

A full-page photograph of a man with a beard and dark hair, wearing a dark blazer over a light-colored t-shirt. He is singing passionately into a silver microphone, his eyes closed and mouth open. The background is a stage with dramatic purple and blue lighting, featuring many small spotlights and beams of light. In the top left corner, there is a white rectangular box with a blue curved bottom right corner, containing the Philips logo and the text 'Entertainment lamps'.

PHILIPS

Entertainment
lamps

Philips Entertainment lamps catalogue 2017

Photo credits: Ralph Larmann

Content overview

Touring/Stage 4

MSD Platinum	6
MSR Platinum	8
MSR Gold™ FastFit	9
MSR Gold™ MiniFastFit	11
MSR Gold™ SA Double Ended	13
MSR	15
MSR Short Arc	17

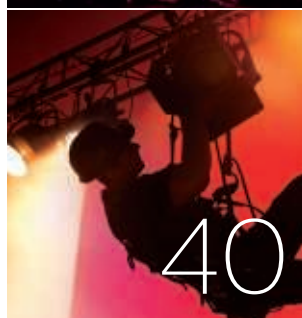
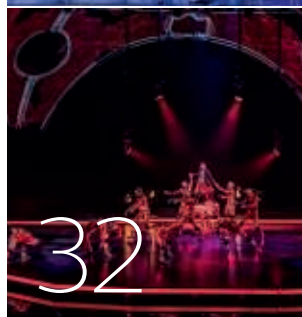


20 DJ/Club

22	MSD Platinum
24	MSR Gold™ MiniFastFit
25	MSD Gold™ MiniFastFit
26	MSD
28	PAR56 and PAR64
30	Halogen Low Voltage

Theater 32

MSR Platinum	34
MSR Gold MiniFastFit	35
MSR Gold FastFit	36
MSR Gold SA/DE	37

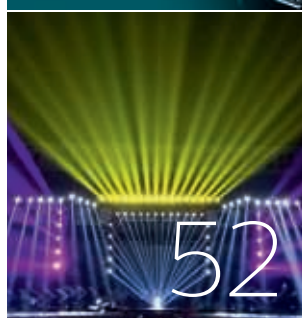


40 Film/Studio

41	MSR Platinum
42	MSR Hot Restrike

Architainment 46

Architectural MSA	47
Architectural MSD	48
CDM-SA/T	50



52 Appendix

53	Cross reference list Discharge lamps
55	Design-in overview
58	Lamp bases
60	Lamp bases names-Filament shapes - Fusing - Lamp life
61	List of manufacturers of ignitors or gear for MSR - MSD
62	Fundamentals of light and color
68	Sales organisations
71	Philips type numbers





General introduction

Creating an unforgettable experience

Creating unforgettable experiences is the challenge that has inspired us to create the most exciting innovations in light. Our beams have become crisper and sharper. Our spotlights are brighter and whiter. Altogether incredibly compact light sources that ensure every performance has the maximum impact.

From MSR Gold to FastFit, MiniFastFit and Platinum Reflector lamps, our solutions have revolutionized the entertainment industry. And it's not just the major OEMs that use our lamps as the starting point for their fixtures. They're also the inspiration for many of the world's most talented lighting designers, not to mention the artists that live life in the spotlight.

But like all the best performers, we believe there's always room for improvement. It's the reason we work closely with leading fixture manufacturers to create lighting solutions that are more efficient, more powerful, more compact and easier to handle.

We've also established an 'On Stage' marketing platform to ensure that your lighting requirements take center stage in any new product development. Like the Philips P3 pinch protection and gold plated contacts that give our lamps the robust qualities that your industry demands. More than 2000 entertainment professionals have already subscribed to our On Stage Club. If you'd like to be on our VIP list to find out what's happening in the industry first, simply go to www.philips.com/onstage.

It's time to put our solutions in the spotlight. On the following pages you'll find our latest range of entertainment lamps. However, we're introducing new talented performers all the time. So to keep up to date with the latest innovations, make sure you contact your local Philips Representative or visit www.philips.com/onstage.

We'd like to thank our partners in business for their support and wish them a bright future,

The Philips entertainment lamps team.

Touring/stage lighting

Most lighting designers have a true passion for creating spectacular shows. To help bring out the best in their talents, we have developed the Platinum lamp system. Philips Platinum lamps are extremely compact and intense, allowing OEMs to design really small and flexible fixtures that rotate rapidly and highlight every angle on stage. The fixtures with Platinum inside bring the artists' performances to life, creating an experience that the audience will never forget!

* Platinum technology

Philips MSD/MSR Platinum lamps are the original, brightest, and most compact short arc lamps on the market, enabling the design of small, flexible, and extremely efficient fixtures. The very short arc produces a sparkling, bright light that eliminates shadows and reproduces vivid colors perfectly. The Platinum system is compact and lightweight too, so it can be used anywhere. In short, more light output, more design possibilities, and less energy consumption.

* Quality assured

Since Philips Platinum lamps are technologically advanced, close cooperation is required during the design-in to ensure optimum performance of the entertainment fixture. We therefore advise you to always replace end-of-life lamps with the original Philips Platinum types.

Many OEMs have already integrated Platinum lamps into their entertainment fixtures and our lamps have had the honor of lighting up many famous artists worldwide. For more information, please visit our website www.philips.com/onstage



FastFit lamp replacement

Platinum lamps – The power to light your creativity

FastFit lamp base for easy lamp replacement

Another successful innovation that is well established in the market is the Philips FastFit concept, developed for single ended MSR Gold™ lamps. The rear load lamp base system; enables easy lamp replacement and adjustments in a matter of seconds.

FastFit lamps are also available with a smaller lamp base, called MiniFastFit. These MiniFastFit lamps with a PGJX28 base allow OEMs to make smaller and lighter fixtures compared to the regular FastFit concept, with the PGJX50 lamp base.





MSD Platinum 5 R, 14 R



MSD Platinum 15 R, 16 R



MSD Platinum 17 RA



MSD Platinum 20 R(B)



MSD Platinum 21 R

MSD Platinum – The power to light your creativity

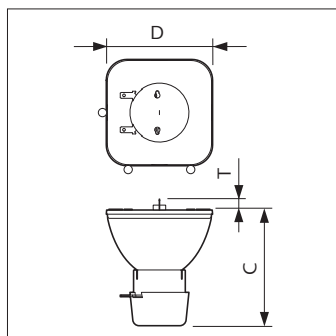
The MSD Platinum lamps open up new levels of creative freedom in entertainment lighting, with powerful, compact and brilliantly intense light. Their compact, lightweight design provides the freedom to create smaller, lighter luminaires – for use at any location on stage. And their short arc, high color temperature and innovative reflector produce a sparkling, high beam intensity for outstanding color reproduction. They also offer long and reliable lifetime, high efficacy and fast replacement times. It all adds up to an intensely exciting creative experience.

Product Features

- Very short arc
- Compact system
- High correlated color temperature
- Philips Platinum technology

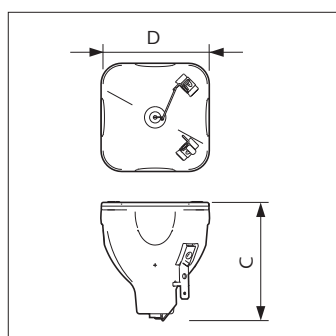
Product Benefits

- High beam intensity
- Freedom to create smaller and lighter fixtures
- High perceived brightness
- A long and reliable performance

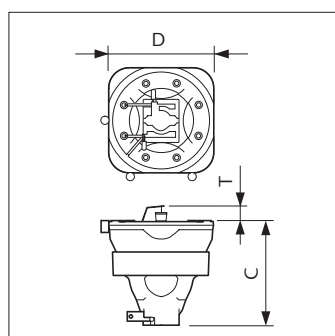


MSD Platinum 5 R, 14 R

Type	C Max	D Max	T Max
MSD Platinum 5 R	57.1	51.4	6.8
MSD Platinum 14 R	57.1	51.4	6.8



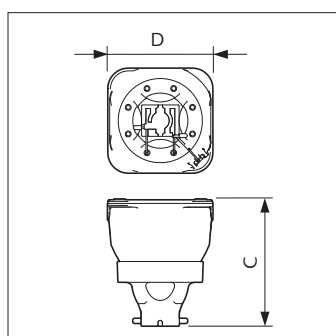
MSD Platinum 15 R, 16 R



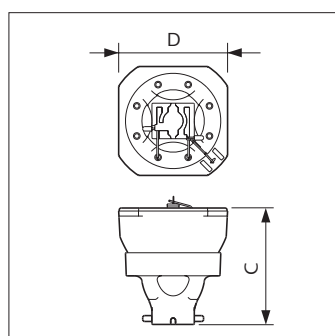
MSD Platinum 17 RA

Type	C Max	D Max
MSD Platinum 15 R	66.4	58.5
MSD Platinum 16 R	66.4	58.5

Type	C Max	D Max	T Max
MSD Platinum 17 RA	53	51.5	10.0



MSD Platinum 20 R(B)



MSD Platinum 21 R

Type	C Max	D Max	T Max
MSD Platinum 20 R	72	58.5	-

Type	C Max	D Max	T Max
MSD Platinum 21 R	60	54	-

Type	Lamp Wattage	Arc size	Lumen output	Color Temperature	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position	Pinch Temperature	Ordering number
	(W)	(mm)	(lm)	(K)				(°C)	
Philips MSD Platinum 5 R	190	1.0	7950	8000	75	3000	any	350	9281 908 05314
Philips MSD Platinum 14 R	280	0.8	12000	7800	80	2000	any	350	9281 961 05314
Philips MSD Platinum 15 R	300	1.3	13500	8000	75	2000	any	350	9281 916 05314
Philips MSD Platinum 16 R	330	1.3	16000	8000	75	1500	any	350	9281 952 05314
Philips MSD Platinum 17 RA	350	1.0	>20000	7000	85	1500	any	350	9281 973 05314
Philips MSD Platinum 20 R	470	1.2	>23000	8000	80	1500	any	400	9281 972 05314
Philips MSD Platinum 20 RB	470	1.2	>23000	8000	80	1500	any	400	9284 952 05314
Philips MSD Platinum 21 R	470	1.2	>23000	8000	80	1500	any	450	9281 978 05314



MSR Platinum 35

MSR Platinum 35 – enhanced stage lighting

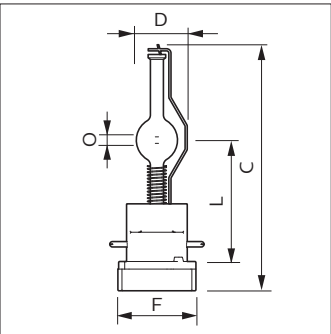
Today’s stage designs call for lighting solutions which deliver high brightness and high-contrast beams to avoid shadow creation, as well as more compact luminaire and fixture designs to improve creative choice and design flexibility. Addressing this need, we have developed an incredibly powerful, brilliant and lightweight, compact system for the most amazing light experience – MSR Platinum 35. This lamp system provides a powerful and innovative tool to create intense lighting and delivers the same good light quality as other MSR lamps. The exceptionally short arc generates sparkling, bright light and this ultra-compact design makes the lamp suitable for smaller stage lighting fixtures.

Product Features

- Very short arc
- Compact system
- High Correlated color temperature
- Philips FastFit technology
- Philips Platinum technology

Product Benefits

- High beam intensity, high brightness
- Freedom to create smaller and lighter fixtures
- High perceived brightness
- Easy and fast lamp replacement
- A long and reliable lifetime



MSR Platinum 35

Type	C Max	D Max	L Min	L Nom	L Max	O Nom
MSR Platinum 35	116	23.5	55	56	57	3.0

Type	Lamp Wattage	Cap-Base	Lumen output	Efficacy source	Color Temperature	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
	(W)		(lm)	(lm/W)	(K)			
Philips MSR Platinum 35	800	PGJX36	57800	70	7750	75	1000	any

Type	Lamp current	Ordering number
	(A)	
Philips MSR Platinum 35	12.3	9281 909 05114



MSR Gold™ 700, 700/2, 1200 FastFit



MSR Gold™ 1500, 2000, 2000/1, 2000/2, 2500/2 FastFit

MSR Gold™ FastFit – easy lamp replacement in seconds

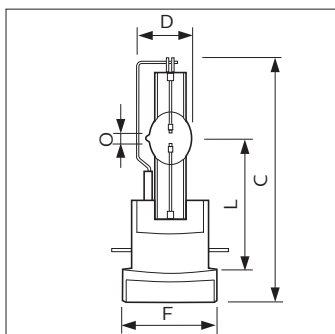
All lamps burn out eventually, but when this happens with single ended MSR Gold™ FastFit, it is replaced in seconds – thanks to the specially designed lamp base and lamp holder. This lamp provides a high beam intensity of pure, white light for a truly illuminating performance, while the gold-plated caps provide superior heat protection and prevent premature failure. P3 technology allows use in any position and at higher temperatures, further extending lamp life and consistency of high-quality light output. Also, because the FastFit design is applied to Philips Halogen lamps, switching between lamp technologies can be done quickly and easily. The Philips MSR Gold™ 1200 FastFit can be operated in a lamp wattage range between 800W and 1400W.

Product Features

- Philips FastFit
- Very short arc
- Compact design
- Flexible power range
- Philips pinch protection
- Innovative gold plated pins
- MSR filling

Product Benefits

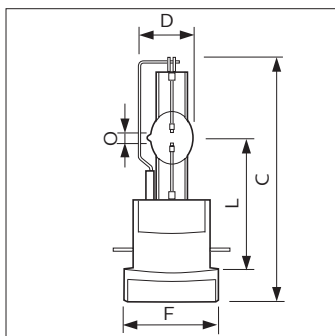
- Lamp replacement in just seconds, exchangeable with halogen lamp
- High beam intensity
- Easy handling, smaller and lighter fixtures possible
- Boostable light levels
- Enables use at higher temperatures in any burning position. Longer lifetime, fewer early failures, consistent performance over time
- Reduces early lamp or lamp holder failures. Excellent current transfer
- Pure, white light; color point close to black body line



MSR Gold™ 1500, 2000 (/1) (/2), 2500/2 FastFit

Type	C Max	D Max	F Nom	L Min	L Nom	L Max	O Nom
MSR Gold™ 1500 FastFit	128	28	50	64	65	66	6.3
MSR Gold™ 1500/1 FastFit	128	28	50	64	65	66	6.3
MSR Gold™ 2000 FastFit	134	34	50	66	67	68	8.0
MSR Gold™ 2000/1 FastFit	133	34	50	66	67	68	7.0
MSR Gold™ 2000/2 FastFit	134	34	50	66	67	68	8.0
MSR Gold™ 2500/2 FastFit	153	35.5	50	73.9	74.9	75.9	9.5

MSR Gold™ FastFit (Touring/Stage)

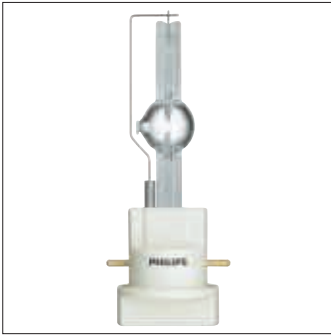


MSR Gold™ 700(/2), 1200 FastFit

Type	C Max	D Max	F Nom	L Min	L Nom	L Max	O Nom
MSR Gold™ 700 FastFit	112	23.2	50	64	65	66	3.8
MSR Gold™ 700/2 FastFit	112	23.2	50	64	65	66	3.8
MSR Gold™ 1200 FastFit	128	26.1	50	64	65	66	5.5

Type	Lamp Wattage (W)	Cap-Base	Lumen output (lm)	Efficacy source (lm/W)	Color Temperature (K)	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
Philips MSR Gold™ 700 FastFit	700	PGJX50	50000	71	6000	80	750	any
Philips MSR Gold™ 700/2 FastFit	700	PGJX50	50000	71	7500	75	750	any
Philips MSR Gold™ 1200 FastFit	1200	PGJX50	95000	80	6000	80	750	any
Philips MSR Gold™ 1500 FastFit	1500	PGJX50	120000	80	6000	80	750	any
Philips MSR Gold™ 1500/1 FastFit	1500	PGJX50	127500	85	5700	>94	750	any
Philips MSR Gold™ 2000 FastFit	2000	PGJX50	162000	81	6050	91	750	any
Philips MSR Gold™ 2000/1 FastFit	2000	PGJX50	172000	86	5700	90	750	any
Philips MSR Gold™ 2000/2 FastFit	2000	PGJX50	160000	80	7500	88	750	any
Philips MSR Gold™ 2500/2 FastFit	2500	PGJX50	193000	77	7200	85	750	any

Type	Lamp current (A)	Ordering number
Philips MSR Gold™ 700 FastFit	10.2	9281 060 05115
Philips MSR Gold™ 700/2 FastFit	10.2	9281 062 05114
Philips MSR Gold™ 1200 FastFit	15	9281 750 05115
Philips MSR Gold™ 1500 FastFit	15.3	9281 073 05115
Philips MSR Gold™ 1500/1 FastFit	15.3	9281 089 05115
Philips MSR Gold™ 2000 FastFit	15.2	9281 769 05114
Philips MSR Gold™ 2000/1 FastFit	18.2	9284 101 05114
Philips MSR Gold™ 2000/2 FastFit	15.4	9281 061 05114
Philips MSR Gold™ 2500/2 FastFit	19.53	9281 064 05115



MSR Gold™ 400, 575/2, 700(1/2) MiniFastFit



MSR Gold™ 1000 MiniFastFit

MSR Gold™ MiniFastFit – lamp replacement in seconds

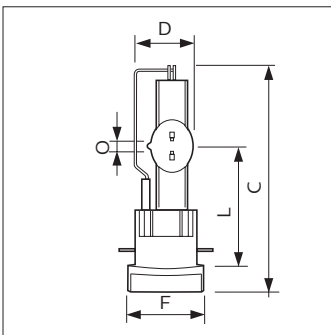
Thanks to the specially designed lamp base, the MSR Gold™ MiniFastFit takes just seconds to replace, to help ensure non-stop clubbing entertainment. In addition, the innovative gold plated pins ensure excellent current transfer to prolong lamp and lamp holder lifetimes and thereby reduce lamp replacement costs. Easy handling and small compact fixture designs are allowed by the lamps compact size, while the very short arc provides a high perceived brightness and high beam intensity.

