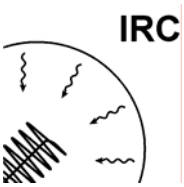
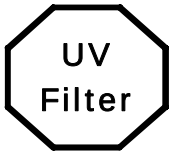
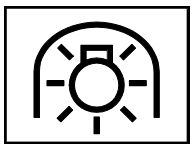
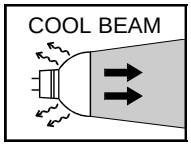
DECOSTAR Energy Saver

Product characteristics:

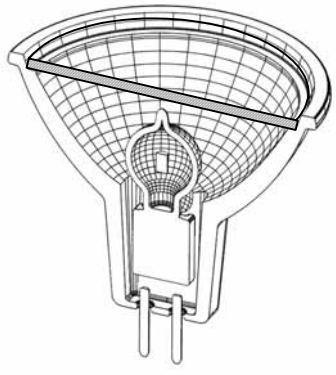








- Energy saving:
  30% more efficiency
  20W replaces 35W
  35W replaces 50W
  50W replaces 65W
- Constant spectral and photo optical characteristics and constant luminous intensity throughout its entire life
- Constant blue colour of the reflector backside
- UV-Filter technology meets the most stringent UV-protection thresholds (NIOSH). Reduction of bleaching
- Dichroic reflector reduces the amount of heat in the light beam by 66%
- Operation in open luminairs permitted due to its integrated protection cover lense; acc. to IEC 60598
- Base: GU 5,3
- Lamp life: **5000h**



Product range:

Order-code	Voltage	Wattage*	Beam angle**	Luminous intensity**	ILCOS-code
48 860 ES SP	12 V	20W	10°	6000 cd	HRGS/UB/IB 20-12-GU5,3-51/10
48 860 ES FL	"	"	24°	2300 cd	HRGS/UB/IB 20-12-GU5,3-51/24
48 860 ES WFL	"	"	36°	1000 cd	HRGS/UB/IB 20-12-GU5,3-51/36
48 860 ES VWFL	"	"	60°	450 cd	HRGS/UB/IB 20-12-GU5,3-51/60
48 865 ES SP	12 V	35 W	10°	12500 cd	HRGS/UB/IB 35-12-GU5,3-51/10
48 865 ES FL	"	"	24°	4400 cd	HRGS/UB/IB 35-12-GU5,3-51/24
48 865 ES WFL	"	"	36°	2200 cd	HRGS/UB/IB 35-12-GU5,3-51/36
48 865 ES VWFL	"	"	60°	1100 cd	HRGS/UB/IB 35-12-GU5,3-51/60
48 870 ES SP	12 V	50 W	10°	15000 cd	HRGS/UB/IB 50-12-GU5,3-51/10
48 870 ES FL	"	"	24°	5700 cd	HRGS/UB/IB 50-12-GU5,3-51/24
48 870 ES WFL	"	"	36°	2850 cd	HRGS/UB/IB 50-12-GU5,3-51/36
48 870 ES VWFL	"	"	60°	1430 cd	HRGS/UB/IB 50-12-GU5,3-51/60

*max. power consumption = Nominal value +8%, according to IEC 60537
**may vary according to tolerances specified in IEC 60357

