EUR**

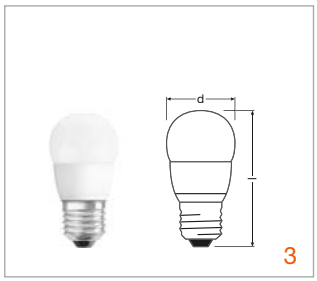
Basis: Electricity price EUR 0.25/kWh, lamp costs = RRP (European average), relamping costs/light source EUR 2.00 (0.05 hours at EUR 40/hour), hours burned per day/year: 12 h/4368 h

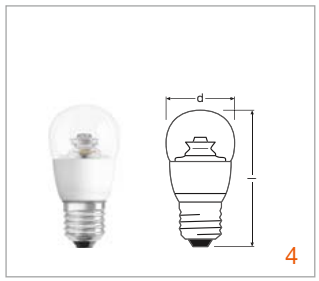
[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

OSRAM PARATHOM® CLASSIC P









Product reference	No.	Product number (EAN)	W [1]	lm [1]	K	Ra		l [mm]	d [mm]	t [h]	
E14 – 220–240 V – Box											
CL P15 clear	1	4052899**911307**	2	136	2700	80	–	80	45	15,000	A+
CL P25 clear	2	4052899**913660**	4	250	2700	80	–	78	45	15,000	A+
CL P25 frosted	–	4052899**031982**	3.6	250	2700	80	–	78	45	15,000	A+
CL P40 frosted	–	4052899**912014**	6	470	2700	80	–	89	43	20,000	A+
CL P40 clear sparkling	–	4052899**912045**	6	470	2700	80	–	89	43	20,000	A+
E27 – 220–240 V – Box											
CL P15 clear	–	4052899**911314**	2	136	2700	80	–	80	45	15,000	A+
CL P25 clear	–	4052899**913691**	4	250	2700	80	–	78	45	15,000	A+
CL P25 frosted	–	4052899**032040**	3.6	250	2700	80	–	78	45	15,000	A+
CL P40 frosted	3	4052899**912021**	6	470	2700	80	–	89	43	20,000	A+
CL P40 clear sparkling	4	4052899**912038**	6	470	2700	80	–	89	43	20,000	A+

OSRAM PARATHOM® CLASSIC P

Line-voltage LED lamps with classic round bulb shape and E14 or E27 retrofit-screw base

- Very good price/performance ratio
- Average life of up to 20,000 hours
- Replacement options:
  - 15 W incandescent lamp – CLASSIC P15
  - 25 W incandescent lamp – CLASSIC P25
  - 40 W incandescent lamp – CLASSIC P40
- Standard pack: 10

Impressive facts & figures: Replacing a conventional incandescent lamp with a PARATHOM® CLASSIC P15 lamp can pay for itself after only 4 months.

Lamp type	Incandescent lamp CLASSIC P15	PARATHOM® CLASSIC P15
Number of light points	1	1
Lamp wattage	15 W	2 W
Average life	1000 h	15,000 h
Lamp replacement costs	1.83 EUR/unit	7.76 EUR/unit
Connected load	0.015 kW	0.002 kW
Number of lamps required in 12 months	5 lamps	1 lamp
Lamp purchase and relamping costs	19.15 EUR	9.76 EUR
Power consumption after 12 months	65.5 kWh	8.7 kWh
Savings after 1 year		**23.59 EUR**
Savings after 2 years		**53.10 EUR**

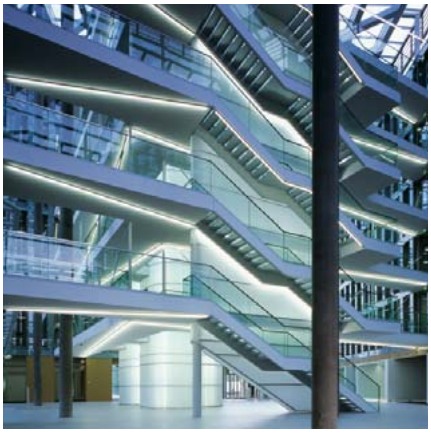
Basis: Electricity price EUR 0.25/kWh, lamp costs = RRP (European average), relamping costs/light source EUR 2.00 (0.05 hours at EUR 40/hour), hours burned per day/year: 12 h/4368 h

[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

LED tubes as alternatives to T8 fluorescent tubes: OSRAM SubstiTUBE®

OSRAM SubstiTUBE® LED tubes are the simple and reliable replacements for T8 fluorescent tubes in CCG luminaires[1,2]. Thanks to their highly efficient LED technology they offer significant potential energy savings.