Product Features

- Philips MiniFastFit
- Compact design
- Innovative gold plated pins
- High color temperature
- Very short arc

Product Benefits

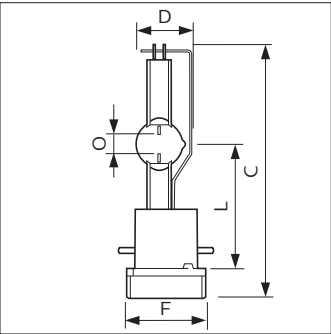
- Lamp replacement in just seconds
- Easy handling, smaller and lighter fixtures
- Reduces early lamp or lamp holder failures. Excellent current transfer
- High perceived brightness
- High beam intensity



MSR Gold™ MiniFastFit

Type	C Max	D Max	F Min	F Nom	F Max	L Min	L Nom	L Max	O Nom
MSR Gold™ 400 MiniFastFit	111	23.2	35.3	36	36.5	55	56	57	3.0
MSR Gold™ 575/2 MiniFastFit	112	23.2	35.3	36	36.5	55	56	57	3.5
MSR Gold™ 700 MiniFastFit	116	23	35.3	36	36.5	55	56	57	3.5
MSR Gold™ 700/1 MiniFastFit	112	23.2	35.3	36	36.5	55	56	57	3.8
MSR Gold™ 700/2 MiniFastFit	112	23.2	35.3	36	36.5	55	56	57	3.8

MSR Gold™ MiniFastFit (Touring/Stage)



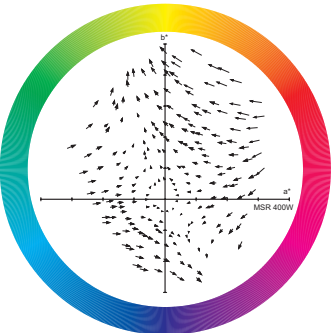
MSR Gold™ 1000 MiniFastFit

Type	C Max	D Max	F Min	F Nom	F Max	L Min	L Nom	L Max	O Nom
MSR Gold™ 1000 MiniFastFit	112	26	35.3	36	36.5	55	56	57	5.5

Type	Lamp Wattage	Cap-Base	Lumen output	Efficacy source	Color Temperature	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
	(W)		(lm)	(lm/W)	(K)			
Philips MSR Gold™ 400 MiniFastFit	400	PGJX28	26000	65	6700	60	750	any
Philips MSR Gold™ 575/2 MiniFastFit	575	PGJX28	38600	63	7500	70	750	any
Philips MSR Gold™ 700 MiniFastFit	700	PGJX28	49000	70	6000	65	750	any
Philips MSR Gold™ 700/1 MiniFastFit	700	PGJX28	53400	76.3	5700	73	750	any
Philips MSR Gold™ 700/2 MiniFastFit	700	PGJX28	47000	69	7200	75	750	any
Philips MSR Gold™ 1000 MiniFastFit	1000	PGJX36	82000	82	6000	80	750	any

Type	Lamp current	Ordering number
	(A)	
Philips MSR Gold™ 400 MiniFastFit	7.2	9281 940 05114
Philips MSR Gold™ 575/2 MiniFastFit	10.2	9281 840 05115
Philips MSR Gold™ 700 MiniFastFit	10.8	9281 941 05114
Philips MSR Gold™ 700/1 MiniFastFit	10.2	9281 974 05115
Philips MSR Gold™ 700/2 MiniFastFit	10.2	9281 999 05115
Philips MSR Gold™ 1000 MiniFastFit	11.4	9281 714 05115

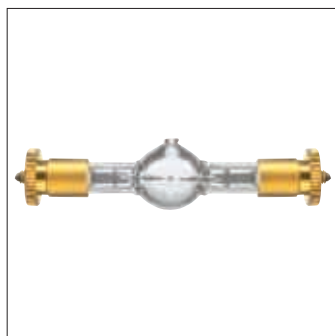
CRV diagram



MSR 400W types



MSR Gold™ SA(/2) DE



MSR Gold™ 575 SA/2 DE

MSR Gold™ SA Double Ended – for extended performance

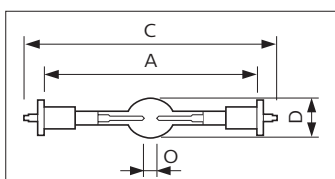
To optimize the total lifetime of the double ended MSR Gold™ SA Double Ended lamps, the caps are plated with gold. This provides superior heat protection and thereby minimizes premature failure of the lamp and lamp holder, as well as ensuring extended consistent performance. In addition, the highly innovative P3 technology, developed by Philips, allows the lamp to be used at higher temperatures, which further extends service life and consistency of high-quality light output.

Product Features

- Philips Pinch Protection
- MSR filling
- Gold plated lamp caps

Product Benefits

- Enables use at higher temperatures in any burning position. Longer lifetime, fewer early failures, consistent performance over time
- Pure, white light; color point close to black body line. Consistent color impression over MSR Range
- Reduces early lamp or lamp holder failures



MSR Gold™ SA/DE

Type	A Min	A Nom	A Max	C Max	D Max	O Nom
MSR Gold™ 575 SA/2 DE	69.6	70	70.4	92	18.5	5.0
MSR Gold™ 700 SA/2 DE	114.4	114.8	115.2	136	19	4.0
MSR Gold™ 1200 SA/DE	114.4	114.8	115.2	136	22	7.0
MSR Gold™ 1200 SA/2 DE	114.4	114.8	115.2	136	22	7.0
MSR Gold™ 1510 SA/DE	114.4	114.8	115.2	136	23	7.0
MSR Gold™ 1510 SA/1 DE	114.4	114.8	115.2	136	23	7.0



Philips Pinch Protection technology

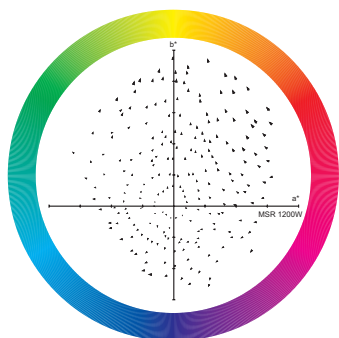
- **Reliability**, through longer lifetime and fewer early failures.
- **Quality**, through excellent storage characteristics and consistent performance over time.
- **Compactness**, allowing more compact design of fixtures and burning positions.

MSR Gold™ SA Double Ended (Touring/Stage)

Type	Lamp Wattage	Cap-Base	Lumen output	Efficacy source	Color Temperature	Color Rendering Index (Ra)	Color Temperature	Operating Position
	(W)		(lm)	(lm/W)	(K)		(K)	
Philips MSR Gold™ 575 SA/2 DE	575	SFC-11	42000	73	7500	75	750	any
Philips MSR Gold™ 700 SA/2 DE	700	SFC10-4	56000	80	7500	75	750	any
Philips MSR Gold™ 1200 SA/DE	1200	SFC10-4	106000	91	6000	85	750	any
Philips MSR Gold™ 1200 SA/2 DE	1200	SFC10-4	103000	86	7500	85	750	any
Philips MSR Gold™ 1510 SA/DE	1500	SFC10-4	140000	93	6000	85	750	any
Philips MSR Gold™ 1510 SA/1 DE	1500	SFC10-4	141000	94	5600	>90	750	any

Type	Lamp current	Ordering number
	(A)	
Philips MSR Gold™ 575 SA/2 DE	7	9281 751 05114
Philips MSR Gold™ 700 SA/2 DE	11.5	9281 747 05115
Philips MSR Gold™ 1200 SA/DE	13.6	9280 996 05115
Philips MSR Gold™ 1200 SA/2 DE	13.6	9281 753 05115
Philips MSR Gold™ 1510 SA/DE	13.5	9281 766 05115
Philips MSR Gold™ 1510 SA/1 DE	13.4	9284 100 05115

CRV diagram



MSR 1200W types



MSR 700 (/2), MSR 1200 (/2)



MSR 400, MSR 575/2

MSR – bright vivid colors, always

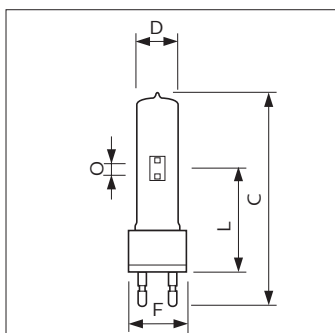
The high color rendering index of the single ended MSR series ensures that everyone in the audience can enjoy the true colors of the scenery, the stage props, the players and their costumes – in fact everything that is on stage can be made bright and vivid in daylight quality light. Also, thanks to the single ended lamp concept, the luminaire has optimal light collection and direction possibilities to help ensure brightness on stage exactly where and when it is needed. In addition, the MSR can be used in any burning position for easy set-up and convenience.

Product Features

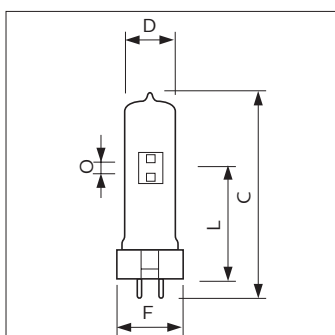
- Single ended lamp concept
- High CRI
- Daylight Color Temperatures

Product Benefits

- Optimal light collection
- Excellent color characteristics
- Brightness on stage



G22



GX9.5

Type	C Max	D Max	F Nom	L Min	L Nom	L Max	O Nom
MSR 700	152	30	42	74	75	76	8.0
MSR 700/2	152	30	42	74	75	76	8.0
MSR 1200	175	40	53	84	85	86	10.0
MSR 1200/2	175	40	53	84	85	86	10.0

Type	C Max	D Max	F Min	F Nom	F Max	L Min	L Nom	L Max	O Nom
MSR 400	112	23	34	35	36	61	62	63	6.0
MSR 575/2 10H	125	30	34	35	36	64	65	66	7.0

MSR (Touring/Stage)

Type	Lamp Wattage	Cap-Base	Lumen output	Efficacy source	Color Temperature	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
	(W)		(lm)	(lm/W)	(K)			
Philips MSR 400	400	GX9.5	32000	80	5900	95	1000	any
Philips MSR 575/2 10H	575	GX9.5	49000	85	7200	70	1000	any
Philips MSR 700	700	G22	55000	80	5900	75	1000	any
Philips MSR 700/2	700	G22	55000	78	7200	80	1000	any
Philips MSR 1200	1200	G22	110000	91	5900	80	800	any
Philips MSR 1200/2	1200	G22	110000	91	7200	85	800	any

Type	Lamp current	Ordering number
	(A)	
Philips MSR 400	6.9	9280 779 05114
Philips MSR 575/2 10H	6.95	9281 716 05115
Philips MSR 700	12	9280 780 05114
Philips MSR 700/2	11	9281 715 05114
Philips MSR 1200	13.8	9280 781 05114
Philips MSR 1200/2	13.8	9281 718 05114



MSR 1200 SA, MSR 2000 SA



MSR 400 SA, MSR 700 SA



MSR Gold™ 1200 SA/SE

MSR Short Arc – for longer life

The lamp's short arc and compact design helps enable a compact luminaire that provides high beam intensity, while the excellent color rendition characteristics help ensure optimal colors on stage.

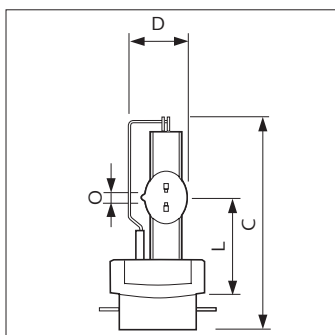
The highly innovative P3 technology, developed by Philips, allows MSR Short Arc lamps to be used at higher temperatures in any burning position. The result? Longer lifetime, fewer early failures and a highly consistent performance throughout the lamp's lifetime.

Product Features

- Philips Pinch Protection
- Short arc
- Compact lamp design
- MSR filling

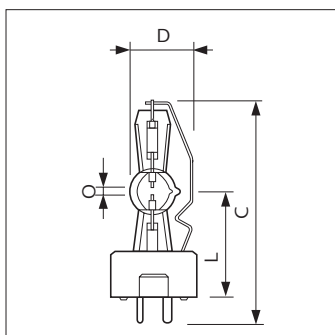
Product Benefits

- Enables use at higher temperatures in any burning position. Longer lifetime, fewer early failures, consistent performance over time
- High beam intensity
- Compact design luminaires
- Excellent color characteristics, optimal colors on stage



MSR Gold SE

Type	C Max	D Max	L Min	L Nom	L Max	O Nom
MSR Gold™ 1200 SA/SE	109	26.1	44	45	46	5.5



GY9.5

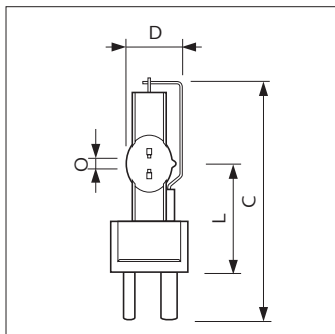
Type	C Max	D Max	L Min	L Nom	L Max	O Nom
MSR 400 SA	80	23.5	36	36.5	37	3.0
MSR 700 SA	83	25	38	39	40	4.0



Philips Pinch Protection technology

- **Reliability**, through longer lifetime and fewer early failures.
- **Quality**, through excellent storage characteristics and consistent performance over time.
- **Compactness**, allowing more compact design of fixtures and burning positions.

MSR Short Arc (Touring/Stage)



GY22

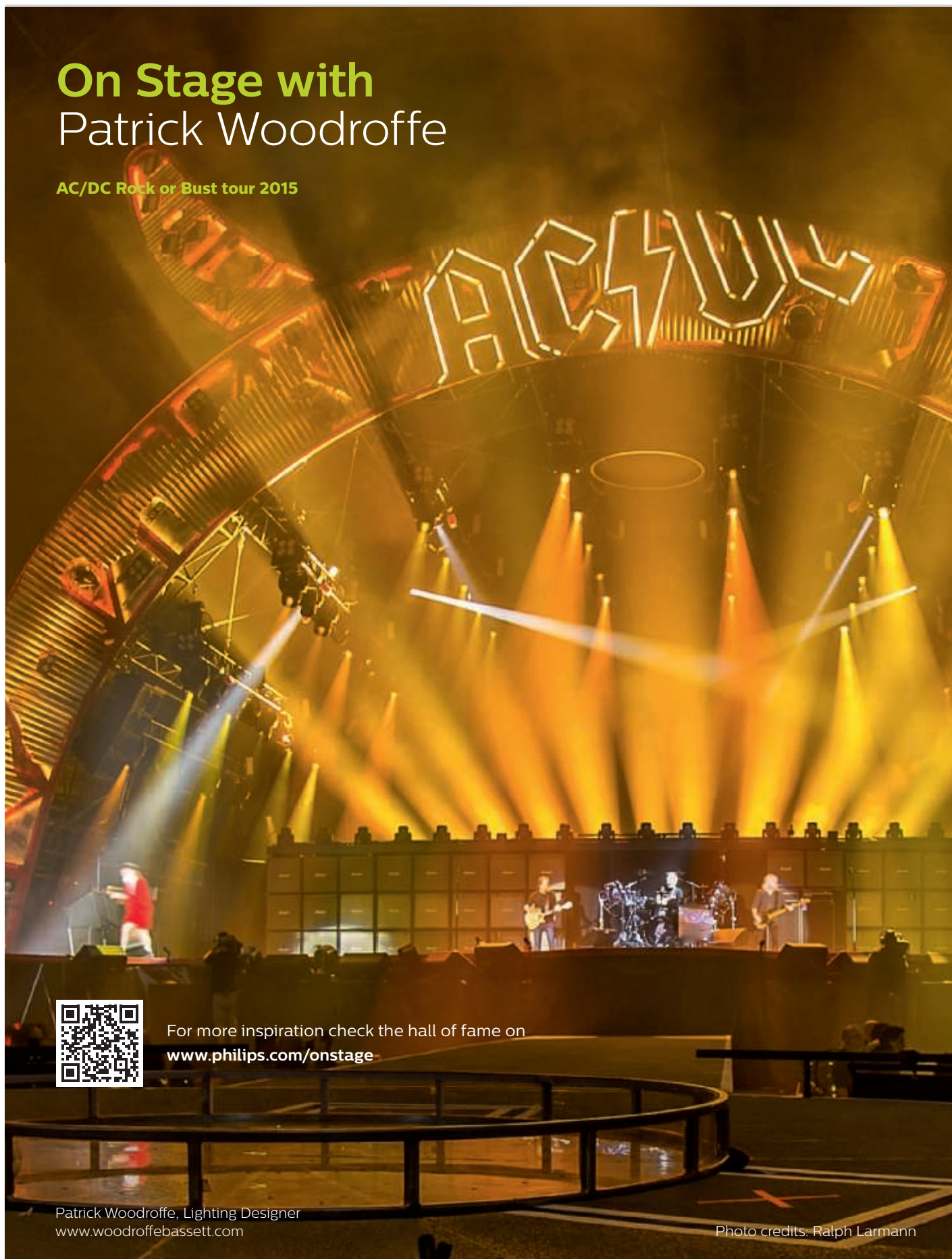
Type	C Max	D Max	L Min	L Nom	L Max	O Nom
MSR 1200 SA	135	34	58	59	60	7.0
MSR 2000 SA	135	34	58	59	60	7.0

Type	Lamp Wattage (W)	Cap-Base	Lumen output (lm)	Efficacy source (lm/W)	Color Temperature (K)	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
Philips MSR 400 SA	400	GY9.5	30000	75	5600	75	750	any
Philips MSR 700 SA	700	GY9.5	55000	80	5600	80	750	any
Philips MSR 1200 SA	1200	GY22	96000	80	6000	80	750	any
Philips MSR Gold™ 1200 SA/SE	1200	PGJ41	93000	78	6000	80	750	any
Philips MSR 2000 SA	1800	GY22	174000	88	6000	89	750	any

Type	Lamp current (A)	Ordering number
Philips MSR 400 SA	8.4	9281 702 05114
Philips MSR 700 SA	11	9281 703 05115
Philips MSR 1200 SA	13.8	9281 709 05115
Philips MSR Gold™ 1200 SA/SE	15	9281 746 05114
Philips MSR 2000 SA	21.5	9281 732 05114

On Stage with Patrick Woodroffe

AC/DC Rock or Bust tour 2015



For more inspiration check the hall of fame on
www.philips.com/onstage

Patrick Woodroffe, Lighting Designer
www.woodroffebassett.com

Photo credits: Ralph Larmann

DJ/Club lighting

MSD Platinum – High end reflector lamps

In clubs it is vital to create the right mood with impactful and fast moving lighting effects. Philips Platinum lamps do just that. Their very short arc produces a sparkling, bright light that eliminates shadows and perfectly reproduces brilliant and vivid colors. Moreover, the system is so compact that smaller, lightweight fixtures can be developed, that can be used anywhere and can rotate rapidly around the room. More design possibilities, more impact and less energy consumption.