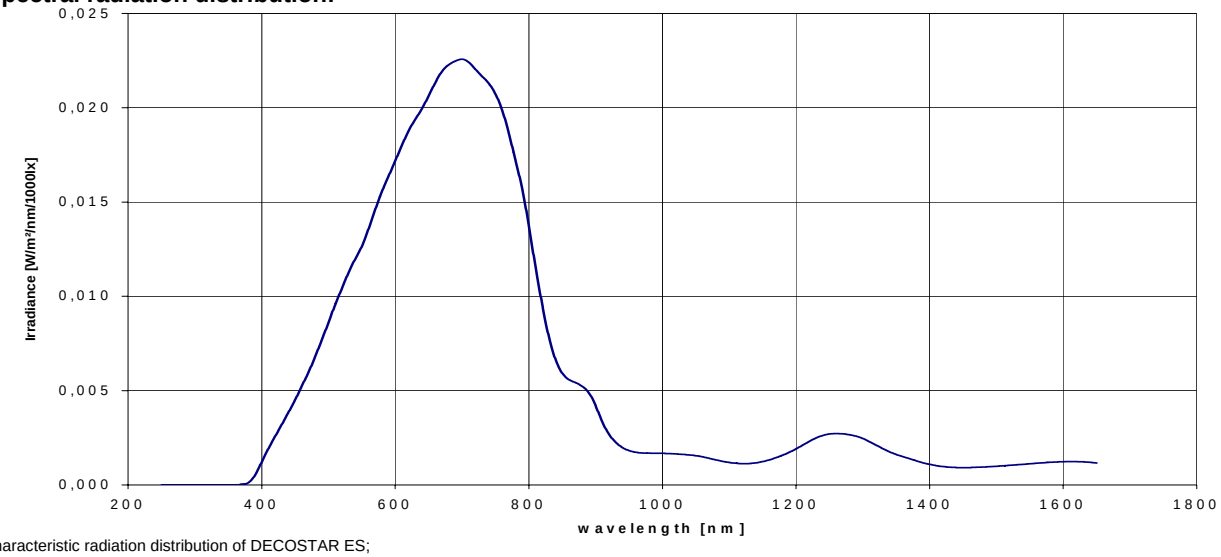
DECOSTAR Energy Saver

Light data:

Maintenance Decrease of the luminous intensity < 10% at 90% of the nominal lamp life

Colour temperature 3000K ± 100

Spectral radiation distribution:



characteristic radiation distribution of DECOSTAR ES;

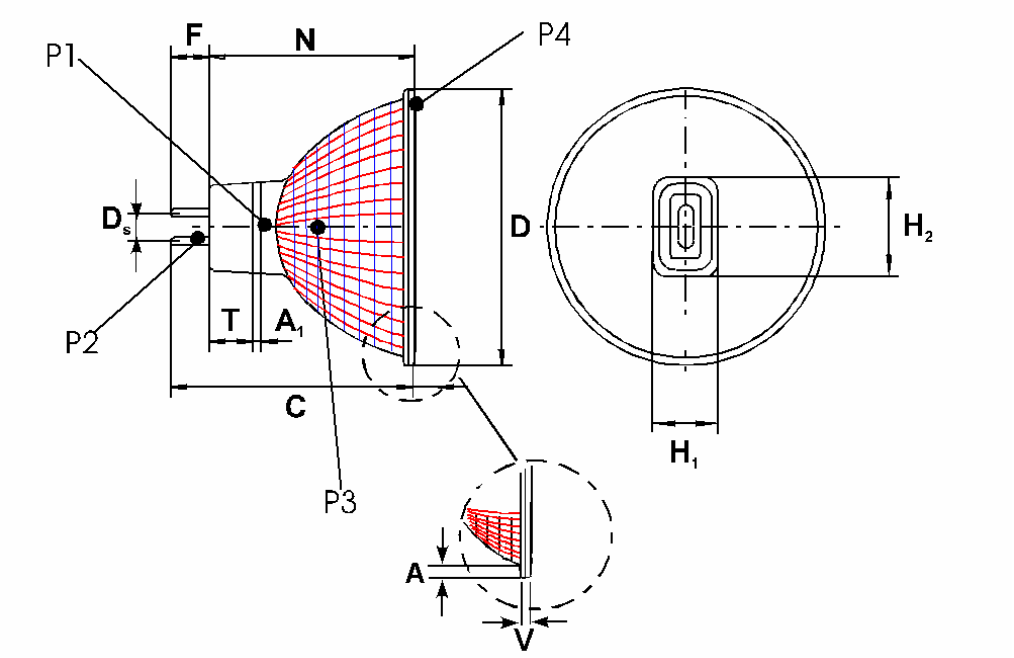
UV-radiation The irradiance is clear below the NIOSH-threshold values for skin and eye.