SubstiTUBE® lamps offer much lower energy and maintenance costs, particularly where lamps are in operation for long hours, such as office corridors.

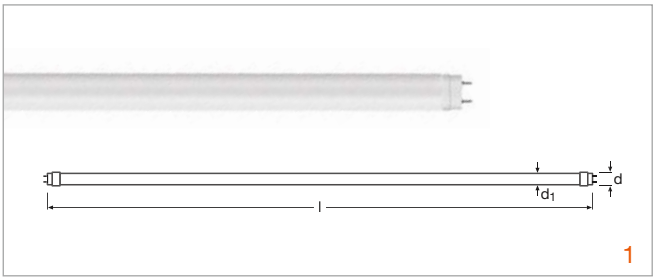


OSRAM SubstiTUBE®

- Genuine retrofit solution for classic T8 fluorescent tubes in CCG luminaires[1,2]
- Quick, simple and safe relamping with no rewiring
- Energy savings of up to 68 % compared with a 1.5 m T8 fluorescent tube (SubstiTUBE® Basic)
- Up to five times longer life than normal fluorescent tubes[3]
- SubstiTUBE® Basic: simple lighting tasks
- SubstiTUBE® Advanced: demanding lighting tasks with high luminous flux

[1] Only for use in CCG luminaires, not dimmable.
[2] Because of the way that SubstiTUBE® typically distributes its light the light characteristics of the luminaire may be different. After changing tubes, check whether the lighting still complies with the standards for workplace illumination, for example in an office.
[3] Depending on the type of tube and control gear.

OSRAM SubstiTUBE® Basic



1

Product reference	No.	Product number (EAN)	W [1]	lm [1]	K	Ra		l [mm]	d [mm]	t [h]	
G13 – 220–240 V – 160° – Box											
ST8-HB2-080-830	1	4052899**913912**	9	800	3000	80	–	590	27.8	40,000	A+[2]
ST8-HB2-090-840	1	4052899**913929**	9	900	4000	80	–	590	27.8	40,000	A+
ST8-HB2-090-865	1	4052899**913936**	9	900	6500	80	–	590	27.8	40,000	A+
ST8-HB4-175-830	1	4052899**913943**	18	1750	3000	80	–	1200	27.8	40,000	A+
ST8-HB4-190-840	1	4052899**913950**	18	1900	4000	80	–	1200	27.8	40,000	A+
ST8-HB4-190-865	1	4052899**913967**	18	1900	6500	80	–	1200	27.8	40,000	A+
ST8-HB5-200-830	1	4052899**913974**	22	2000	3000	80	–	1500	27.8	40,000	A+[2]
ST8-HB5-220-840	1	4052899**913981**	22	2200	4000	80	–	1500	27.8	40,000	A+
ST8-HB5-220-865	1	4052899**913998**	22	2200	6500	80	–	1500	27.8	40,000	A+

OSRAM SubstiTUBE® Basic

- For simple lighting tasks
- High efficiency of up to 105 lm/W
- Average life of up to 40,000 hours
- Energy savings of up to 68 % compared with a 1.5 m T8 fluorescent tube
- High resistance to switching transients (up to 200,000 switching cycles)
- Mercury-free and RoHS compliant
- Type of protection: IP20
- Standard pack: 25

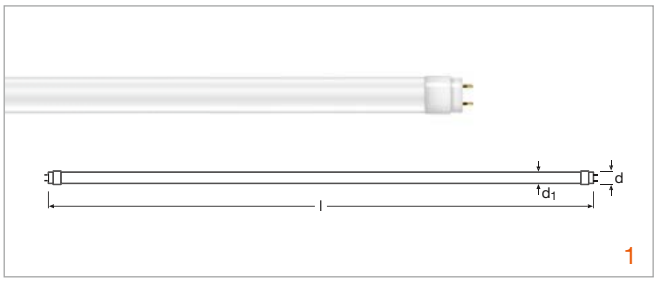
Impressive: By replacing a single conventional T8 fluorescent tube with a SubstiTUBE® Basic ST8-HB5 it is possible to save 23.59 euros a year.