A range of lamps for every event

The Philips DJ/club range also features PAR 56 and PAR 64 lamps. An efficient lighting package with high quality Philips components, all optically aligned and sealed into a robust lamp. In line with the renowned Philips Entertainment Lighting standards, Philips PAR lamps offer the very best quality, reliability and lowest cost of ownership available today.





MSD Platinum 2 R



MSD Platinum 5 R

MSD Platinum – The power to light your creativity

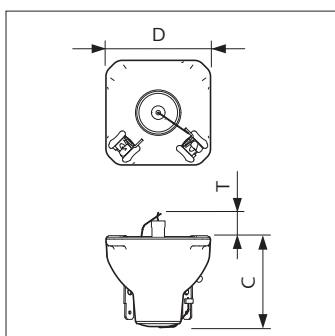
The MSD Platinum lamps open up new levels of creative freedom in entertainment lighting, with powerful, compact and brilliantly intense light. Their compact, lightweight design provides the freedom to create smaller, lighter luminaires – for use at any location on stage. And their short arc, high color temperature and innovative reflector produce a sparkling, high beam intensity for outstanding color reproduction. They also offer long and reliable lifetime, high efficacy and fast replacement times. It all adds up to an intensely exciting creative experience.

Product Features

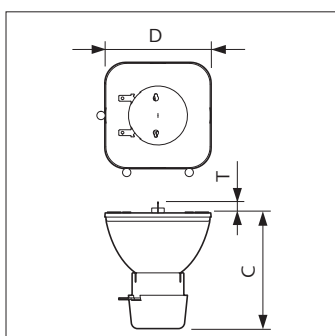
- Very short arc
- Compact system
- High correlated color temperature
- Philips Platinum technology

Product Benefits

- High beam intensity
- Freedom to create smaller and lighter fixtures
- High perceived brightness
- A long and reliable performance



MSD Platinum 2 R



MSD Platinum 5 R

Type	C Max	D Max	T Max
MSD Platinum 2 R	43.5	46.5	13.5

Type	C Max	D Max	T Max
MSD Platinum 5 R	57.1	51.4	6.8

Type	Lamp Wattage	Arc size	Lumen output	Color Temperature	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position	Pinch Temperature	Ordering number
	(W)	(mm)	(lm)	(K)				(°C)	
Philips MSD Platinum 2 R	132	0.9	5150	8000	75	6000	any	350	9281 976 05314
Philips MSD Platinum 5 R	190	1.0	7950	8000	75	3000	any	350	9281 908 05314

On Stage with Peter Morse

THE ONE Grand Show - Berlin



For more inspiration check the hall of fame on
www.philips.com/onstage

“

THE ONE Grand Show was two years in the making and every lighting state and transition has become an integral part of the story telling process. Each look creates the mood, emotion, atmosphere and physical context of each scene.”

Peter Morse, Lighting Designer
www.petermorse.com

Photo credits: Ralph Larmann



MSR Gold™ 300/2 MiniFastFit

MSR Gold™ MiniFastFit – lamp replacement in seconds

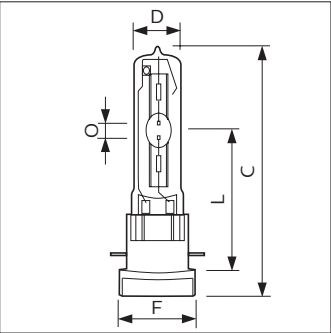
Thanks to the specially designed lamp base and lamp holder, the MSR Gold™ MiniFastFit takes just seconds to replace, to help ensure non-stop clubbing entertainment. In addition, the innovative gold plated pins ensure excellent current transfer to prolong lamp and lamp holder lifetimes and thereby reduce lamp replacement costs. Easy handling and small compact fixture designs are allowed by the lamps compact size, while the very short arc provides a high perceived brightness and high beam intensity.

Product Features

- Philips MiniFastFit
- Compact design
- Innovative gold plated pins
- Color temperature >8000K
- Very short arc

Product Benefits

- Lamp replacement in just seconds
- Easy handling, smaller and lighter fixtures
- Reduces early lamp or lamp holder failures. Excellent current transfer
- High perceived brightness
- High beam intensity



MSR Gold™ 300/2 MiniFastFit

Type	C Max	D Max	L Min	L Nom	L Max	O Nom
MSR Gold™ 300/2 MiniFastFit	126	23	65.8	66.8	67.8	5.0

Type	Lamp Wattage (W)	Cap-Base	Lumen output (lm)	Efficacy source (lm/W)	Color Temperature (K)	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
Philips MSR Gold™ 300/2 MiniFastFit	300	PGJX28	23000	77	9300	80	750	any

Type	Lamp current (A)	Ordering number
Philips MSR Gold™ 300/2 MiniFastFit	3.8	9281 771 05115



MSD Gold™ MiniFastFit

MSD Gold™ MiniFastFit – replacement in seconds + longer life

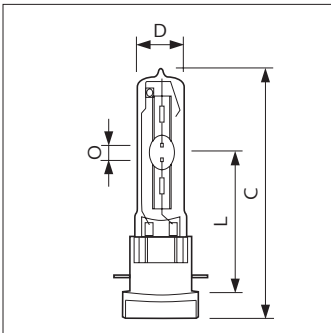
The specially designed lamp base of the MSD Gold™ MiniFastFit means that this lamp can be replaced in just seconds, helping to ensure non-stop entertainment. In addition, the innovative gold plated pins ensure excellent current transfer to prolong lamp and lamp holder lifetimes and thereby reduce lamp replacement costs. The lamp's compact size allows for easy handling and compact fixture designs, while the very short arc provides a high perceived brightness and high beam intensity. What's more, the MSD Gold™ MiniFastFit has an extended lifetime, which further reduces lamp replacement costs.

Product Features

- Philips MiniFastFit
- Compact design
- Innovative gold plated pins
- Color temperature >8000K
- Very short arc
- Long lifetime (2000hrs)

Product Benefits

- Lamp replacement in just seconds
- Easy handling, smaller and lighter fixtures
- Reduces early lamp or lamp holder failures. Excellent current transfer
- High perceived brightness
- High beam intensity
- Less lamp replacement



MSD Gold™ MiniFastFit

Type	C Max	D Max	L Min	L Nom	L Max	O Nom
MSD Gold™ 300/2 MiniFastFit	126	23	65.8	66.8	67.8	5.0

Type	Lamp Wattage (W)	Cap-Base PGJX28	Lumen output (lm)	Efficacy source (lm/W)	Color Temperature (K)	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
Philips MSD Gold™ 300/2 MiniFastFit	300	PGJX28	21000	70	8600	70	2000	any

Type	Lamp current (A)	Ordering number
Philips MSD Gold™ 300/2 MiniFastFit	3.8	9281 998 05114



MSD 150/2



MSD 200(/2), MSD 250(/2)

MSD – right light, stage bright

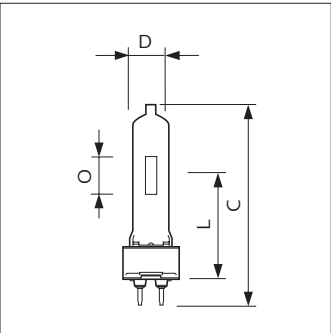
These single ended, compact lamps enable optimal light collection and accurate beam control, while they also provide true daylight color temperatures – all to create great stage brightness and vivid entertainment. And since they offer long lifetime usage they help minimize the cost of ownership via fewer lamp replacements and fewer maintenance man hour costs.

Product Features

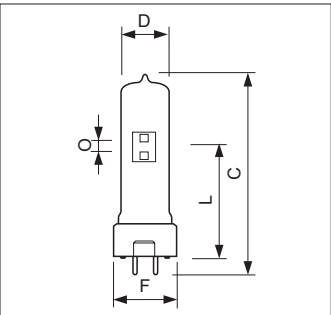
- Single ended lamp concept
- Long life
- Daylight color temperatures

Product Benefits

- Optimal light collection
- Low cost of ownership
- Brightness on stage



MSD 150/2



MSD 200(/2), MSD 250(/2)

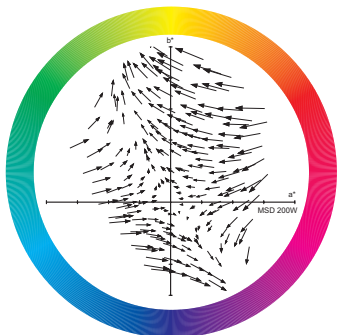
Type	C Max	D Max	L Min	L Nom	L Max	O Nom
MSD 150/2	110	20	55	56	57	5.0

Type	C Max	D Max	F Min	F Nom	F Max	L Min	L Nom	L Max	O Nom
MSD 200	108	23	27	28	29	54	55	56	5.0
MSD 200/2	108	23	27	28	29	54	55	56	5.0
MSD 250	108	23	27	28	29	54	55	56	5.0
MSD 250/2 30H	108	23	27	28	29	54	55	56	5.0

Type	Lamp Wattage	Cap-Base	Lumen output	Efficacy source	Color Temperature	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
	(W)		(lm)	(lm/W)	(K)			
Philips MSD 150/2	150	G12	10500	70	8500	62	3000	any
Philips MSD 200	200	GY9.5	13500	67	6000	80	2000	any
Philips MSD 200/2	200	GY9.5	13500	67	6700	70	3000	any
Philips MSD 250	250	GY9.5	18000	72	6700	75	3000	any
Philips MSD 250/2 30H	250	GY9.5	18000	72	8500	70	3000	any

Type	Lamp current	Ordering number
	(A)	
Philips MSD 150/2	1.85	9281 728 05114
Philips MSD 200	3.4	9280 972 05114
Philips MSD 200/2	3.4	9280 976 05114
Philips MSD 250	3	9280 987 05114
Philips MSD 250/2 30H	3	9280 990 05115

CRV diagram



MSD 200(/2)



PAR56



PAR64

PAR56 and PAR64 – picking out the smallest of details

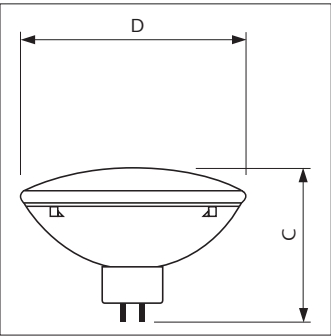
These self-contained spotlights are ideal for intensifying the visual experience in all kinds of clubs, that is because their accurate beam control picks out even the smallest of details even over long distances. This beam control makes the PAR56 and PAR64 excellent for long-range light projections. In addition, the universal burning feature provides complete flexibility of luminaires angle and position, while the front glass of the PAR56 provides thermal and physical protection. The result? Complete creative freedom to achieve the desired effect. Immediate re-strike also ensures instant resumption of entertainment after any power interruption.

Product Features

- Self-contained spotlight
- Front glass
- Universal burning
- Hot restrike

Product Benefits

- Allows details to be picked out over long distances with good beam control
- Excellent for long-range light projections
- Provides thermal and physical protection
- Allows fullest flexibility of luminaire angle and position to obtain the desired effect
- Immediate re-strike after any power interruption



PAR56 and PAR64

Type	C Max	D Max
PAR56 300W 230V MFL	127	178
PAR56 300W 240V MFL	127	178
PAR56 300W 230V WFL	127	178
PAR56 300W 240V WFL	127	178
PAR64 250W 28V VNSP	150	204
PAR64 1000W 230V NSP	150	204
PAR64 1000W 240V NSP	150	204
PAR64 1000W 230V VNSP	150	204
PAR64 1000W 240V VNSP	150	204
PAR64 1000W 230V MFL	150	204
PAR64 1000W 240V MFL	150	204

Type	Lamp Wattage (W)	Cap-Base	ANSI Code	LIF Code	Color Temperature (K)	Average lamp life (h)	Operating Position	Ordering number
Philips PAR56 300W 230V MFL	300	GX16d	-	-	3000	2000	any	9247 836 44204
Philips PAR56 300W 240V MFL	300	GX16d	-	-	3000	2000	any	9247 836 45504
Philips PAR56 300W 230V WFL	300	GX16d	-	-	3000	2000	any	9247 837 44204
Philips PAR56 300W 240V WFL	300	GX16d	-	-	2000	2000	any	9247 837 45504
Philips PAR64 250W 28V VNSP	250	Multipurpose	-	-	3200	50	any	9247 832 21704
Philips PAR64 1000W 230V NSP	1000	GX16d	EXD	CP61	3200	300	any	9247 833 44204
Philips PAR64 1000W 240V NSP	1000	GX16d	EXD	CP61	3200	300	any	9247 833 45504
Philips PAR64 1000W 230V VNSP	1000	GX16d	EXC	CP60	3200	300	any	9247 832 44204
Philips PAR64 1000W 240V VNSP	1000	GX16d	EXC	CP60	3200	300	any	9247 832 45504
Philips PAR64 1000W 230V MFL	1000	GX16d	EXE	CP62	3200	300	any	9247 834 44204
Philips PAR64 1000W 240V MFL	1000	GX16d	EXE	CP62	3200	300	any	9247 834 45504



GX5.3 smooth

Halogen Low Voltage – long life, low costs

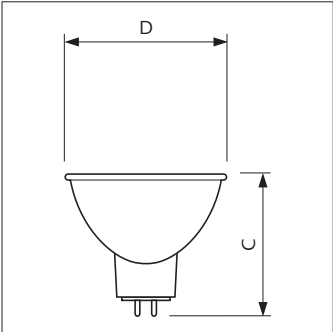
The long lifetime of most of the Halogen Low Voltage lamps is further extended by the unique P3 technology developed by Philips. This allows the lamp to be used at higher temperatures, thereby extending the lamp’s lifetime, reducing early failures, and resulting in fewer maintenance man hour costs. P3 also ensures consistency of high-quality light output, and allows the lamp to be used in any burning position, which enables more compact fixture designs. In addition, the compact filament produces a clean white light and high beam intensity for true natural colors on stage and without any hotspots.

Product Features

- Lifetime up to 1000 hours due to Philips Pinch Protection
- Compact filament
- White light
- Even light distribution

Product Benefits

- Lower lamp replacement costs
- High beam intensity
- Pure colors on stage
- Allows creative use without hotspots or shadows



GX5.3

Type	C Max	D Max
ELC/10H 250W GX5.3 24V	44.45	50.67
13163 ELC/5H 250W GX5.3 24V	44.45	50.67

Type	Lamp Wattage (W)	Lamp Voltage (V)	Cap-Base	ANSI Code	LIF Code	Lumen output (lm)	Color Temperature (K)	Average lamp life (h)
Philips ELC/10H 250W GX5.3 24V	250		GX5.3	ELC/10H	A1/259-10H	-	3400	1000
Philips 13163 ELC/5H 250W GX5.3 24V	250	24	GX5.3	ELC/5H	-	-	3400	500

Type	Operating Position	Pinch Temperature (°C)	Ordering number
Philips ELC/10H 250W GX5.3 24V	any	400	9249 132 20540
Philips 13163 ELC/5H 250W GX5.3 24V	s90	400	9248 627 20540

On Stage with Nick Whitehouse

Justin Timberlake's 20/20 Experience tour



For more inspiration check the hall of fame on
www.philips.com/onstage

“

I love music; seeing how lighting and staging and everything I do enhances an artist's ability to entertain, is priceless. I love being a part of that; it's an unbelievable feeling to hear 20,000 fans scream because of a gig you have helped design and put together!”

Nick Whitehouse, Lighting Designer
www.fireplay.com

Photo credits: Ralph Larmann

Theater lighting

The lighting experiences you create have the power to captivate audiences and turn a performance into something magical. To bring out the best in your talents, you need fixtures that maximise your scene-setting capabilities and recreate them perfectly.

Exactly the lighting experience you intended





MSR Platinum 35 ST

MSR Platinum 35 ST – The best choice for studio/theater lighting

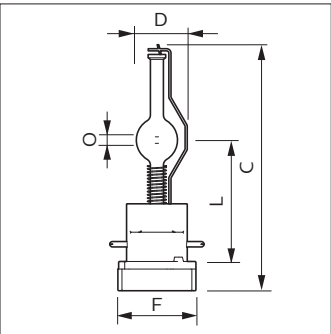
MSR Platinum 35 ST has been specially designed for the studio/theater world, where consistent high-quality light output, high brightness and excellent color rendering are important. This lightweight, compact system delivers intense, cool-white light for the most amazing light experience. It's a powerful and innovative tool, giving lighting designers far greater freedom and delivering the same good light quality as other MSR lamps. The exceptionally short arc generates sparkling, bright light, and the lamp's ultra-compact design makes it suitable for smaller lighting fixtures. The MSR Platinum 35 ST lamp has a balanced spectrum with extra red content for enhanced color rendering.

