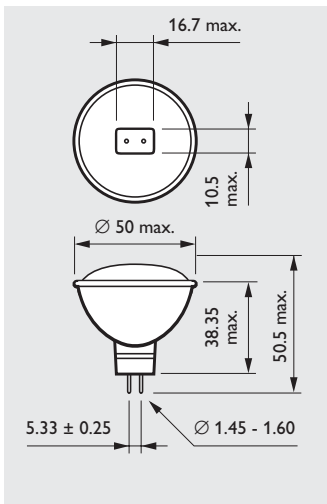


Halogen lamps

Low-voltage dichroic reflector MASTERline ES



Dimensions in mm

Notes: 1. All types designed for 12 V power supply. Lamp characteristics are given for 12 V. Cap GU 5,3 interchangeable with GX 5,3 IEC 61-1.
2. Numerical technical data given are average values and do not refer to single lamps.
3. Manufacturer reserves the right to change specifications without prior notice.

Technical and lighting data

Type	Voltage	Wattage	Beam angle degs	Cap/ base	ANSI	Luminous intensity cd	Average life h	Ordering number	EOC
	V	W							
14578	12	20	8	GU5.3	ESX	6500	5000	9240 458 17100	413642
14579	12	20	36	GU5.3	BAB	1000	5000	9240 459 17100	413673
14580	12	30	8	GU5.3	N.A.	11000	5000	9240 460 17100	413703
14581	12	30	24	GU5.3	N.A.	3350	5000	9240 461 17100	413758
14582	12	30	36	GU5.3	N.A.	1600	5000	9240 462 17100	413789
14583	12	30	60	GU5.3	N.A.	750	5000	9240 463 17100	413826
14584	12	35	8	GU5.3	FRB	14000	5000	9240 464 17100	413871
14585	12	35	24	GU5.3	FRA	4400	5000	9240 465 17100	413970
14586	12	35	36	GU5.3	FMW	2200	5000	9240 466 17100	424327
14587	12	35	60	GU5.3	-	1050	5000	9240 467 17100	424358
14588	12	45	8	GU5.3	EXT	16000	5000	9240 468 17100	424389
14589	12	45	24	GU5.3	EXZ	5450	5000	9240 469 17100	424419
14590	12	45	36	GU5.3	EXN	2850	5000	9240 470 17100	424440
14591	12	45	60	GU5.3	FNV	1300	5000	9240 471 17100	424471

The MASTERline ES is an advanced MR16 lamp with infrared technology introduced by Philips. Like its predecessor; the MASTERline PLUS, the MASTERline ES sets a new standard in performance in display lighting dichroics. The technology used by Philips is based on the application of a heat-reflecting coating on the inner lamp burner. Normally only 10-15 % of the energy consumed by a halogen lamp produces visible light; the rest is lost as heat. The infrared burner coating reflects an important part of the waste heat back to the filament, so less energy is needed to operate the lamp. Moreover the lamp has a revolutionary compact and precision-shaped double-ended burner which enables the infrared reflecting coating to perform to its fullest potential. The MASTERline ES is the best long life low-voltage product in the world, with a burner efficacy (lm/W) improvement of up to 40 %!

The increased efficacy serves to lower the energy consumption while maintaining light output. Only the MASTERline ES is aimed at replacing MASTERline PLUS and all conventional MR16 lamps (35/50/75 W) offering energy savings of up to 40 %. All the other benefits of halogen lighting, such as bright, sparkling white light, excellent colour rendering, dimming possibilities and almost perfect lumen maintenance, are retained. MASTERline ES offers the widest range of high-performance MR16 lamps on the market.

Other benefits of MASTERline ES

- Low UV output ; strongly reduced fading of goods.
- Colour temperature of up to 3150 K accentuating objects.
- Complex reflector design for excellent beam performance.
- GU 5,3 base; extra retention in luminaire