Due to the cover lens the bleaching effect is clear reduced (depending on the radiated material!).

Light distribution Available at www.osram.com/osram_com/Lighting_Design

DECOSTAR Energy Saver

Geometry:



Values in mm	Nomin.	DECOSTAR ES	Nomin IEC-Norm*
Overall length	C	$N_{max.}$ + $F_{max.}$	46 max.
Length of Reflector	N	37,3 ± 0,4	35,8 - 38,4
Diameter of Reflector	D	50,7 - 1,3	49,4 - 50,7
Width of Reflector edge	A	0,3 min.	0,3 min.
Thickness of Reflector edge	V	2 ± 0,2	1,8 -2,4
collar nomin.	H_1 x H_2	12,75 max. x 19,0 max. distance 14 mm from collar end	see free space IEC 60061
Position GU-groove	T	7,85 ± 0,35	7,45 - 8,25
Depth GU-groove		0,4 + 0,3	0,4 min.
Width GU-groove	A_1	1,5 + 0,5	1,5 min.
Pin length	F	7 ± 0,5	6,1 - 7,62
Pin distance	Ds	5,33 ± 0,25	5,33
Pin diameter	E	1,53	1,45 - 1,60

Nominations and dimensions acc. IEC 60357, IEC 60061

Please note:
Modifications of the dimensions/tolerances listed above are possible within the IEC regulations! Regarding dimensions not listed above, don't just measure singular lamps as this does not offer an overall picture.

DECOSTAR Energy Saver

Temperature behaviour:

	Pinch	Pin	Reflector	Reflector
Measurment point (see "Geometry")	P1	P2	P3	P4
Burning position	Base up			
Max. permitted Temperature acc. to IEC	350°C*	250°C**		240°C
Operating temperatures free burning				
20W	170°C	125°C	125°C	115°C
35W	270°C	170°C	160°C	145°C
50W	325°C	220°C	200°C	180°C

***Special foils in the pinch allow higher temperatures (= 370°C) than IEC 60357
**For 20W and lower only 220°C are permitted according to IEC 60432

Measurement conditions:
Measurement in the most unfavourable burning position for the pinch
The burning position only has a minimum influence on the temperature of the top part of the reflector and on the joint
Surrounding temperature: 25° (acc. DIN 5032)
Voltage: 12,0V
Lamp holder: Bender & Wirth 884

Operating temperatures for free burning use are not obliging and are useful only for orientation.

Operating conditions:

Burning position any

Dimmability 100%

Areas of application For outdoor applications and operation in damp locations special approved fixtures are required.

Near field The lamps are not qualified for applications, whereat defined near field features are necessary.

Safety informations:

If DECOSTAR Standard/Titan lamps are replaced by DECOSTAR ES lamps with the **same** wattage, it is important to ensure that the max. permissible temperature (according to IEC 60357/-432) will not be exceeded in the luminaires.
If DECOSTAR Standard/Titan lamps are replaced by DECOSTAR ES lamps with a **lower** wattage, it is important to ensure the voltage don't exceed 12V (particular in installations with several lamps).

According to IEC 60598-1 / DIN VDE 0711 "minimum safe distance" the max. temperature permitted is 90°C. This max. temperature has to be ensured by the minimum distance. This minimum safe distance for each luminaire typ has to be determined through the luminaire manufacturer by appropriate measurements.

Environmental sensitivity:

DECOSTAR ES can be disposed as household waste. In the first few hours of operation humidity may be expelled from the glue.

Validity:

These technical information sheets (TI-sheets) are updated in irregular intervals. The users are responsible to ensure that the information they have is up to date and still valid. Once a new TI sheet has been issued, former editions are to be seen as invalid and disposed of.