Product Features

- Very short arc
- Compact system
- High Correlated color temperature
- Philips FastFit technology
- Philips Platinum technology

Product Benefits

- High beam intensity, high brightness
- Freedom to create smaller and lighter fixtures
- High perceived brightness
- Easy and fast lamp replacement
- A long and reliable lifetime



MSR Platinum 35 ST

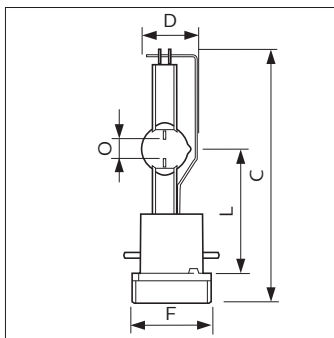
Type	C Max	D Max	F Nom	L Min	L Nom	L Max	O Nom
MSR Platinum 35 ST	116	24	36	55	56	57	3.0

Type	Lamp Wattage	Cap-Base	Lumen output	Efficacy source	Color Temperature	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
	(W)		(lm)	(lm/W)	(K)			
Philips MSR Platinum 35 ST	800	PGJX36	57800	70	6000	80	750	any

Type	Lamp current	Ordering number
	(A)	
Philips MSR Platinum 35 ST	10.9	9281 945 05114



MSR Gold™ 1000 MiniFastFit



MSR Gold™ 1000 MiniFastFit

MSR Gold™ MiniFastFit – lamp replacement in seconds

Thanks to the specially designed lamp base, the MSR Gold™ MiniFastFit takes just seconds to replace, to help ensure non-stop clubbing entertainment. In addition, the innovative gold plated pins ensure excellent current transfer to prolong lamp and lamp holder lifetimes and thereby reduce lamp replacement costs. Easy handling and small compact fixture designs are allowed by the lamps compact size, while the very short arc provides a high perceived brightness and high beam intensity.

Product Features

- Philips MiniFastFit
- Compact design
- Innovative gold plated pins
- High color temperature
- Very short arc

Product Benefits

- Lamp replacement in just seconds
- Easy handling, smaller and lighter fixtures
- Reduces early lamp or lamp holder failures. Excellent current transfer
- High perceived brightness
- High beam intensity

Type	C Max	D Max	F Min	F Nom	F Max	L Min	L Nom	L Max	O Nom
MSR Gold™ 1000 MiniFastFit	112	26	35.3	36	36.5	55	56	57	5.5

Type	Lamp Wattage (W)	Cap-Base	Lumen output (lm)	Efficacy source (lm/W)	Color Temperature (K)	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
Philips MSR Gold™ 1000 MiniFastFit	1000	PGJX36	82000	82	6000	80	750	any

Type	Lamp current (A)	Ordering number
Philips MSR Gold™ 1000 MiniFastFit	11.4	9281 714 05115



MSR Gold™ 1200 FastFit



MSR Gold™ 1500/1 FastFit

MSR Gold™ FastFit – easy lamp replacement in seconds

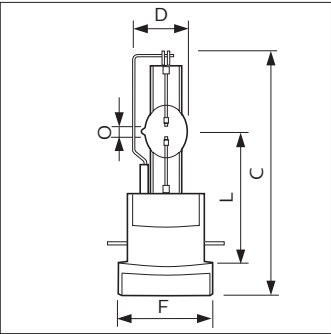
All lamps burn out eventually, but when this happens with single ended MSR Gold™ FastFit, it is replaced in seconds – thanks to the specially designed lamp base and lamp holder. This lamp provides a high beam intensity of pure, white light for a truly illuminating performance, while the gold-plated caps provide superior heat protection and prevent premature failure. P3 technology allows use in any position and at higher temperatures, further extending lamp life and consistency of high-quality light output. Also, because the FastFit design is applied to Philips Halogen lamps, switching between lamp technologies can be done quickly and easily. The Philips MSR Gold™ 1200 FastFit can be operated in a lamp wattage range between 800W and 1400W.

Product Features

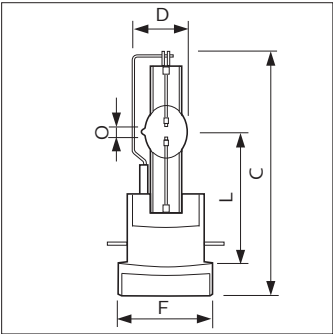
- Philips FastFit
- Very short arc
- Compact design
- Flexible power range
- Philips pinch protection
- Innovative gold plated pins
- MSR filling

Product Benefits

- Lamp replacement in just seconds, exchangeable with halogen lamp
- High beam intensity
- Easy handling, smaller and lighter fixtures possible
- Boostable light levels
- Enables use at higher temperatures in any burning position. Longer lifetime, fewer early failures, consistent performance over time
- Reduces early lamp or lamp holder failures. Excellent current transfer
- Pure, white light; color point close to black body line



MSR Gold™ 1200 FastFit



MSR Gold™ 1500/1 FastFit

Type	C Max	D Max	F Nom	L Min	L Nom	L Max	O Nom
MSR Gold™ 1200 FastFit	128	26.1	50	64	65	66	5.5
MSR Gold™ 1500/1 FastFit	128	28	50	64	65	66	6.3

Type	Lamp Wattage	Cap-Base	Lumen output	Efficacy source	Color Temperature	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
	(W)		(lm)	(lm/W)	(K)			
Philips MSR Gold™ 1200 FastFit	1200	PGJX50	95000	80	6000	80	750	any
Philips MSR Gold™ 1500/1 FastFit	1500	PGJX50	127500	85	5700	>94	750	any

Type	Lamp current	Ordering number
	(A)	
Philips MSR Gold™ 1200 FastFit	15	9281 750 05115
Philips MSR Gold™ 1500/1 FastFit	15.3	9281 089 05115



MSR Gold™ 1510 SA/1 DE

MSR Gold™ SA Double Ended – for extended performance

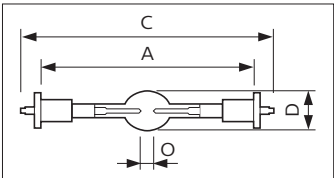
To optimize the total lifetime of the double ended MSR Gold™ SA Double Ended lamps, the caps are plated with gold. This provides superior heat protection and thereby minimizes premature failure of the lamp and lamp holder, as well as ensuring extended consistent performance. In addition, the highly innovative P3 technology, developed by Philips, allows the lamp to be used at higher temperatures, which further extends service life and consistency of high-quality light output.

Product Features

- Philips Pinch Protection
- MSR filling
- Gold plated lamp caps

Product Benefits

- Enables use at higher temperatures in any burning position. Longer lifetime, fewer early failures, consistent performance over time
- Pure, white light; color point close to black body line. Consistent color impression over MSR Range
- Reduces early lamp or lamp holder failures



MSR Gold™ 1510 SA/1 DE

Type	A Min	A Nom	A Max	C Max	D Max	O Nom
MSR Gold™ 1510 SA/1 DE	114.4	114.8	115.2	136	23	7.0

Type	Lamp Wattage (W)	Cap-Base	Lumen output (lm)	Efficacy source (lm/W)	Color Temperature (K)	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
Philips MSR Gold™ 1510 SA/1 DE	1500	SFC10-4	141000	94	5600	>90	750	any

Type	Lamp current (A)	Ordering number
Philips MSR Gold™ 1510 SA/1 DE	13.4	9284 100 05115



On Stage

Entertainment in the spotlight

The Philips On Stage Club

Philips On Stage is an integrated loyalty platform for real artists in the entertainment industry; the go-to web page for exclusive access to the latest industry news, interviews and innovations. It also puts talented individuals in the spotlight with the chance to showcase their latest work through inspirational videos, backstage photos and personal insight interviews.

Like the incredible lighting show that Lighting Designer Peter Morse and Programmer Benny Kirkham created for THE ONE Grand Show in Berlin. We followed THE ONE lighting design process from concept to concert, with a guided tour of the venue, exclusive backstage images and a personal photo report from Peter's home in Los Angeles.

The feature culminated in a video of the impressive event at the Friedrichstadt-Palast featuring 500 costumes designed by Jean-Paul Gaultier. A breath-taking production that was brought to life using Philips Platinum and MSR Gold™ lamps. Exceptional solutions with the power to light Peter's creativity – and yours.

But also the work of other lighting designers is put in the spotlight. Like the amazing AC/DC show by Patrick Woodroffe, Justin Timberlake's 20/20 by Nick Whitehouse and the Eurovision Songcontest by Kasper Lange.

If you'd like to be the first to get access to these exclusive interviews, like to stay up to date with the latest in entertainment lighting, and get the chance to feature in our next On Stage exclusive, sign up for free by scanning the QR code below.

On Stage lighting solutions

Philips develops the most exciting innovations in light so you can create unforgettable experiences.

Our entertainment solutions cover:

- Touring and Stage
- DJ and Club
- Theater
- Film and Studio
- Architainment

Sign up for free -
Join Philips On Stage
www.philips.com/onstage



A silhouette of a person wearing a hard hat and safety harness, working on a complex lighting rig. The person is positioned in the lower right, looking upwards. The rig is filled with various lighting fixtures, including a large, bright circular light on the left. The background is a warm, gradient of orange and red, suggesting a sunset or studio lighting. The overall scene is industrial and focused on the craft of film lighting.

Film/Studio lighting

As every stage director knows, color purity and evenly distributed light are essential ingredients for any production. This is especially true for accurate reproduction of skin tones.

Philips Platinum 35 ST lamps have been specially developed for Studio/Theater lighting fixtures to ensure consistent high quality light output with the right level of brightness, color rendering and color temperature in any lighting position. The result is attractive and accurately exposed pictures for film and video.

In addition to MSR Platinum 35 ST lamps, the range also includes MSR Hot Restrike lamps. The lamps create perfect daylight under any condition. They give excellent quality and the right amount of light, constantly on tap. Furthermore they are stable and reliable ensuring perfect performance conditions, and their compact Single Ended Lamp technology enables hot re-ignition while maintaining superb color characteristics.

“In fact it’s early evening... I make it high noon.”



MSR Platinum 35 ST

MSR Platinum 35 ST – The best choice for studio/theater lighting

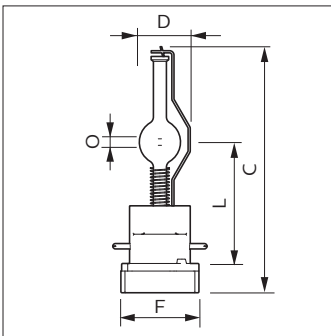
MSR Platinum 35 ST has been specially designed for the studio/theater world, where consistent high-quality light output, high brightness and excellent color rendering are important. This lightweight, compact system delivers intense, cool-white light for the most amazing light experience. It's a powerful and innovative tool, giving lighting designers far greater freedom and delivering the same good light quality as other MSR lamps. The exceptionally short arc generates sparkling, bright light, and the lamp's ultra-compact design makes it suitable for smaller lighting fixtures. The MSR Platinum 35 ST lamp has a balanced spectrum with extra red content for enhanced color rendering.

Product Features

- Very short arc
- Compact system
- High Correlated color temperature
- Philips FastFit technology
- Philips Platinum technology

Product Benefits

- High beam intensity, high brightness
- Freedom to create smaller and lighter fixtures
- High perceived brightness
- Easy and fast lamp replacement
- A long and reliable lifetime



MSR Platinum 35 ST

Type	C Max	D Max	F Nom	L Min	L Nom	L Max	O Nom
MSR Platinum 35 ST	116	24	36	55	56	57	3.0

Type	Lamp Wattage (W)	Cap-Base	Lumen output (lm)	Efficacy source (lm/W)	Color Temperature (K)	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
Philips MSR Platinum 35 ST	800	PGJX36	57800	70	6000	80	750	any

Type	Lamp current (A)	Ordering number
Philips MSR Platinum 35 ST	10.9	9281 945 05114



MSR 575 HR



MSR 125 HR , MSR 200 HR ,
MSR 250 HR , MSR 400 HR



MSR 1200 HR



MSR 2500 HR, MSR 4000 HR

MSR Hot Restrike –instant daylight at any time

Thanks to an optimized color temperature and a high color rendering index, the MSR Hot Restrike creates perfect 'daylight' in any condition. Also, the single ended lamp design enables hot re-ignition, which ensures daylight lighting and superb color rendition is always instantly available. They also incorporate the innovative P3 technology, developed by Philips, which allows use at higher temperatures and therefore extends lifetime and consistency of high-quality light output.

Product Features

- Philips Pinch Protection
- MSR filling
- Optimal discharge tubes geometry
- High efficacy
- Single ended lamp concept
- Hot Restrike capability

Product Benefits

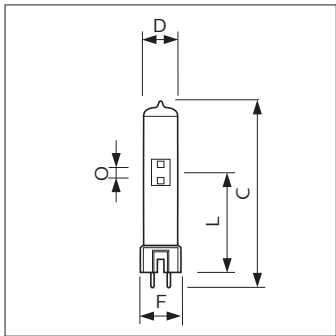
- Enables use at higher temperatures in any burning position. Longer lifetime, fewer early failures, consistent performance over time
- Perfect daylight color due to 6000K temperature with excellent color characteristics required for the set
- No arc movement
- High lumen output
- High beam intensity
- Hot re-ignition is possible ensuring the availability of the light at any time



Philips Pinch Protection technology

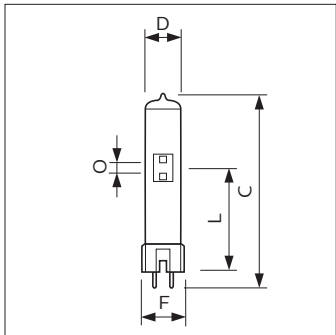
- **Reliability**, through longer lifetime and fewer early failures.
- **Quality**, through excellent storage characteristics and consistent performance over time.
- **Compactness**, allowing more compact design of fixtures and burning positions.

For 2500W and higher



MSR 125 HR

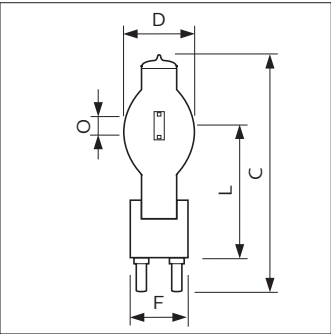
Type	C Max	D Max	F Min	F Nom	F Max	L Min	L Nom	L Max	O Nom
MSR 125 HR	77	17	23	23.5	24	38	39	40	4.0



MSR 400 HR

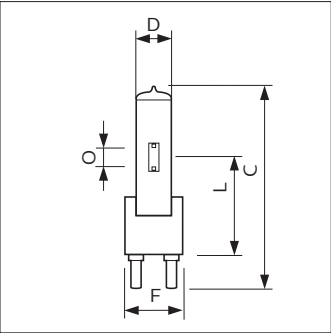
Type	C Max	D Max	F Min	F Nom	F Max	L Min	L Nom	L Max	O Nom
MSR 400 HR	110	23	23	23.5	24	59	60	61	6.0

MSR Hot Restrike (Film/Studio)



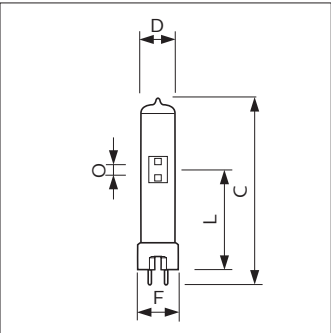
MSR 2500 HR, MSR 4000 HR

Type	C Max	D Max	F Min	F Nom	F Max	L Min	L Nom	L Max	O Nom
MSR 2500 HR	255	77	63	65	67	141	142	143	20.0
MSR 2500 HR/J	255	77	63	65	67	141	142	143	20.0
MSR 4000 HR	240	60	63	65	67	126	127	128	14.0
MSR 4000 HR/J	240	60	63	65	67	126	127	128	14.0



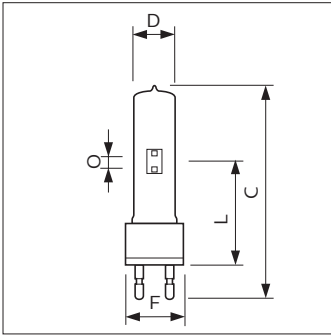
MSR 1200 HR

Type	C Max	D Max	F Min	F Nom	F Max	L Min	L Nom	L Max	O Nom
MSR 1200 HR	200	40	63	65	67	106	107	108	10.0



MSR 200 HR, MSR 250 HR

Type	C Max	D Max	F Min	F Nom	F Max	L Min	L Nom	L Max	O Nom
MSR 200 HR	80	20	23	23.5	24	38	39	40	5.0
MSR 250 HR	110	23	23	23.5	24	58	59	60	5.0



G22

Type	C Max	D Max	F Min	F Nom	F Max	L Min	L Nom	L Max	O Nom
MSR 575 HR	145	30	41	42	43	69	70	71	7.0

Type	Lamp Wattage (W)	Cap-Base	Lumen output (lm)	Efficacy source (lm/W)	Color Temperature (K)	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
Philips MSR 125 HR	125	GZX9.5	9400	75	6000	92	200	any
Philips MSR 200 HR	200	GZY9.5	15000	75	6000	92	200	any
Philips MSR 250 HR	250	GZY9.5	20000	80	6000	90	750	any
Philips MSR 400 HR	400	GZZ9.5	32000	80	6000	92	1000	any
Philips MSR 575 HR	575	G22	49000	85	6000	90	1000	any
Philips MSR 1200 HR	1200	G38	110000	91	6000	95	1000	any
Philips MSR 2500 HR	2500	G38	240000	96	6000	95	500	any
Philips MSR 2500 HR/J	2500	G38	228000	91	6000	90	500	any
Philips MSR 4000 HR	4000	G38	380000	95	7270	91	500	any
Philips MSR 4000 HR/J	4000	G38	370000	93	6000	91	500	any

Type	Lamp current (A)	Ordering number
Philips MSR 125 HR	1.9	9280 602 05114
Philips MSR 200 HR	3.3	9280 979 05114
Philips MSR 250 HR	2.6	9281 756 05114
Philips MSR 400 HR	6.9	9280 502 05114
Philips MSR 575 HR	6.95	9280 977 05114
Philips MSR 1200 HR	13.8	9281 050 05114
Philips MSR 2500 HR	25.6	9281 049 05114
Philips MSR 2500 HR/J	25.6	9281 742 05114
Philips MSR 4000 HR	27.5	9280 504 05114
Philips MSR 4000 HR/J	25	9281 738 05114

Architainment lighting

Architainment aims to transform architectural, retail, and themed environments through lighting. Philips Architainment lamps offer excellent colors, a strong beam and long life for amazing creativity and flexibility in architectural lighting. The high color temperature makes them especially suitable for architainment applications. Philips Architainment lamps can bring any object into the limelight and give it the charisma it deserves.