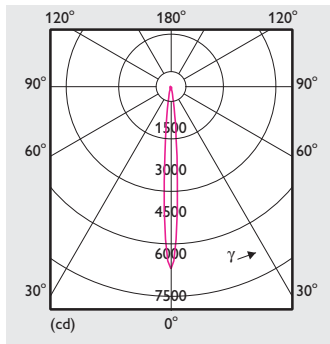
Applications

Shops/stores, hotels, restaurants, exhibitions/art galleries

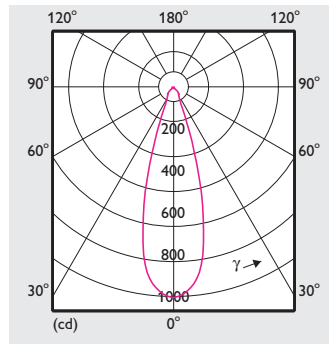


Halogen lamps

Low-voltage dichroic reflector MASTERline ES

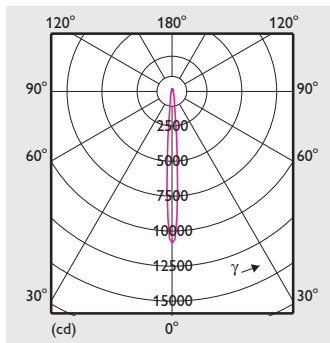


MASTERline ES 12V 20W 8dgr

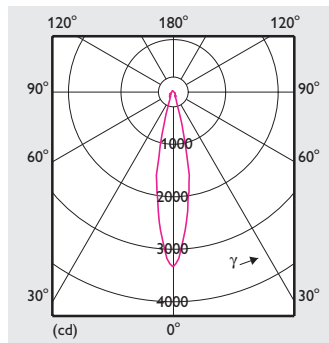


MASTERline ES 12V 20W 36dgr

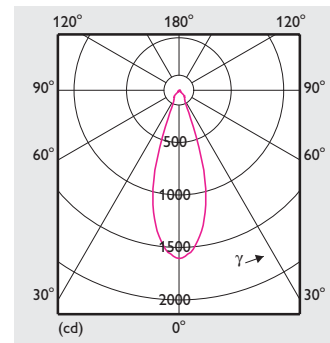
Polar intensity diagrams



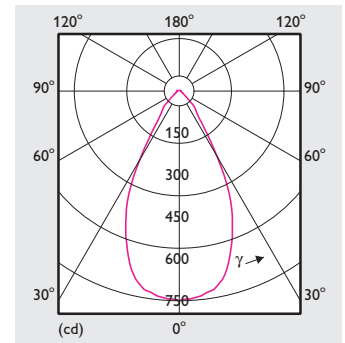
MASTERline ES 12V 30W 8dgr



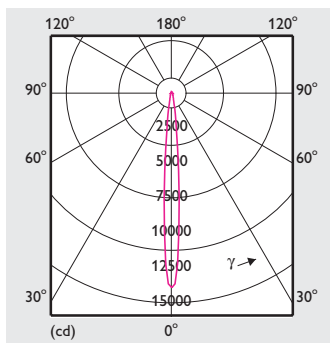
MASTERline ES 12V 30W 24dgr



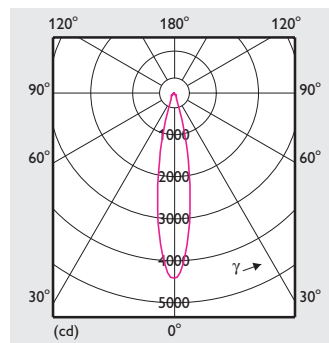
MASTERline ES 12V 30W 36dgr



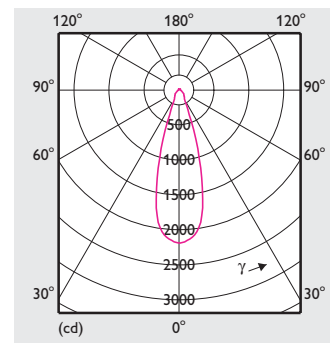
MASTERline ES 12V 30W 60dgr



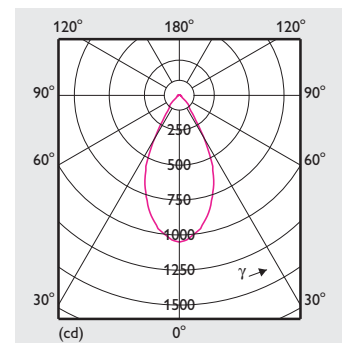
MASTERline ES 12V 35W 8dgr



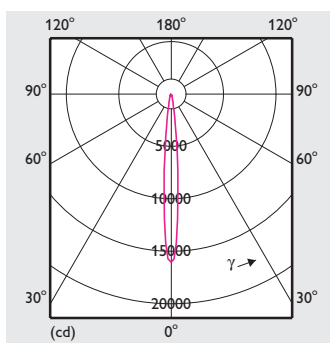
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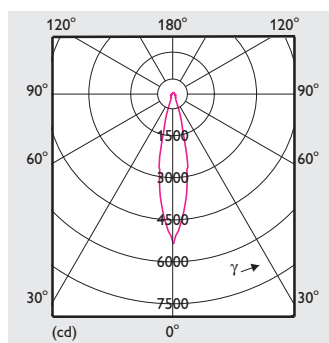
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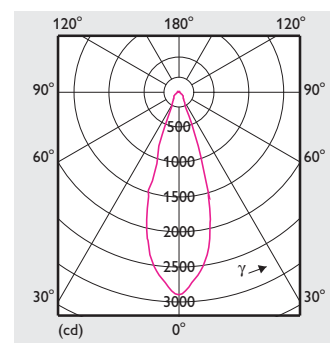
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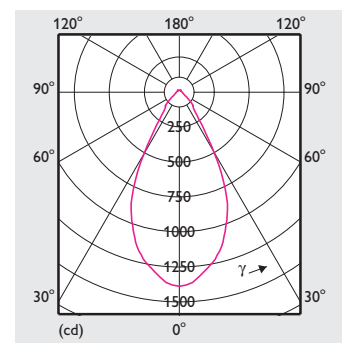
MASTERline ES 12V 45W 8dgr



MASTERline ES 12V 45W 24dgr



MASTERline ES 12V 45W 36dgr



MASTERline ES 12V 45W 60dgr