Lamp type	1.5 m T8 fluorescent tube	SubstiTUBE® Basic ST8-HB5
Number of light points	1	1
Average life	13,500 h	40,000 h
Connected load	0.068 kW	0.023 kW
Power consumption after 12 months	297.0 kWh	100.4 kWh
Savings after 1 year		**23.59 EUR**

Basis: Electricity price EUR 0.12/kWh, hours burned per day/year: 12 h/4368 h

[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.
[2] Energy Efficiency Class A for operation with magnetic ballast.

OSRAM SubstiTUBE® Advanced



1

Product reference	No.	Product number (EAN)	W [1]	lm [1]	K	Ra		l [mm]	d [mm]	t [h]	
G13 – 220–240 V – 130° – Box											
ST8-HA2-100-830	1	4008321**993410**	10	1000	3000	80	–	590	26*	40,000	A+
ST8-HA2-110-840	1	4008321**993434**	10	1100	4000	80	–	590	26*	40,000	A+
ST8-HA2-110-865	1	4008321**993458**	10	1100	6500	80	–	590	26*	40,000	A+
ST8-HA4-200-830	1	4008321**993472**	20	2000	3000	80	–	1200	26*	40,000	A+
ST8-HA4-220-840	1	4008321**993496**	20	2200	4000	80	–	1200	26*	40,000	A+
ST8-HA4-220-865	1	4008321**993519**	20	2200	6500	80	–	1200	26*	40,000	A+
ST8-HA5-300-830	1	4008321**993533**	30	3000	3000	80	–	1500	26*	40,000	A+
ST8-HA5-330-840	1	4008321**993557**	30	3300	4000	80	–	1500	26*	40,000	A+
ST8-HA5-330-865	1	4008321**993571**	30	3300	6500	80	–	1500	26*	40,000	A+

* with 28 mm end caps

OSRAM SubstiTUBE® Advanced

- For demanding lighting tasks with high luminous flux
- High efficiency of up to 110 lm/W
- Average life of up to 40,000 hours
- Energy savings of up to 61 % compared with a 0.6 m T8 fluorescent tube
- High resistance to switching transients (up to 200,000 switching cycles)
- Mercury-free and RoHS compliant
- Type of protection: IP20
- Standard pack: 25

Impressive: By replacing a single conventional T8 fluorescent tube with a SubstiTUBE® Advanced ST8-HA5 it is possible to save 19.39 euros a year.

Lamp type	1.5 m T8 fluorescent tube	▶	SubstiTUBE® Advanced ST8-HA5
Number of light points	1		1
Average life	13,500 h		40,000 h
Connected load	0.068 kW		0.031 kW
Power consumption after 12 months	297.0 kWh		135.4 kWh
Savings after 1 year			**19.39 EUR**

Basis: Electricity price EUR 0.12/kWh, hours burned per day/year: 12 h/4368 h

[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

Lighting specialists: OSRAM PARATHOM® for special applications

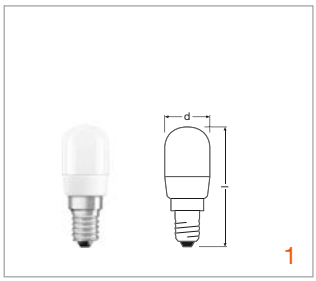
PARATHOM® Special T26 and LEDinestra® are ideal for special applications in which low thermal output, high efficiency and long life are required.

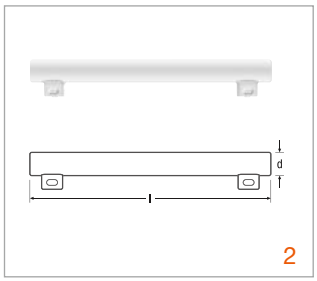
OSRAM PARATHOM® Special T26
- Average life of up to 25,000 hours
- Ideal for small and decorative luminaires
- Two light colors: Warm White (2700 K) and Cool White (5500 K)

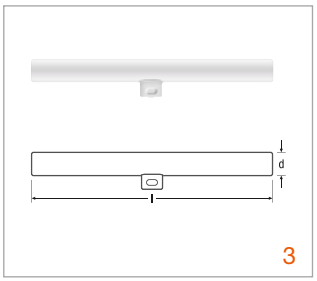
OSRAM LEDinestra®
- Average life of up to 12,000 hours
- Two plug-in base versions: S14s and S14d

Cool lighting
Ideal for refrigerator lighting: PARATHOM® Special T26 is compact and robust and despite its excellent light output it produces very little heat.