**Giving objects and environments the charisma
they deserve.**



MSA 2500 DE

Architectural MSA – double ended night colors

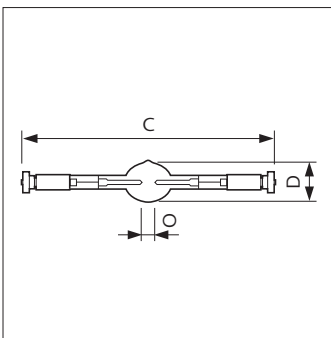
The high luminous efficacy and optimal lamp filling of the double ended Architectural MSA lamps create high beam intensity and excellent color rendering. While the compact arc of the lamp allows efficient beam control and high intensity. Ideal to illuminate architecture of all types at night.

Product Features

- High luminous efficacy
- Compact arc
- Optimal lamp filling

Product Benefits

- High lumen output
- High beam intensity
- Excellent colors



MSA 2500 DE

Type	C Max	D Max	O Nom
MSA 2500 DE	364	41	25

Type	Lamp Wattage	Cap-Base	Lumen output	Efficacy source	Color Temperature	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
	(W)		(lm)	(lm/W)	(K)			
Philips MSA 2500 DE	2500	(P)SFC	250000	100	5600	90	2500	p15

Type	Lamp current	Ordering number
	(A)	
Philips MSA 2500 DE	22.5	9280 994 05103



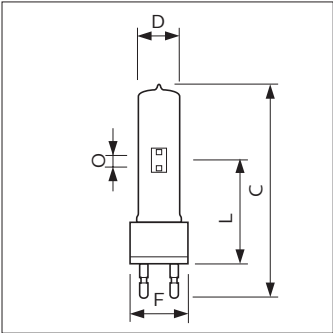
MSD 700, MSD 1200



MSD 575 HR

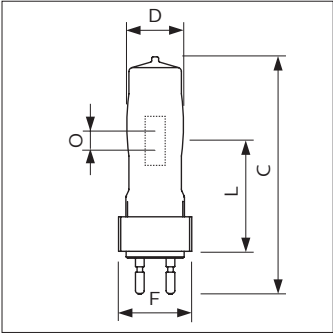


MSD 575



MSD 575 HR, MSD 700

Type	C Max	D Max	F Min	F Nom	F Max	L Min	L Nom	L Max	O Nom
MSD 575 HR	145	30	41	42	43	69	70	71	8.0
MSD 700	175	40	52	53	54	84	85	86	10.0



MSD 1200

Type	C Max	D Max	F Min	F Nom	F Max	L Min	L Nom	L Max	O Nom
MSD 1200	183	42.5	52	53	54	84	85	86	14.0

Architectural MSD – single ended night colors

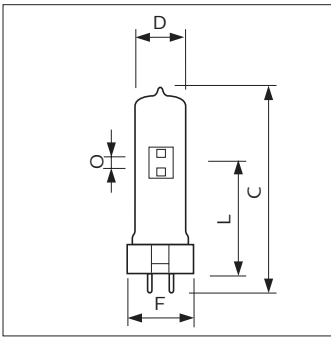
The high luminous efficacy and optimal lamp filling of the single ended Architectural MSD lamps create high beam intensity and excellent color rendering. While the compact arc of the lamp allows efficient beam control and high intensity. Ideal to illuminate architecture of all types at night.

Product Features

- High luminous efficacy
- Long life
- Optimal lamp filling

Product Benefits

- High lumen output
- Low cost of ownership
- Excellent colors



GX9.5

Type	C Max	D Max	F Min	F Nom	F Max	L Min	L Nom	L Max	O Nom
MSD 575	125	30	34	35	36	64	65	66	8.0

Type	Lamp Wattage (W)	Cap-Base	Lumen output (lm)	Efficacy source (lm/W)	Color Temperature (K)	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
Philips MSD 575	575	GX9.5	43000	75	6000	75	3000	any
Philips MSD 575 HR	575	G22	46000	80	6000	75	2000	any
Philips MSD 700	700	G22	50500	72	6000	75	3000	any
Philips MSD 1200	1200	G22	92000	77	6000	80	3000	any

Type	Lamp current (A)	Ordering number
Philips MSD 575	6.95	9280 988 05114
Philips MSD 575 HR	6.95	9280 989 05114
Philips MSD 700	11	9281 704 05114
Philips MSD 1200	13.8	9281 720 05114



CDM-SA/T 150W

CDM-SA/T – the greener way to light up the night

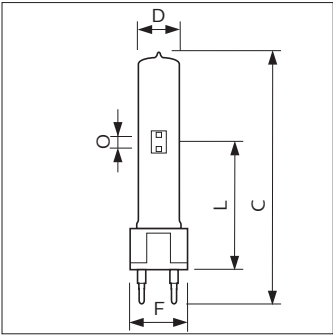
With a high luminous efficacy producing more lumens per watt than standard Architainment lamps, the CDM-SA/T is the greener alternative to light up the night. In addition, the optimal lamp filling and short arc of the lamp create a high beam intensity and excellent color rendering.

Product Features

- High luminous efficacy
- Compact arc
- Optimal lamp filling

Product Benefits

- High lumen output
- High beam intensity
- Excellent colors



CDM-SA/T G12

Type	C Max	D Max	F Min	F Nom	F Max	L Min	L Nom	L Max	O Nom
CDM-SA/T 150W/942	110	20	29	30	31	55	56	57	6

Type	Lamp Wattage	Cap-Base	Lumen output	Efficacy source	Color Temperature	Color Rendering Index (Ra)	Average lamp life (h)	Operating Position
	(W)		(lm)	(lm/W)	(K)			
Philips CDM-SA/T 150W/942	150	G12	14000	88	4200	95	9000	any

Type	Lamp Current	Ordering number
	(A)	
Philips CDM-SA/T 150W/942	1.8	9280 866 05103

On Stage with Kasper Lange

Eurovision song contest 2014, Denmark

“

My intention was always clear – the bigger the show, the simpler the design. If a show needs to have an impact on 200 million viewers it needs to be simple. The contest was open to almost 40 different nations and each nation's set needed a different lighting look. The challenge for us was to make each song look unique but also to introduce an organic flow throughout the show and not create a 'mash' of 37 songs.”

Kasper Lange, Lighting Designer



For more inspiration check the hall of fame on
www.philips.com/onstage

Photo credits: Ralph Larmann

Appendix

Cross reference list Discharge lamps	P53
Design-in overview	P55
Lamp bases	P58
Lamp bases names-Filament shapes- Fusing, Lamp life	P60
List of manufacturers of ignitors or gear for MSR - MSD	P61
Fundamentals of light and color	P62
Sales organisations	P68
Philips type numbers	P71

Special HID lamps (Non Hot-Restrike lamps)

Philips	Osram	Yodn
MSD Platinum 2 R	SIRIUS HRI 132W	MSD 132R2
MSD Platinum 5 R	SIRIUS HRI 190W	MSD 200R5
MSD Platinum 11 R		
MSD Platinum 14 R	SIRIUS HRI 280W	MSD 280R10
MSD Platinum 15 R		MSD 300R15
MSD Platinum 16 R	SIRIUS HRI 330W	MSD 330S16
MSD Platinum 17 RA		
MSD Platinum 20 R		
MSD Platinum 20 RB		
MSD Platinum 21 R		

Special HID lamps (Non Hot-Restrike lamps)

Philips	Osram	SLI	Koto	GE	Ushio	Xenpow/Jenbo
Single-ended Metal Halide lamps with outer bulb						
MSR 400	HSR 400/60	BA 400 SE NHR				NSD 400
	HSR 575/60	BA 575 SE NHR			USR 575	
MSR 575/2	HSR 575/72	BA 575 SE NHR 7.2	DIS-7	CSR 575/2/SE	USD 575/2 NHR	NSK 575/2
				CSR 575/2/T/SE (8000 K)		
MSR 700		BA 700 SE NHR	DIS-7		USR 700 NHR	NSK 700
MSR 700/2				CSR 700/2/SE		NSK 700/2
MSR 1200	HSR 1200/60	BA 1200 SE NHR	DIS-12		USR 1200 SE	NSK 1200
MSR 1200/2				CSR 1200/2/SE		NSK 1200/2
MSD 150/2	HSD 150W/70	BA 150 SE NHR				
MSD 200	HSD 200/60	BA 200 SE D			USD-200 NHR	NSD 200
MSD 200/2						
MSD 250	HSD 250/60	BA 250 SE D			USD-250 NHR	NSD 250
MSD 250/2	HSD 250/80	BA 250/2 SE D8.5		CSD250/2 SE	USD-250/2 NHR	NSD 250/2
MSD 575	HSD 575/60	BA 575 SE D			USD-575 NHR	NSD 575
	HSD 575					
MSD 700						
MSD 1200						NSD 1200

Cross reference list Discharge lamps

Philips	Osram	SLI	GE	Xenpow/Jenbo
Single-ended Metal Halide lamps without outer bulb				
MSR Gold™ 300/2 MiniFastFit			CSR 300/2/TAL	NSK G 300/2 mini
MSD Gold™ 300/2 MiniFastFit	HSD 300W/80/P28 HTI 400W/60/P28		CSR 300/2/TAL	
MSR Gold™ 400 MiniFastFit	HTI 400W/60/P28			
MSR Gold™ 700/2 MiniFastFit	HTI 700W/75/P28		CSR 700/TAL/60/PGJX28	NSK G 700/2 mini
MSR Gold™ 700 FastFit			CSR 700/TAL/60/PGJX50	NSK G 700
MSR Gold™ 700/2 FastFit	HTI 700W/75/P50		CSR 700/TAL	NSK G 700/2
MSR Gold™ 1000 MiniFastFit	Lok-it! 1000/PS			
MSR Gold™ 1200 FastFit				NSK G 1200
MSR Gold™ 1500 FastFit	HTI 1500W/60/P50		CSR 1500/TAL/60	
MSR Gold™ 1500/1 FastFit	HTI 1500W/60/P50		CSR 1500/TAL/60	
MSR Gold™ 2000 FastFit				
MSR Gold™ 2000/1 FastFit				
MSR Gold™ 2000/2 FastFit				
MSR Gold™ 2500/2 FastFit				
MSR 400 SA	HTI 405 W/SE XS			NSK 400SA
	HTI 600 W/SE			
MSR 700 SA	HTI 705 W/SE XS	BA 700 SE SA5.6	CSR 700 SA CSR 700 SA/72	NSK 700SA
MSR 1200 SA	HTI 1200 W/SE XS		CSR 1200 SA	NSK 1200 SA
	HTI 1800 W/SE		CSR 1500 SA	
MSR 2000 SA				
	HTI 2500 W/SE			

Note: All Philips lamps have pinch protection up to 500degr Celsius

Special HID lamps (Hot-Restrike lamps)

Philips	Osram	SLI	Koto	ILC	GE	Wolfram	Ushio	Xenpow/Jenbo
Double ended Metal Halide Lamps								
MSR Gold™ 575 SA/2 DE	SharXS HTI 575 W/D4/75				CSR 575/S/DE			MHK 575/2
MSR Gold™ 700 SA/2 DE	SharXS HTI 700 W/D4/75				CSR 700/S/DE			MHK 700/2
MSR Gold™ 1200 SA/DE	SharXS HTI 1200 W/D7/60 HMI 1200 W/S	BA 1200 DE S 6.0	DI-12/S		CSR 1200/S/DE/60		UMI 1200 GS	MHK 1200 DX
MSR Gold™ 1200 SA/2 DE	SharXS HTI 1200 W/D7/75	BA 1200 DE S 7.2			CSR 1200/S/DE/72		1200 HB	MHK 1200/2 DX
MSR Gold™ 1510 SA/DE	SharXS HTI 1500W/D7/60				CSR 1500/S/DE/60			MHK 1500 DX
	HMI 200	BA 200	DI – 2	DMI 200	CSR 200/DE		UMI 200	
	HMD 300							
MSR Gold™ 1510/1 SA/DE	SharXS HTI 1500W/D7/60				CSR 1500/S/DE/60			MHK 1500 DX
Single-ended Metal Halide lamps with outer bulb								
MSR 125 HR					CSR 125/SE/HR			
MSR 200 HR	HMI 200 W/SE	BA 200 SE HR			CSR 200/SE/HR			NSK 200HR
MSR 250 HR	HMI 250 W/SE							
MSR 400 HR	HMI 400 W/SE	BA 400 SE HR			CSR 400/SE/HR CSR 400/SE/HR/75			NSK 400HR
MSR 575 HR	HMI 575 W/SEL	BA 575 SE HR	DIS – 6 H DIC – 6 H		CSR 575/SE/HR	575	USR 575 BE SE	NSK 575HR
		BA 800 SE HR			CSR 800/SE/HR			
MSR 1200 HR	HMI 1200 W/SE	BA 1200 SE NHR	DIS – 12 H		CSR 1200/SE/HR	1200	USR 1200 SE	NSK 1200HR
MSR 2500 HR	HMI 2500 W/SE	BA 2500 SE HR	DIS – 25 H	DSE 2500	CSR 2500/SE/HR	2500	USR 2500	NSK 2500HR
MSR 4000 HR	HMI 4000 W/SE	BA 4000 SE HR	DIS – 40 H	DSE 4000	CSR 4000/SE/HR	4000	USR 4000	

Design-in overview

Also check the lamp replacement tool on www.philips.com/onstage

Company	Fixture model	Philips lamp type
Acme	AE-275B / AE-275R / AE-710Beam	Philips MSD Platinum 2 R
ADJ	Vizi Roller Beam 2R / Vizi Beam Hybrid 2R	Philips MSD Platinum 2 R
Elation	Rayzor Beam 2 R / Sniper 2 R	Philips MSD Platinum 2 R
Jolly	X-SMART BEAM	Philips MSD Platinum 2 R
Terbly	LS-2R / LBM-2R / VDH-2R	Philips MSD Platinum 2 R
Triton Blue	2R-BEAM	Philips MSD Platinum 2 R
Acme	XP-5R BEAM	Philips MSD Platinum 5 R
ADJ	Vizi Beam 5R / Vizi Spot 5R	Philips MSD Platinum 5 R
Clay Paky	Sharpy	Philips MSD Platinum 5 R
DTS	Jack	Philips MSD Platinum 5 R
Ehrgeiz	Cobalt Plus 5R / Cobalt Plus Beam 5R / Cobalt Plus Spot 5R	Philips MSD Platinum 5 R
Elation	Platinum Beam 5 R / Platinum Beam 5 R Extreme / Platinum Spot 5 R Pro	Philips MSD Platinum 5 R
Futurelight	PLB-5R / PLS-5R	Philips MSD Platinum 5 R
Jolly	X-BEAM 5R / X-SPOT 5R	Philips MSD Platinum 5 R
PR Lighting	XR 200 Beam	Philips MSD Platinum 5 R
Terbly	PT160 Pro / JT160-E / JT160B / PT160B / PT160B Pro	Philips MSD Platinum 5 R
Triton Blue	5R-BEAM / 5R-SPOT	Philips MSD Platinum 5 R
Martin Professional	RUSH MH-7 Hybrid	Philips MSD Platinum 11 R
PR Lighting	PR-2206	Philips MSD Platinum 11 R
Acme	XP-280 BS	Philips MSD Platinum 14 R
Elation	Platinum HFX / Proteus Beam V14B IP / Sniper Pro	Philips MSD Platinum 14 R
Terbly	G14B-IP	Philips MSD Platinum 14 R
Terbly	PT280B / PT280 Hybrid	Philips MSD Platinum 14 R
Acme	XP-15R SPOT	Philips MSD Platinum 15 R
Ehrgeiz	Cobalt X-Beam 15R	Philips MSD Platinum 15 R
Elation	Platinum Beam 15 R / Platinum Spot 15 R / Platinum Spot 15 R Pro	Philips MSD Platinum 15 R
Fine Art	Fine 300 beam / Fine 300 wash	Philips MSD Platinum 15 R
Futurelight	PLB-15R / PLS-15R	Philips MSD Platinum 15 R
GRIVEN	Graphite 2000	Philips MSD Platinum 15 R
Jolly	X-BEAM 15R	Philips MSD Platinum 15 R
PR Lighting	XR 300 Beam	Philips MSD Platinum 15 R
Terbly	Pt 320S spot / PT322S spot basic/ Pt 320B beam	Philips MSD Platinum 15 R
Triton Blue	15R SPOT / 15R BEAM / 15R FOLLOWSPOT	Philips MSD Platinum 15 R
Acme	XP-16R BSW / XP-16R Spot / XP-16R Beam	Philips MSD Platinum 16 R
Clay Paky	Sharpy Wash 330	Philips MSD Platinum 16 R
DSLlight	MH-330	Philips MSD Platinum 16 R
DSLlight	MH-470	Philips MSD Platinum 20 RB
DTS	Max	Philips MSD Platinum 16 R
Elation	Platinum Wash 16 R Pro	Philips MSD Platinum 16 R
Fine Art	Fine 330 wash / Fine 330 spot	Philips MSD Platinum 16 R
Jolly	X-SUPER BEAM	Philips MSD Platinum 16 R
Terbly	PT330W	Philips MSD Platinum 16 R
Elation	Platinum BX / Platinum SBX	Philips MSD Platinum 17 RA
Fine Art	Fine 350BSW	Philips MSD Platinum 17 RA
Philips*Varilite	SL Hydrus 350	Philips MSD Platinum 17 RA
PR Lighting	PR2362 BWS	Philips MSD Platinum 17 RA
Terbly	G10B / G10 Hybrid	Philips MSD Platinum 17 RA
Acme	XP-20R BEAM / XP-20R BSW	Philips MSD Platinum 20 R
Clay Paky	Supersharpy / Mythos	Philips MSD Platinum 20 R(B)
Elation	Platinum FLX	Philips MSD Platinum 20 R
Terbly	G12WB / G12 Hybrid MKII	Philips MSD Platinum 20 R
Fine Art	Fine 470BSW / Fine 470BEAM	Philips MSD Platinum 20 RB
Elation	Artiste V21BS / Proteus Hybrid V21BS IP	Philips MSD Platinum 21 R
Terbly	G12WB	Philips MSD Platinum 21 R
Clay Paky	Alpha Profile 800 ST / Alpha Spot QWO ST	Philips MSR Platinum 35 + Philips MSR Platinum 35 ST
Elation	Platinum Profile 35 Pro / Platinum Spot 35 Pro	Philips MSR Platinum 35 + Philips MSR Platinum 35 ST
Fine Art	Fine 800SF	Philips MSR Platinum 35 ST
PR Lighting	XR 800 Spot	Philips MSR Platinum 35 + Philips MSR Platinum 35 ST
Robe	MMX Spot / MMX Wash Beam	Philips MSR Platinum 35 + Philips MSR Platinum 35 ST
Terbly	FS800M	Philips MSR Platinum 35 ST
Terbly	PT800S / PT800P	Philips MSR Platinum 35 + Philips MSR Platinum 35 ST

Also check the lamp replacement tool on www.philips.com/onstage

Company	Model Name
Acme	Xperior 300A Beam
	Xperior 300SZ Spot
	Xperior 1200SZ Spot
	Xperior 1200SZA Spot
	Xperior 1200WZ Wash
	Xperior 1200WZA Wash
	Xperior 1500 WZ Wash
	Xperior 1500SZ Spot
	Xperior 700SZA Spot
	Xperior 700WZA Wash
	Xperior 700A Beam
	Xperior 700SZ Spot
Chauvet	LEGEND 300E Beam
	LEGEND 300E Spot
	LEGEND 1200E Spot
	LEGEND 1200E Wash
	LEGEND 300E Beam
	LEGEND 300E Spot
	LEGEND 700E Beam
Clay Paky	LEGEND 700E Spot
	ALPHA BEAM 300
	ALPHA SPOT 300
	ALPHA SPOT HPE 300
	ALPHA WASH 300
	ALPHA BEAM 300
	ALPHA SPOT 300
	ALPHA SPOT HPE 300
	ALPHA WASH 300
	Alpha Profile 700
	ALPHA BEAM 700
	Alpha Profile 700
Coef	ALPHA SPOT HPE 700
	ALPHA WASH 700
	ALPHA WASH 700 Grand
	XP 1200
Coemar	Infinity ACL S
	Infinity Spot S
	Infinity Wash S
	TECHNOBEAM II
	Infinity Wash XL
	Infinity Spot XL
	Infinity Multiray
Coemar	Infinity ACL S
	Infinity Spot S
Coemar	Infinity Wash S
	TECHNOBEAM II
	Infinity ACL SM
	Infinity Spot M
	Infinity Wash M
	TECHNOBEAM II EXTREME
	TECHNOBEAM II SUPREME
	Infinity ACL SM
	Infinity Spot M
	Infinity Wash M

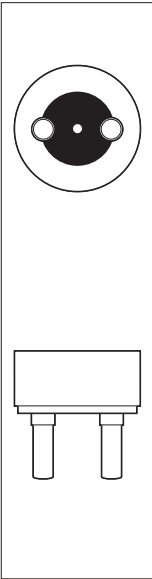
Company	Model Name
D.T.S.	TECHNOBEAM II
	XR300 BEAM
	XR1200 Wash
	XR3000 BEAM CMY
	XR3000 Spot CMY
	XR300 BEAM
	TECHNOBEAM II EXTREME
	TECHNOBEAM II SUPREME
	XR 700
	XR2000 Beam
	XR2000 Spot
	XR2000 Spot CMY
Elation	XR700 Spot
	XR700 Wash
	XR750 Wash
	DESIGN Beam 300
Feiying	DESIGN Spot 300 E
	DESIGN Spot 300 Pro
	DESIGN Wash 300E
	DESIGN Spot 1400
	DESIGN Wash 1400
	300 Spot
	300 Wash
Fine Art	DESIGN Beam 300
	DESIGN Spot 300 E
	DESIGN Spot 300 Pro
	DESIGN Wash 300E
Fine Art	DESIGN Wash 300E
	YV-0805 color 700
	FINE 1500E PERF
	FINE II 1500E Beam
Futurelight	Fine II 1500E Wash
	FINE II Perf
	FINE III 1500E Spot
	Fine I 700E Beam
Golden Sea	Fine I 700E Performance
	Fine I 700E Spot
	Fine I 700E Wash
	PHB-300E
Golden Sea	PHS-300E
	PHW-300E
	PHS-1400E
	PHB-300E
Golden Sea	PHS-300E
	PHW-300E
	Terbly V300B-E
	Terbly V300S-E
Golden Sea	Terbly V300SP-E
	Terbly V300W-E
	Terbly V1400S-E
	Terbly V1400W-E
Golden Sea	Terbly V-2000 Profile
	Terbly V300B-E
	Terbly V300S-E
	Terbly V300SP-E

Also check the lamp replacement tool on www.philips.com/onstage

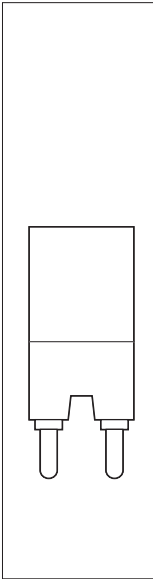
Company	Model Name
	Terbly V300W-E
High End Systems	Showgun
	Showbeam 2.5
	Showgun 2.5
	Technospot
Isolution	isolution XP-300beam
	isolution XP-300SZ
	isolution XP-1200beam
	isolution XP-1200SZ
	isolution XP-1200WZ
	isolution XP-300beam
	isolution XP-300SZ
	isolution XP-700beam
	isolution XP-700SZ
	isolution XP-700WZ
	isolution XP-700beam MN
	isolution XP-700SZ MN
	isolution XP-700WZ MN
Jolly Hongcai	Color Spot 1200EF
	Color Beam 1500PF
	Color Spot 1500 PF
	Color Wash 1500 PF
	COLORWASH 1200PF
	MH-300 BEAM
	MH-300 SPOT
	Color Spot 700 PF
	FL-700 Beam PF
	FL-700 Spot PF
Jolly Hongcai	MH-700 BEAM
	MH-700 SPOT
LDR	Canto 2000
Martin Professional	MAC Viper Profile
Martin Professional	Mac Viper Performance
	Mac Viper Wash
	Mac Viper Wash DX
	Mac Viper AirFX
	Mac Viper Beam
	Mac Viper Quadray
	MAC III
Omarte	Topower 2000
Philips Selecon	Rua
	Tahi
	TORU
Philips VariLite	VL770 Spot
	VL4000 BeamWash
	VL4000 Spot
	VL400
	VL440
PR Lighting	XL beam 300
	XS 300
	PR-6000 SPOT
	PR 3000
	XL1800
	PR-5000 Beam
	PR-5000 Spot

Company	Model Name
	XL beam 300
	XS 300
PRG	Bad Boy CMY Spot
PROEL	Arrow Compact 300 Beam
	Arrow Compact 300 Spot
	Arrow 700 Wash
	Arrow Compact 700 Beam
	Arrow Compact 700 Spot
Qmaxz	QME 700P
Robe	Robin 300 Beam Classic
	Robin 300 Spot Classic
	Robin 300 Wash Classic
	Robin 300E Beam
	Robin 300E Spot
	Robin 300E Wash
	ColorSpot 2500E AT
	ColorWash 2500E AT
	ColorBeam 2500E AT
	ColorSpot 2500E AT
	ColorWash 2500E AT
	Robin 300E Beam
	Robin 300E Spot
	Robin 300E Wash
Robe	Robin 600E Beam
	Robin 600E Spot
	Robin 600E Wash
	ColorBeam 700E AT
Robe	ColorSpot 700E AT
	ColorWash 700E AT
SGM Elettronica	Idea 300 Beam
	Idea 300 Spot
	Giotto Beam 1500
	Giotto digital 1500
	Giotto Profile 1500
	Giotto Spot 1500
	Giotto Wash 1500
	Giotto Beam 1500
	Giotto digital 1500
	Giotto Profile 1500
	Giotto Spot 1500
	Giotto Wash 1500
	Idea 300 Beam
	Idea 300 Spot
	Giotto 700 spot
	G700 Beam
	G700 Spot
	G700 Wash
	Synthesis 700 Spot
	Synthesis 700 Wash
Siluj	Triton Blue V-1201
	Triton blue V-1202
	Triton Blue V-300 Beam
Spotlight	MIDI PR CST CRM
Terbly	V3000P

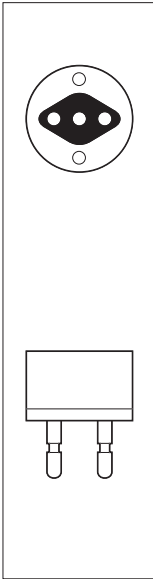
Bipost/Bipin



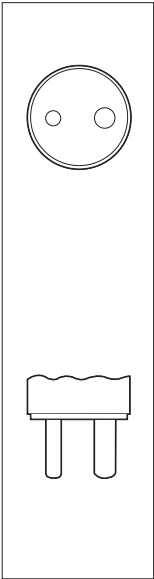
G38
IEC: 7004-76
ANSI: Mogul
bipost



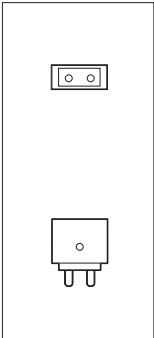
GY38



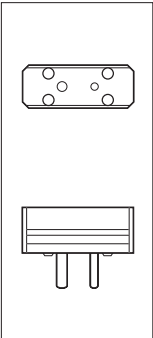
G22
IEC: 7004-70-1
ANSI: Medium
bipost



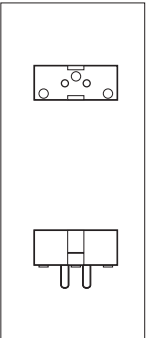
GY22



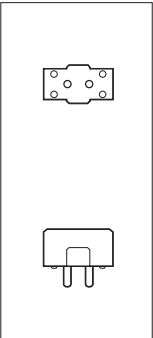
G9.5
IEC: 7004-70-1
ANSI: Medium
2-pin



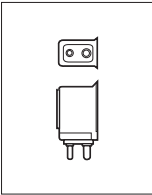
GY16
IEC: 7004-74



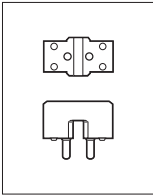
GX9.5
DIN: 49638
IEC: 7004-70A



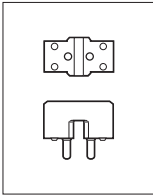
GY9.5/GZ9.5
IEC: 7004-70B-2
ANSI: Two-pin
ceramic



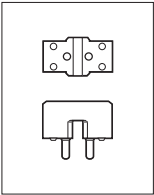
GX7.9



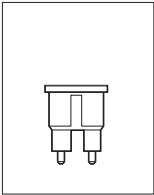
GZX9.5
IEC: 7004-70B
ANSI: Two-pin
ceramic



GZY9.5
IEC: 7004-70B
ANSI: Two-pin
ceramic

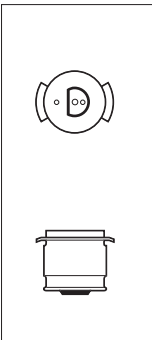


GZZ9.5
IEC: 7004-70B
ANSI: Two-pin
ceramic

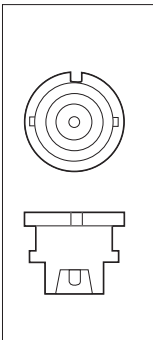


Not standardised

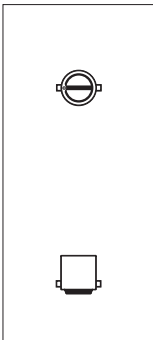
Prefocus/Bayonet



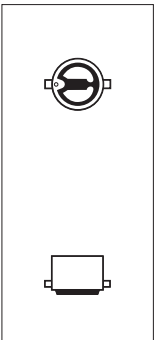
P28s
DIN: 49728
IEC: 7004-42
ANSI: Medium
prefocus base
C 81-30-1976
sheet 1-5-1



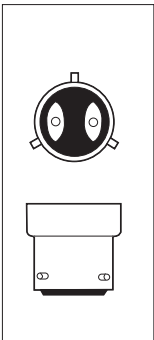
P32d



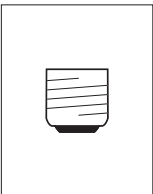
BA15d
DIN:49720
IEC: 7004-11A
ANSI:
Candelabra
bayonet base
double contact
C 81-30-1976
sheet 1-3-1



B22d/22
IEC: 7004-10



B22d3

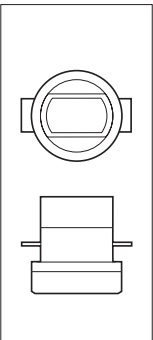


E27
DIN: 49620
IEC: 7004-21
Edison screw



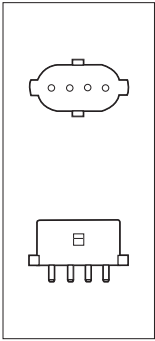
E40
DIN: 49625
IEC: 7004-24
ANSI: Mogul
screw base
C 81-10-1976
sheet 1-17-1

FastFit

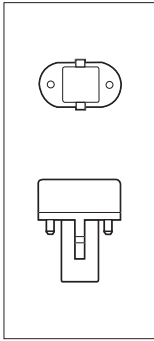


PGJX50

For fluorescent lamps

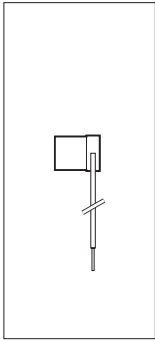


2G7

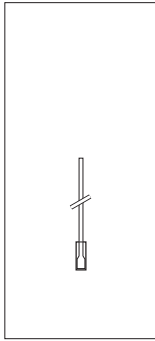


G23

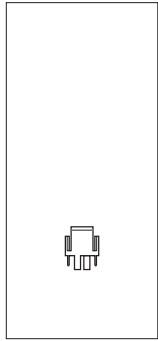
Cable/Connector



Cap 15.8/14.7
cable

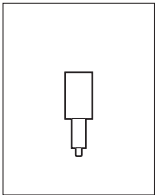


Cable

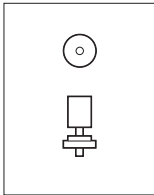


AMP connector

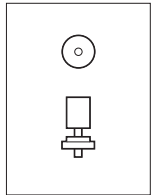
For double-ended lamps



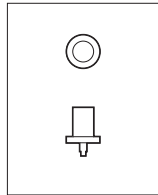
SFa21-12
DIN: 49759



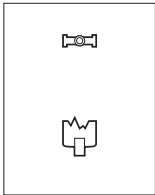
SFc10-4
DIN: 49759



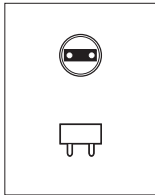
SFc11
DIN: 49759



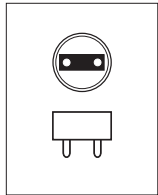
SFc15.6-6
DIN: 49759



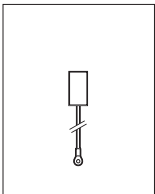
R7s, DIN:49750
IEC: 7004-92
ANSI: Recessed
single contact
base



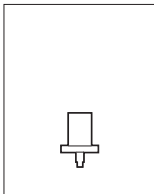
G5



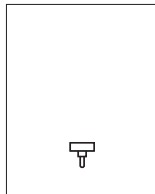
G13



SFa7-5-2
S30x70

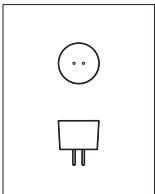


SFc18-5-6
(P) SFc

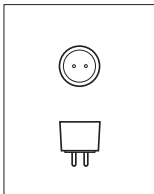


Fa4
IEC: 7004-58-1

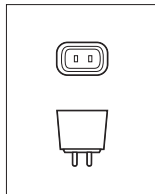
For low-voltage lamps



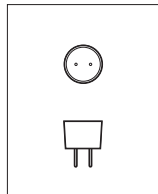
GZ4



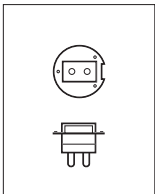
GX5.3
(Round pin)