OSRAM PARATHOM® Special T26, OSRAM LEDinestra®







Product reference	No.	Product number (EAN)	W [1]	lm [1]	K	Ra		l [mm]	d [mm]	t [h]	
OSRAM PARATHOM® Special T26 E14 – 220–240 V – Box											
Special T26 frosted	1	4052899**907157**	1.4	100	5500	80	–	63	23.5	25,000	A++
Special T26 frosted	1	4052899**907119**	1.4	100	2700	80	–	63	23.5	25,000	A++
OSRAM LEDinestra® S14s – 220–240 V – Box											
LEDinestra frosted 6W S14s	2	4008321**975317**	6	250	2700	88	–	300	28.5	12,000	A
LEDinestra® S14d – 220–240 V – Box											
LEDinestra frosted 6W S14d	2	4008321**975331**	6	250	2700	88	–	300	28.5	12,000	A

OSRAM PARATHOM® Special T26

Special line-voltage LED lamps with E14 retrofit-screw base

- Very good price/performance ratio
- Average life of up to 25,000 hours
- Robust and extremely small
- Standard pack: 20

OSRAM LEDinestra®

Special tubular line-voltage LED lamps S14s or S14d retrofit base

- Very good price/performance ratio
- Average life of up to 12,000 hours
- Ideal replacement for conventional tubular lamps (incandescent lamps)
- Good color rendering
- Standard pack: 5

[1] All the technical parameters apply to the entire lamp. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

Our LED competence for success in your lighting business

LED lamps from OSRAM are not only modern and stylish, they offer many benefits in terms of technology and sustainability thanks to their outstanding quality, including extremely long life, high quality of light and excellent economy.

OSRAM LED lamps are right for your business

OSRAM invests primarily in two areas, namely in research and development, and also in permanent quality assurance. This combination of innovation and application focus results in significant added value – and at an outstanding price/performance ratio. In deciding to purchase OSRAM LED lamps your customers are therefore getting products which:

- meet the special requirements of their particular applications
- are state of the art
- comply with the highest quality standards

OSRAM LED lamps can be used almost anywhere

Thanks to OSRAM's broad product portfolio, there are LED lamps now available to provide ideal lighting in many different applications – for new installations and for replacing classic incandescent lamps, halogen lamps and T8 fluorescent tubes[1].

The most important factors for your success:

Outstanding quality

- Up to 1,000,000 switching cycles
- White light with good to excellent color rendering
- Warm white light color similar to that from an ordinary light bulb
- Excellent resistance to shock and vibrations
- Available in many familiar shapes and with standard bases for simple replacement
- Instant 100 % light

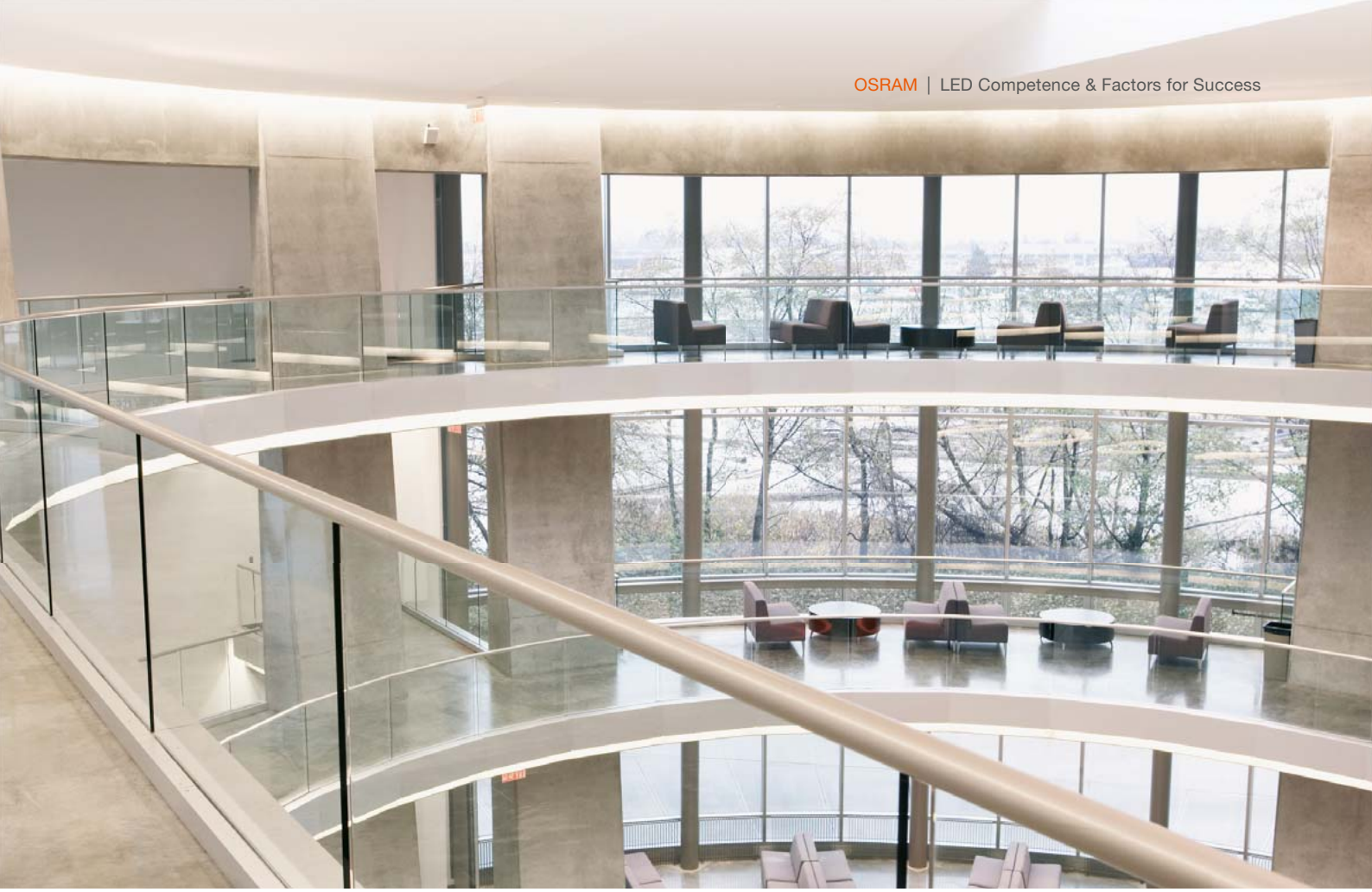
Excellent sustainability

- Up to 90 % lower CO_2 emissions compared with conventional incandescent and halogen lamps
- Outstanding eco-balance thanks to low energy consumption during manufacture
- Low energy consumption during operation
- Mercury-free
- Less waste and low consumption of resources thanks to extremely long life

High efficiency

- Energy savings of up to 90 % compared with a conventional incandescent or halogen lamp with a similar light output
- Lamp life up to 50,000 hours
- Straightforward replacement so no need to change the luminaire or the system
- Reduced air-conditioning costs thanks to low thermal output

[1] Because of the way that SubstiTUBE® typically distributes its light the light characteristics of the luminaire may be different. After changing tubes, check whether the lighting still complies with the standards for workplace illumination, for example in an office.



Quick payback
Thanks to incredibly low energy consumption and extremely long life, LED technology will pay for itself in only a short time both in the home and especially in commercial premises. The economics of OSRAM LED lamps is a powerful sales argument – see for yourself! In addition to the most important product features, technical data and ordering information, a sample payback calculation is provided for the various PARATHOM® lamp types.

Special OSRAM guarantee
Our engineering know-how, our insistence on using only top-quality components and our strict quality assurance procedures have all paid off. OSRAM therefore offers a five-year guarantee on PARATHOM® PRO LED lamps and a four-year guarantee on PARATHOM® and PARATHOM® advanced LED lamps, provided they are operated in accordance with OSRAM specifications. For the terms and conditions of the guarantee go to www.osram.com/guarantee

Innovative and compliant – the new OSRAM LED lamp portfolio

From September 1, 2013 two new EU Regulations will define the minimum requirements for efficiency, functionality and product information for lamps – and for the first time will also cover LED lamps and LED luminaires. OSRAM's new LED lamp portfolio meets all statutory requirements – and in most cases exceeds them.

Ecodesign Regulation (ErP)
The aim of Regulation EU 1194/2012 is to promote the most efficient products by requiring relevant information to be provided on the packaging.

From September 1, 2013 the following new requirements will apply to the operational characteristics of LED lamps.