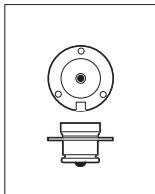
GY5.3



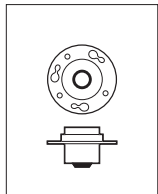
GZ6.35
DIN: 49754
IEC: 7004-59A



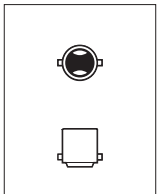
PG22-6.35
DIN: 49751
IEC: 7004-48



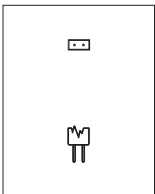
PX28s



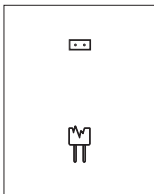
P30s
IEC: 7004-44



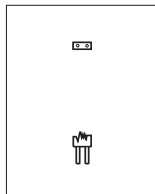
BA15s,
DIN: 49720
IEC: 7004-11A
ANSI: Single
contact
candelabra
bayonet base,
C81-30-1976,
sheet 1-3-1



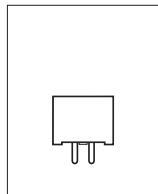
G3.9



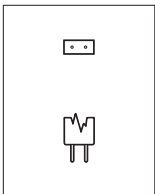
G4
IEC: 7004-72



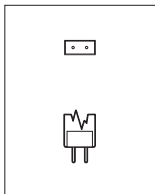
GU4
IEC: 7004-72



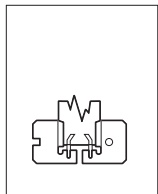
G5.3
IEC: 7004-73-2
ANSI: Miniature
2-pin



G6.35, GY6.35
GX6.35,
IEC: 7004-59
ANSI: C 8140-
1972



B15d
DIN: 49721
IEC: 7004-11a

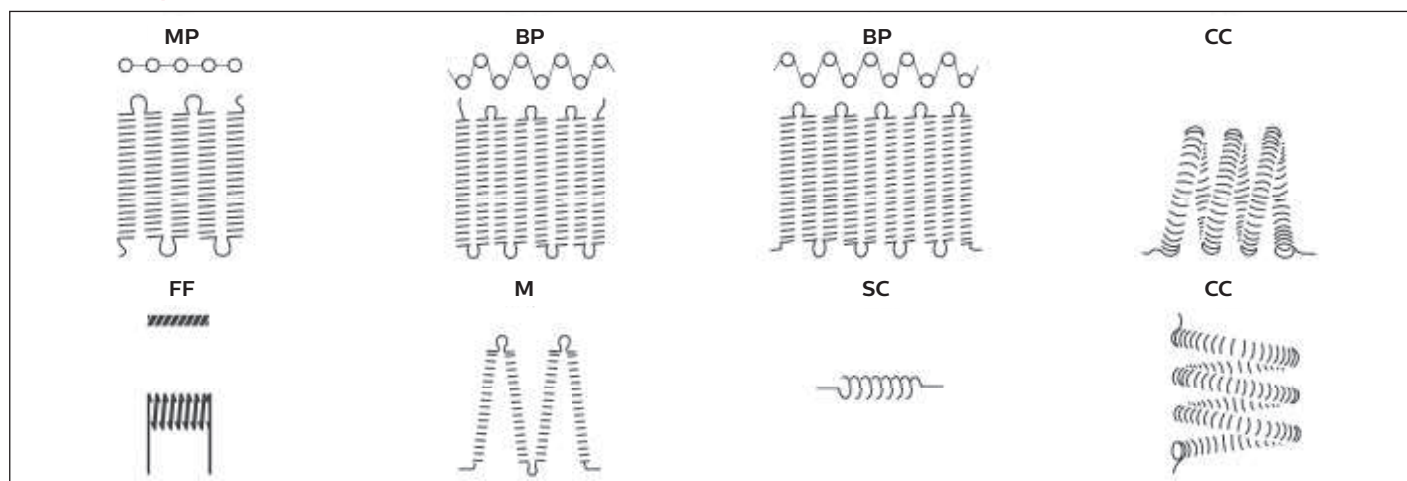


A26/14

Lamp bases and their names

Bi-pin cap	G38	Prefocus cap	P28s	Recessed single contact cap	Prefocus cap	PX28s
	GY38	Bayonet/Prefocus cap	GY38	and end of lamp	R7s	P30s
Bi-pin cap and base	G22	Bayonet cap	P23d	Bi-pin cap	G5	BA15s
Bi-pin cap	GY22	Bayonet cap	BA15d	Bi-pin cap	G13	G3.9
Bi-pin cap	G9.5	Bayonet cap	B22d3		SFA1-5-6	G4
Bi-pin cap	GY16	Screw cap	E27		SFc18-5-6	GU4
Bi-pin cap	GX9.5	Screw cap	E40	Single-pin cap and		G5.3
Bi-pin cap on finished lamp	GY9.5	Cap	2G7	end of tubular lamp	Fa4	Bi-pin lamp base for use
Bi-pin cap on finished lamp	GZ9.6	Bi-pin cap	G23	Bi-pin lamp base	GZ4	Bayonet cap
	GX7.9		Cap 15.8/14.7 cable	Bi-pin base	GX5.3	G6.35
	GZX9.5		Cable	Bi-pin base	GY5.3	B15d
	GZY9.5		AMP connector	Bi-pin lamp base	GZ6.35	A26/14
	GZZ9.5		SFa21-12	Prefocus cap	PG22	GZY
	Special		SFc10-4		FastFit cap	PGJX50
			SFc15.6-6			

Filament shapes



FF = Flat filament	MP = Monoplane
CC = Coiled coil	BP = Biplane
M = M shape	SC = Single coil

Fusing

All mains voltage filament lamps (halogen and non-halogen) must be fused to reduce the risk of shattering at end-of-life. The table gives the appropriate value.

Wattage W	Voltage V	Fuse A	Wattage W	Voltage V	Fuse A
500	55	16	1200	100-130	16
300	100-130	4	1200	220-250	10
300	220-250	2	2000	100-130	25
500	100-130	6.3	2000	220-250	10
500	220-250	4	2500	100	35
650	100	10	2500	115-130	25
650	115-130	6.3	2500	220-250	16
650	220-250	4	3250	220-230	16
750/800	115-130	10	3250	240-250	16
750/800	220-230	6.3	5000	115-130	50
900	220-230	6.3	5000	220-250	25
1000	100	16			
1000	115-130	10			
1000	220-250	6.3			

Lamp Life

Indication of lamp life can be a confusing matter. The lamps in this catalogue (unless indicated differently) have a lamp life indicated by "Average life" or "Life 50%". This means at least 50% of the population is still working at the indicated number of hours.

In other words:

- average lamp life 1000 hours
 - batch size 100 pieces
- then:
- at reaching 1000 hours
 - at least 50 pieces are still working.

Realise that certain types in special applications have degraded so much that although they still burn they are unfit to fulfill their given task!

BAG electronics GmbH Kleinbahnstrasse 27 D-59759 Arnsberg, Germany E-mail: info@BAGelectronics.com Internet: www.BAGelectronics.com	Tel: + 49 2932 475973 Fax: + 49 2932 4759796	Power Gems Limited Cleararc House 15 Wharfside Business Park Irlam Wharf Road Irlam, Manchester M44 5PN, UK Internet: www.powergems.com	Tel: + 44 161 776 7030 Fax: + 44 161 776 7039
B & S Elektronische Geräte GmbH Aussigstrasse 5A D-38114 Braunschweig, Germany E-mail: mail@bs-ballasts.com Internet: www.bs-ballasts.com	Tel: + 49 531 590980 Fax: + 49 531 5909830	ROTEC GmbH Sandweg 42 D64385 Reichelsheim E-mail: ralf@rotec-gmbh.com Internet: www.rotec-gmbh.com	Tel: +49 61 64 50 18 51 Fax: +49 61 64 50 18 52
CCI Power Supplies 100 Industrial Parkway Pardeeville, WI 53954, US E-mail: info@ccips.com Internet: www.ccips.com	Tel: + 1 (608) 429 3000 Fax: + 1 (608) 42 9241	SCHIEDERWERK MBZ Telekommunikation GmbH & Co. KG Neuburger Straße 40 D-90451 Nürnberg, Germany E-mail: info@schiederwerk.de Internet: www.schiederwerk.de	Tel: + 49 911 96 36 5 Fax: + 49 911 96 36 600
IREM S.p.A. Via Abegg, 75 10050 Borgone (Torino), Italy E-mail: irem@irem.it Internet: www.irem.it	Tel: + 39 011 9648211 Fax: + 39 011 9648222	Vossloh-Schwabe Deutschland GmbH Postfach 28 69 58478 Lüdenscheid, Germany E-mail: info.vsv@vsv.vossloh-schwabe.com Internet: www.vossloh-schwabe.com	Tel: + 49 (0) 23 51 10 10 Fax: + 49 (0) 23 51 10 12 17
Mitronic P. Miller GmbH Hans-Urmiller-Ring 13 D-82515 Wolfratshausen, Germany E-mail: info@mitronic.com Internet: www.mitronic.com	Tel: + 49 8171 34 489 39 Fax: + 49 8171 7 6037	Optima German Barbarastrasse 22 D-63801 Kleinostheim E-mail: OptimaGerman@t-online.de	Tel: +49 60 27/69 00 Fax: +49 60 27/46 56 10

Fundamentals of Light and color

Radiation

Radiation is emission or transfer of energy in the form of electromagnetic waves.

These electromagnetic waves travel through a vacuum with a velocity close to 300 000 km/s. Interactions between matter and radiation are explained with the quantum theory of radiation.

It states that energy is emitted and absorbed in discrete quanta (photons). Examples of these interactions are photoelectric, chemical, and biological effects of radiation.

Optical Radiation (UV Light IR)

Light may be defined as any radiation capable of causing a visual sensation directly.

Light waves occupy only a very small part of the spectrum of electromagnetic waves. The limits of visible radiation are not well defined and vary according to the individual – the lower limit is generally taken as being 380 nm and the upper limit 780 nm (1 nanometre (nm) = 10^{-9} m).

The visible spectrum can be divided into a number of approximate wavelength ranges, each of which makes a certain color impression on the human eye:

380	-	435	nm	violet
435	-	500	nm	blue
500	-	566	nm	green
565	-	600	nm	yellow
600	-	630	nm	orange
630	-	780	nm	red

Ultraviolet and Infrared Radiation

Electromagnetic radiation with wavelengths just beyond the violet and red ends of the visible spectrum are known as ultraviolet and infrared radiation respectively.

Ultraviolet radiation

A study of the effects obtained with ultraviolet radiation of different wavelengths has led to the following classification by the CIE into three wavebands:

UV-A	(long-wave)	315-400 nm
UV-B	(medium-wave)	280-315 nm
UV-C	(short-wave)	100-280 nm

This classification is based upon a small number of well-investigated processes – principally the effects on the human skin – and by no means implies that all practical applications of UV are confined to a distinct waveband. Some processes respond to a wide ultraviolet spectrum and others overlap into the visible spectrum as well.

Infrared radiation

As with ultraviolet radiation, infrared radiation occupies three wavebands:

IR-A		
(short-wave)	800	- 1400 nm
IR-B		
(medium-wave)	1400	- 3000 nm
IR-C		
(long-wave)	3000	- 10000 nm

Vision

The eye has a lens, which focuses an image on a light-sensitive surface, the retina.

The retina consists of a delicate layer of nerve tissue in which there are two types of nerve fibre endings in the form of light-sensitive cells, called cones and rods. The concentration of cones and rods varies over the retinal area. On the optical axis the centre of the retina (the fovea) only contains cones. Outside the fovea area, the rods and cones are mixed, the proportion of cones decreasing towards the periphery of the retina.

Central vision

The cones in the fovea produce a very sharp image showing the greatest detail of which the eye is capable.

Peripheral vision

The periphery of the retina, which is composed chiefly of rods, does not produce sharp vision, and objects seen by this area appear as fuzzy silhouettes. The periphery is, however, highly sensitive to movement and flicker.

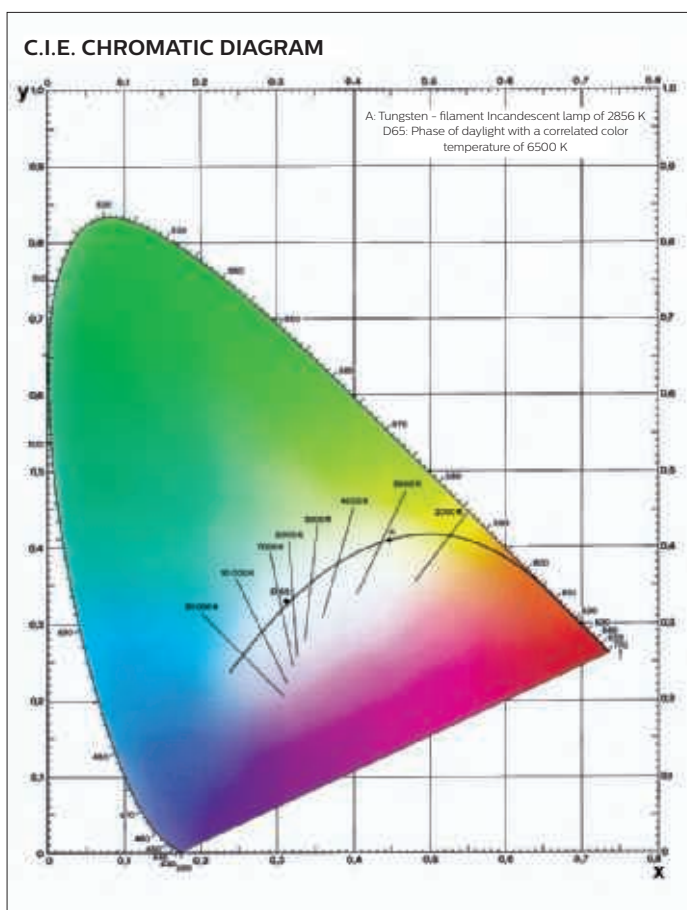
Adaptation

Adaptation, the process whereby the eye is able to function over a wide range of illuminance levels, involves (amongst other things) a change in the pupillary opening along with photochemical changes in the retina.

Color Vision

The cones enable us to distinguish color. This is possible because there are in fact three types of cones, with pigments sensitive to the red, green and blue parts of the spectrum, respectively.

The brain interprets the relative stimulation of the three color receptors as the color impression. Persons who miss one type of cone are partially color blind.



Spectral Sensitivity of the Eye

Within the visible range of the electromagnetic spectrum the eye sensitivity varies strongly with different wavelengths of the same energy content.

For example, under conditions of photopic vision the eye is about twenty times more sensitive to light with a wavelength of 555 nm (yellow-green) than it is to wavelengths of 700 nm (deep red) or 450 nm (violet-blue). The peak sensitivity for scotopic vision lies about 50 nm nearer to the blue end of the spectrum than the maximum sensitivity for photopic vision.

As early as 1924, the Commission Internationale de L'Eclairage (CIE) laid down a standard spectral eye sensitivity curve for photopic vision. The curves give the relative photopic eye sensitivity (V) as a function of the wavelength (λ), and are therefore generally called $V(\lambda)$ curve having its maximum at 555 nm.

Black body radiator

The black body, or full radiator, is a body that absorbs all radiation falling upon it, transmitting none and reflecting none. The radiation characteristics of such bodies are accurately known and can be very precisely calculated at all wavelengths and temperatures.

The spectral energy distribution of a black body is, according to Planck's law, a function of wavelength and absolute temperature. Not only does the radiant energy increase rapidly with operating temperature, but the wavelength at which the maximum occurs becomes shorter. Radiation of this form is called thermal radiation, or black-body radiation. And because all wavelengths are present in the spectrum of a thermal radiator, such a spectrum is called a continuous spectrum. The black-body radiator is often used as a primary reference standard when describing the light from practical light sources.

Systems of color Specification

CIE System

The chromaticity diagram

The chromaticity diagram, or color triangle, adopted by the CIE in 1931 permits the mathematically exact specification of any color of light in terms of two chromaticity co-ordinates, x and y . These co-ordinates are calculated from a knowledge of the lamp's spectral energy distribution and the response of a CIE standard colorimetric observer related to the three types of light sensitive cones in the human eye. The most saturated light color are found along the sides of the triangle, these gradually diluting into 'white light' toward the centre.

In this diagram the boundaries are formed by the spectral locus which is composed of the color points of monochromatic radiation ranging from blue in the left corner towards green in the top and finally red in the bottom right corner.

Color Temperature

Color temperature is a term used to describe the color of a light source by comparing it with the color of a black body radiator, or full radiator. The temperature of the black body, in Kelvin, at which a color match is obtained, is said to be the color temperature of the source.

The curve formed on the CIE chromaticity diagram by plotting the chromaticities of a black body radiator at various temperatures, is known as the Planckian locus. Any source that has a chromaticity on this locus may be specified by a color temperature. A source not on the Planckian focus can be described by means of its correlated color temperature, that is, the temperature of the black body at which its color resembles most closely that of the source; provided, that is, that it is not too far from the Planckian focus.

Color Rendering

The CIE General Color Rendering Index R_a

In order to be able to compare the color characteristics of various types of light source, the concept of a color rendering index, based on the appearance of a number of test color under different illuminants, was introduced by the CIE.

The average of the chromaticity shifts occurring when the test color are alternately illuminated, first by the lamp under test and then by a reference source of the same color temperature, provides a good measure of the color rendering properties of the test source.

The reference light source used for sources with a correlated color temperature of 5000 K and below is a full (or black-body) radiator of the nearest color temperature. Above 5000 K, the reference source used provides simulated or 'reconstituted' daylight of the appropriate color temperature. In the CIE test color method recommended for international use in 1965, eight Munsell test color of medium saturation were used for measuring and specifying these color rendering properties. Nowadays, fourteen test color are often employed, saturated red, yellow, green and blue, and color approximating the human skin and green foliage having been added.