At the same time, Regulation EU 1194/2012 will impose new requirements on the packaging of lamps with focused light.

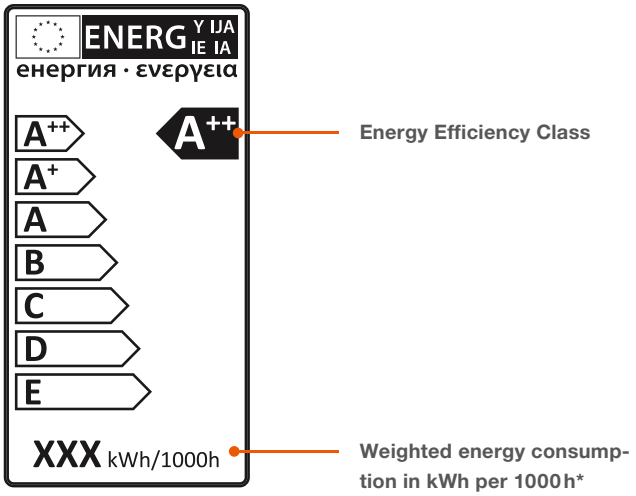
All OSRAM LED lamps already meet the minimum requirements.

Operational parameters	**Requirements** (unless otherwise indicated)
Lamp life factor at 6000 h	From March 1, 2014: ≥ 0.90
Residual luminous flux at 6000 h	From March 1, 2014: ≥ 0.80
Number of switching cycles until failure	≥ 15,000 if rated life of lamp ≥ 30,000 h; otherwise ≥ half the rated life of the lamp expressed in hours
Ignition time	< 0.5 s
Lamp startup time until 95 % luminous flux	< 2 s
Premature failure rate	≤ 5.0 % at 1000 h
Color rendering (R_a)	≥ 80 ≥ 65 if the lamp is intended for outdoor or industrial applications (as per para. 3.1.3 (l) in the Annex to the Regulation)
Color consistency	Deviation in color value components within a MacAdam ellipse with up to 6 levels
Power factor (PF) of lamps with integrated control gear	P ≤ 2 W: no requirements 2 W < P ≤ 5 W: PF > 0.4 5 W < P ≤ 25 W: PF > 0.5 P > 25 W: PF > 0.9

Energy Consumption Labeling Regulation

The aim of Regulation EU 874/2012 is to promote the most efficient products by requiring relevant information to be provided on the packaging. Among other things, it prescribes that at the point of sale the packaging for the lamp must indicate the energy consumption of the lamp.

With its energy consumption labeling OSRAM complies with the requirement to provide relevant information on all packaging for LED lamps – in both text and graphic form.



New energy efficiency classes

The Energy Efficiency Index (EEI) has been modified so that in future Classes A+ and A++ can be used for even more efficient lamps, while the old F and G classes have been removed.

Statutory efficiency and quality requirements have an impact on product design as well as constant innovation and further development.

So in the 2013/2014 lighting season we can offer you an even better, larger and fully compliant range of LED lamps for success in your lighting business.

* Since the average number of hours burned per year by a lamp is around 1000, this information makes it easy to calculate annual energy costs (printed kWh value × electricity price/kWh = annual energy costs for the lamp)

We offer you the perfect choice

As a lighting specialist with more than one hundred years of experience, OSRAM is the master of all lighting technologies and offers a wide range of products for all your lighting needs.

Highlights from our product range

Compact fluorescent lamps

OSRAM DULUX® PRO Micro Twist 12 W E27 – genuine low-cost replacement for 60 W incandescent lamps in a particularly compact format

Halogen lamps

HALOGEN ECO PRO CLASSIC A 46 W E27 – genuine replacement for incandescent lamps with a classic shape and twice the life (up to 2000 hours)

High-intensity discharge lamps

POWERBALL® HCI®-T 50 W/830 – new addition to the basic HCI® range with a luminous flux of approx. 5000 lm

Fluorescent lamps

LUMILUX® T5 HO CONSTANT – constant luminous flux over an extremely wide temperature range

NEW! OSRAM Lamp Finder Professional – the free app

Available on the App Store

ANDROID APP ON Google play

Download here for free

As the name suggests, the new “OSRAM Lamp Finder Professional” app for Apple and Android smartphones and tablets will help you to find the right lamp for your particular requirements.

www.osram.com/lampfinder-app

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