The general color rendering index, or $R_{a\lambda}$, of a source has a maximum value of 100, which occurs when the spectral distributions of the test source and the reference source are identical.

Incandescent lamps have a spectral energy distribution almost identical to that of the standard source, and therefore give excellent color rendering.

The efficacy of these lamps, however, is rather low.

In discharge lamps which have a much higher efficacy a large variety in spectral composition hence color rendition is found, ranging from light sources like Fluorescent super 80 and 90 lamps and CDM metal Halide lamps with good or excellent color rendition while still having a high efficacy on one hand and ultra high efficacy lamps like SOX with a very moderate color rendition.

Limitations of the R_a System

Two serious limitations of the R_a system should be mentioned.

In the first place, it should be remembered that the R_a of a lamp is an average value based on the examination of only eight test color. Secondly, a low value for a particular color can mean either that the color will be poorly (weakly) - rendered, or that it will be exaggerated, perhaps even with a flattering effect as will be explained in the new CRV system. Thus, a source may be found to have a seemingly acceptable R_a value, despite the fact that it is incapable of faithfully reproducing a particular test color.

The New CRV system: precise definition of color quality

The right light

Color rendering is an important aspect of artificial lighting. In some situations color should be represented as naturally as possible under daylight conditions yet in other cases lighting should highlight individual color or create a specific atmosphere. However, there are various lighting situations where it is not so much a precise natural color rendering that matters most but where light level and efficiency are of greater importance.

Whether your requirement is for medium quality color rendering, natural color rendering or highlighting of special color, there is the right kind of lamp for each and every application.

In the past, finding the right quality color rendering and tailoring it to your precise requirement was a complex task. It called for special skills acquired through long – and often costly – experience.

Now, however, the new CRV diagram (Color Rendering Vector) means you can get the results you need – without first going through a costly learning curve!

The Color Rendering Vectors (CRV) system provides a completely new and more sophisticated way of defining color quality, making it a valuable tool for lighting professionals involved in the specification of light sources and the design of lighting installations.

Up to 215 measuring points

Instead of being limited to just the eight color of the Color Rendering Index (CRI) method, CRV uses a much larger number of color as fixed measured points. In fact, 215 color points have been selected from a multitude of practical situations, and include color which are widely used in textiles, paints and many other products, as well as those which are most commonly found in nature. The color rendering ability of the light source under investigation is tested at each point of these 215 color points, and compared with that of a reference light source.

Separate analysis of deviations

Another important improvement is that the color deviations are analysed separately for each of the 215 color points. There is no averaging, so the rendering of each individual color is assessed and registered separately.

The CRV diagram

These deviations are represented by a CRV diagram, a circle showing all the color of the spectrum around its circumference, and containing two axes serving as references to show the deviation in the rendering of each color. The deviations are indicated by a vector pointing from the natural color (viewed, under a reference or full-spectrum light source) to the perceived color (viewed under the test light).

Three aspects of color quality

Each one of the up to 215 vectors is an arrow which shows three aspects of color quality:

- The direction of the vector shows the direction of the color deviation. A shift towards the circumference of the circle indicates an increase in color saturation (more intense), while a shift towards the centre means a decrease in saturation (less intense).
- The start and end points of the vector show the true color (under the reference light source) and the perceived color (under the test light source), respectively.
- The length of the vector shows the magnitude of the color deviation.

Two main parameters

Thanks to its accurate representation of color quality for up to 215 measuring points the CRV method gives a very precise impression of the color rendering characteristics of a light source. In describing color quality, two parameters are particularly important:

Hue: the direction and magnitude of the shift in color.

Chroma: the direction and magnitude of the shift in saturation.

A third parameter, the color value or 'lightness', refers to the amount of light reflected from a coloured surface, and can vary for color of the same hue and chroma. In practise, color shifts are almost always a combination of shifts in hue and chroma, and the lightness will not be considered further here.

Selection of lighting on color quality

Key factors in the selection of lighting for specific application include the type of activity carried out in the area, the general environment, the desired ambience and the products being sold. Three basic levels color quality can be defined: high, good and average.

High color quality

An incandescent lamp, with its low efficacy of 12 lumen per watt, possesses a well balanced color spectrum. Application of the CRV method therefore shows no deviation at all. The discharge lamps with the best color rendering properties are the fluorescent 'TL' lamps of the /90 series. The diagram for these lamps (see next column) indicates hardly any deviation, thereby demonstrating the excellent color rendering characteristics of this light source. In the home, up-market shops, showrooms and museums, high color quality is essential to ensure that people, products and displayed objects have a natural color appearance.

Good color quality

Fluorescent 'TL' lamps of the /80 series have good color rendering characteristics. The diagram shows only a limited color shift. These fluorescent lamps are therefore very widely used in many applications where good color rendering is important.

In offices, department stores and light industrial premises, good color quality is a major consideration. In these cases it is not acceptable for color to deviate substantially from their natural appearance.

Average color quality

Fluorescent lamps of color /33 cause appreciable deviations in color rendering, as the CRV diagram shows. As a result, lamps of this color quality are suitable only for use in situations where color rendering is of little importance. In railway stations and car parks, efficiency takes priority over color rendering. Here, the light source will not be selected primarily for its color quality. However, when people are working in these areas, at least average color quality is recommended.

Philips, recycling and the environment

We are not just concerned about great product innovation. A great deal of effort has gone into making our products environmentally friendly. The company is committed to the Environmental Management System (ISO 14001) in its European factories – this is annually audited – and has implemented eco-design programmes to make sure that, in the product creation process, environmental issues are dealt with correctly.

For customers, the Philips standard of quality is a clear indication that the products meet or surpass the declared specifications. What is more, the products are delivered as agreed upon and the service meets the customer's expectations.

During the past years we have successfully reduced environmentally unfriendly substances in our lamps. For example Philips took the lead in the reduction of mercury in our TL-D Super 80 Fluorescent lamps and elimination of mercury in SON PIA lamps.

However, Philips has also started to investigate how we can intelligently recycle our products. The first generation of recycling (also called downward recycling) focused on reusing lamp components in whatever application possible (e.g. through reuse in building materials).

Most manufacturers doing so reached 100 % recycling, which although it seemed promising at first, was still based upon the use of highly valuable natural resources (e.g. fluorescent powders) in less valuable applications (e.g. road construction materials).

The second generation of recycling focused upon the re-use of those resources in the same applications as where they were initially used. This 'upward recycling' ensures we (re) use our natural resources to their fullest potential.

However, the most valuable resource consumed by light sources, is however the energy in the form of electricity it consumes. Therefore, the most energy efficient light sources are also the most environmental friendly. Philips has therefore focused its second generation recycling efforts on its Master products. Combining the most efficient use of energy and the highest possible percentage of reuse, we call this SMART ECOLOGIES. To help our customers, to identify these products easily, we have given these special ranges of Master products an easily recognisable Green Cap. A symbol of the highest quality, combined with the best environmental friendly alternative.

Philips Quality Standards

In striving for optimum quality levels, the internationally recognised ISO 9001 system for quality assurance, and the newer QS 9000 standard, have been implemented and rigidly enforced in Philips factories. Almost all phases of development and production are involved in a process of continual improvement within the framework of Total Quality Management (TQM) and achieving so-called 'world class' levels of quality.

But quality is not just a piece of paper or a set of good intentions. It is about making products with zero defects and good lifetime reliability for ease of mind. It is about supplying our customers with their goods at the right time, and it is about developing the best lighting products in the world and communicating the benefits in the most effective way. It is about handling questions and queries in the most helpful and speedy manner. In short it is about making us easy and rewarding to do business with. And with our company wide quality improvement program BEST (Business Excellence through Speed and Teamwork) we are confident we will also in this new millennium be capable of continuously 'Making things better'.

International standards and approvals for control gear

In this publication the specification of Philips control gear satisfies the standards for safety, performance and reliability quoted in the numerous IEC publications for ballasts (electronic and electromagnetic), ignition devices, etc. As for Electro-Magnetic Interference, Philips products conform to the relevant European and/or IEC regulations. On many occasions, formal approval will amount to supervised manufacturing test procedures or testing at the manufacturer's premises (SMT), meaning that these tests are then performed by Philips own engineers, under official supervision. As soon as approval is given, these may be shown on the product labelling (e.g. ENEC).

Sales organisation

The Netherlands

Philips Lighting B.V. Headquarters
High Tech Campus 44
5656 AE Eindhoven
speciallighting@philips.com

Argentina

Philips Lighting
Vedia 3892
Buenos Aires C1430DAL,
Argentina
T: +54 11 4546-7777

Australia

Philips Lighting
Ground Floor
65 Epping Road
North Ryde NSW 2113
Australia
T: +61 2 9850 0000
F: +61 2 9850 0097

Austria

Philips Lighting Austria GmbH
Euro Plaza
A-1120 Wien
Austria
T: +43 810 001 098
www.lighting.philips.at

Benelux

Philips Lighting B.V.
Postbus 80062
5600 KA Eindhoven
T: +31 40 2784672
T: +32 25257630

Brazil

Philips Lighting Iluminação Ltda.
Av. Marcos Penteado de Ulhoa Rodrigues, 939
4º andar, Sala R10 Tamboré (Alphaville)
Barueri/SP 06460-040
Brazil
T: 0800 979 1925

Canada

Philips Lighting Canada Ltd.
281 Hillmount Road
Markham, ON
Canada L6C 2S3
T: +1 800-668-9008

Sales organisation

China

Philips (China) Investment Co. Ltd.
Philips Special Lighting
12F, Building No. 1
No. 1535 Hongmei Road, Minghang District
200233 Shanghai
People's Republic of China
T: +86 21 5389 8231
F: +86 21 5915 4112

Colombia

Philips Lighting Colombiana S.A.S.
Calle 93 No 11A -11, Piso 7
Bogotá
Colombia
T: +57 1 422 26 00

Czech Republic

Philips Česká republika s.r.o.
divize Lighting
Safrankova 1
155 00 Praha 5
Česká Republika
T: +420 233 099 282
F: +420 233 099 325

Denmark

Frederikskaj 6
2450 Copenhagen SV
Denmark
T: +45 3329 3755
Lighting.dk@philips.com

Estonia

Contact via Poland

Finland

Knarrarnäsgatan 7
164 40 Kista
Sweden
T: +358 (0) 207 809 410
Lighting.fi@philips.com

France

Philips Lighting France
OEM / Special Lighting
33 rue de Verdun
92156 Suresnes Cedex
France
T: +33 (0) 1 57 32 82 97
F: +33 (0) 1 57 32 83 06

Germany

Philips Lighting GmbH
Röntgenstraße 22
D-22335 Hamburg
Germany
T: +49 800 7445 4775
www.lighting.philips.de

Sales organisation**Greece**

Contact via Italy

Hong Kong

Philips Lighting Hong Kong Limited
20th Floor, Tower 2, Enterprise Square
No.9 Sheung Yuet Road
Kowloon Bay
Hong Kong
T: +852 2360 1628
F: +852 2861 0568

Hungary

Philips Magyarország Kft.
Fehérvári út 84/A
H-1117 Budapest, Aliz u. 1
Hungary
T: +36 30 924 6744
F: +36 1 382 1851

India

Philips Lighting India Limited
9th Floor, 9-B DLF Cyber city
Phase-3 Gurgaon-122002
India
T: +91 124 460 6782

Indonesia

Contact via Singapore

Ireland

Contact via United Kingdom

Italy

Philips Lighting Italy S.P.A.
Via G. Casati 23
20052 Monza (MI)
Italy
T: +39 039 203 1
F: +39 039 203 6127

Korea

Philips Lighting Korea Ltd.
Sowol-Ro 272
Yongsan-Gu
Seoul
Republic of Korea
T: +82 2 591 0223
F: +82 2 709 1350

Latvia

Contact via Poland

Lithuania

Contact via Poland

Malaysia

Contact via Singapore

Sales organisation**Mexico**

Philips Mexicana S.A de C.V.
Av. La Palma no. 6 Col. San Fernando La Herradura
Huixquilucan, Estado de México
México ZC 52784
T: + 55 52699347

New Zealand

Philips Lighting Level 3,
123 Carlton Gore Road
Newmarket, Auckland 1023
New Zealand
T: +64 800 454 448

Norway

Frederikskaj 6
2450 Copenhagen SV
Denmark
T: +47 2274 8202
Lighting.no@philips.com

Philippines

Contact via Singapore

Poland

Philips Lighting Poland sp. z o.o.
ul. Kossaka 150
64-920 Pila
Poland
T: +48 67 352 45 72

Portugal

Contact via Spain

Russia

Philips Lighting
25 Leningradskaya Street
Khimki 141400
Russia
T: +7 495 937 93 30

Singapore

Philips Lighting Singapore Pte Ltd
Philips APAC HQ
622 Lorong 1 Toa Payoh, Level 4
Singapore 319763
T: +65 9111 8403

Spain

Philips Iberica S.A.
Division Comercial Alumbrado
Maria de Portugal 1
28050 Madrid
Spain
T: +34 91 566 9764
F: +34 91 566 9242

Sales organisation

Sweden

Knarrarnäsgatan 7
164 40 Kista
Sweden
T: +46 (0) 200777200
Lighting.se@philips.com

Switzerland

Philips Lighting Switzerland AG
Allmendstrasse 140
Postfach
8027 Zürich
Switzerland
T: +41 (0)44 206 4949
www.lighting.philips.ch

Taiwan

Philips Lighting Taiwan Ltd.
15F, No. 3-1, Yuan Qu Street
Nan Gang District
Taipei 115
Taiwan R.O.C.
T: +886 2 3789 2534
F: +886 2 3789 2525

Thailand

Contact via Singapore

Turkey

Philips Lighting Aydınlatma Ticaret A.Ş.
Saray Mahallesi
Dr. Adnan Buyukdeniz Caddesi No: 13
Umraniye, Istanbul
Turkey 34768
T: +90 216 522 1900
F: +90 216 630 2071

Ukraine

Contact via Poland

United Arab Emirates

Philips Lighting Middle East & Turkey
Dubai Knowledge Village, Al-Sufouh 2
P.O. Box 7785
Dubai
United Arab Emirates
T: +971 4 4461100

United Kingdom

Philips Centre
Guildford Business Park
Guildford, Surrey, GU2 8XG
United Kingdom
T: +44 (0)7774 122735

Sales organisation

United States of America

Philips Lighting Company
200 Franklin Square Drive
Somerset, N.J. 08873
United States of America
T: +1 732 563 3287

Vietnam

Contact via Singapore

Philips type number	page	Philips type number	page
13163 ELC/5H 250W GX5.3 24V	30	MSR 700	15
CDM-SA/T 150W/942	50	MSR 700 SA	17
ELC/10H 250W GX5.3 24V	30	MSR 700/2	15
MSA 2500 DE	47	MSR Gold™ 1000 MiniFastFit	11, 35
MSD 1200	48	MSR Gold™ 1200 FastFit	9, 36
MSD 150/2	26	MSR Gold™ 1200 SA/2 DE	13
MSD 200	26	MSR Gold™ 1200 SA/DE	13
MSD 200/2	26	MSR Gold™ 1200 SA/SE	17
MSD 250	26	MSR Gold™ 1500 FastFit	9
MSD 250/2 30H	26	MSR Gold™ 1500/1 FastFit	9, 36
MSD 575	48	MSR Gold™ 1510 SA/DE	13
MSD 575 HR	48	MSR Gold™ 1510 SA/1 DE	13, 37
MSD 700	48	MSR Gold™ 2000 FastFit	9
MSD Gold™ 300/2 MiniFastFit	25	MSR Gold™ 2000/1 FastFit	9
MSD Platinum 14 R	6	MSR Gold™ 2000/2 FastFit	9
MSD Platinum 15 R	6	MSR Gold™ 2500/2 FastFit	9
MSD Platinum 16 R	6	MSR Gold™ 300/2 MiniFastFit	24
MSD Platinum 17 RA	6	MSR Gold™ 400 MiniFastFit	11
MSD Platinum 2 R	22	MSR Gold™ 575 SA/2 DE	13
MSD Platinum 20 R	6	MSR Gold™ 575/2 MiniFastFit	11
MSD Platinum 20 R(B)	6	MSR Gold™ 700 FastFit	9
MSD Platinum 21 R	6	MSR Gold™ 700 MiniFastFit	11
MSD Platinum 5 R	6, 22	MSR Gold™ 700 SA/2 DE	13
MSR 1200	15	MSR Gold™ 700/1 MiniFastFit	11
MSR 1200 HR	42	MSR Gold™ 700/2 FastFit	9
MSR 1200 SA	17	MSR Gold™ 700/2 MiniFastFit	11
MSR 1200/2	15	MSR Platinum 35	8
MSR 125 HR	42	MSR Platinum 35 ST (Theater)	34
MSR 200 HR	42	MSR Platinum 35 ST (Studio)	41
MSR 2000 SA	17	PAR56 300W 230V MFL	28
MSR 250 HR	42	PAR56 300W 230V WFL	28
MSR 2500 HR	42	PAR56 300W 240V MFL	28
MSR 2500 HR/J	44	PAR56 300W 240V WFL	28
MSR 400	15	PAR64 1000W 230V MFL	28
MSR 400 HR	42	PAR64 1000W 230V NSP	28
MSR 400 SA	17	PAR64 1000W 230V VNSP	28
MSR 4000 HR	42	PAR64 1000W 240V MFL	28
MSR 4000 HR/J	44	PAR64 1000W 240V NSP	28
MSR 575 HR	42	PAR64 1000W 240V VNSP	28
MSR 575/2 10H	15	PAR64 250W 28V VNSP	28



Visit the Entertainment lamps website: www.philips.com/onstage

© 2017 Philips Lighting Holding B.V. All rights reserved. Philips reserves the right to make changes in specifications and/or to discontinue any product at any time without notice or obligation and will not be liable for any consequences resulting from the use of this publication.

3222 635 70775
March, 2017

www.philips.com/onstage