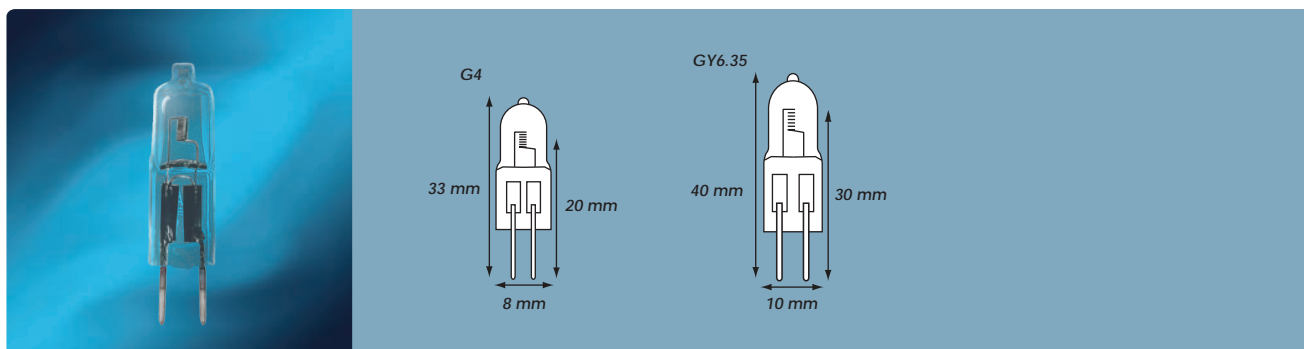




Low Voltage Halogen Lamps

	JC 2-pin Standard Low Voltage Halogen Lamps	06
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	MR8 25mm diameter Halogen Reflector Lamps	08
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JC 2-pin Standard Low Voltage Halogen Lamps

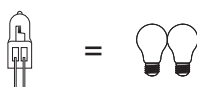


- Available in clear and frosted bulbs, axial or transversal filament
- Colour Temperature 2900K
- Xenon halogen technology applied to Super 5K and Ultra 10K versions
- Average Life :

Standard JC :



2000 hours



Super 5K XJC :



5000 hours



Ultra 10K XJC :

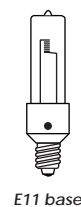
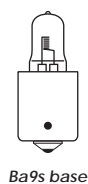
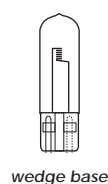





10000 hours



Other options :

- Other wattages available, e.g. 12W, 15W, 25W
- Other voltages available, e.g. 6V, 14V, 24V and 28V
- Other base types available : wedge, Ba9s, Ba15s, Ba15d, E11, E14, etc

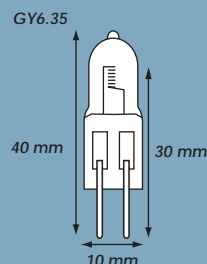
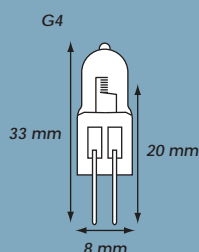


Lamp Code	Voltage (V)	Wattage (W)	Lumen (lm)						Base
			Standard		Super5K		Ultra10K		
									
JC 5W	12	5	60	B	-	-	-	-	G4
JC 10W	12	10	120	C	140	B	120	C	G4
JC 20W	12	20	300	C	350	B	300	C	G4
JC 20W	12	20	300	C	350	B	300	C	G6.35,GY6.35
JC 35W	12	35	600	C	700	C	600	C	G4
JC 35W	12	35	600	C	700	C	600	C	G6.35,GY6.35
JC 50W	12	50	900	C	1100	C	900	C	G6.35,GY6.35
JC 75W	12	75	1365	C	-	-	-	-	G6.35,GY6.35
JC 100W	12	100	2100	C	-	-	-	-	G6.35,GY6.35



GREEN HALOER JC

Energy Reduction Low Voltage Halogen Lamps



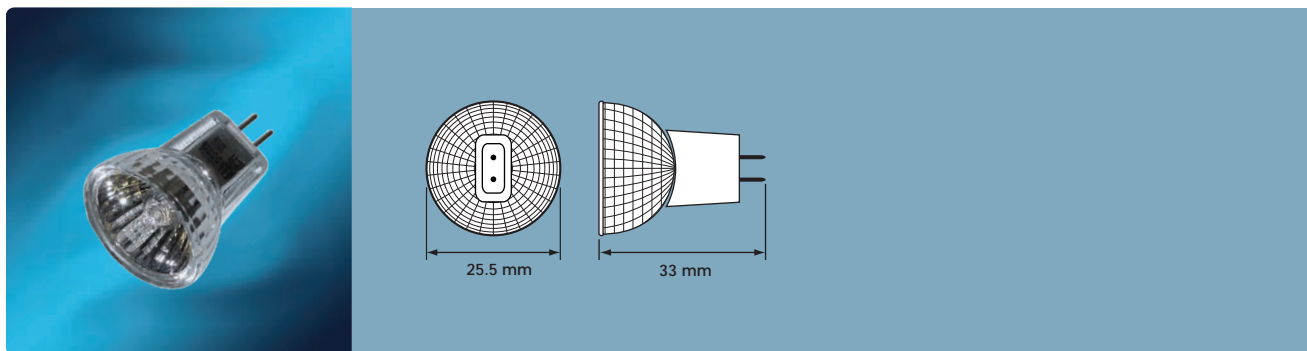
- **Saving 20% of power energy** with NO sacrifice of lighting quality
- Xenon Halogen technology to enhance light output performance
- Optimized design of filament structure provides excellent light distribution
- High colour temperature gives more crispy white light
- Lower heat generation resulting in reduced air conditioning and heat stress on ambience
- Average life 4000 hours
- **Comply to EU Ecodesign Requirements - Commission Regulation No. 244/2009**

Lamp Code	Voltage (V)	Wattage (W)	Base	Color Temp	Lumen (lm)	Energy label
JC/ER 8W	12	8	G4	2800K	105	B
JC/ER 16W	12	16	G4 / GY6.35	2900K	300	B
JC/ER 28W	12	28	GY6.35	3000K	600	B
JC/ER 40W	12	40	GY6.35	3000K	860	B

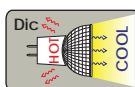
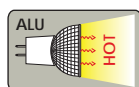
ER vs Traditional Lamps			
Energy Reduction ER series	Traditional Halogen JC 2-pins lamps	Save on Energy	Electrical billing * saving / year
8W	10W	20%	US\$ 2.63
16W	20W	20%	US\$ 5.26
28W	35W	20%	US\$ 9.20
40W	50W	20%	US\$ 13.14

* based on 24 hrs operation/day - US\$0.15/1 KWH

MR8 25mm diameter Halogen Reflector Lamps



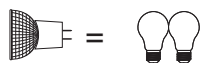
- The most compact display lamp in the market
- Available with open front or glass covered versions
- Colour temperature 3000K for dichroic reflector and 2900K for aluminium coated reflector
- Xenon halogen technology applied to Super 5K version, glass covered type only
- Average life 2000 hours for Standard version and 5000 hours for Super 5K version
- Reflector :



- Average life :

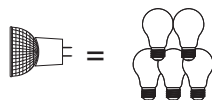
Standard MR8 :

⌚ 2000 hours



Super 5K MR8 :

⌚ 5000 hours

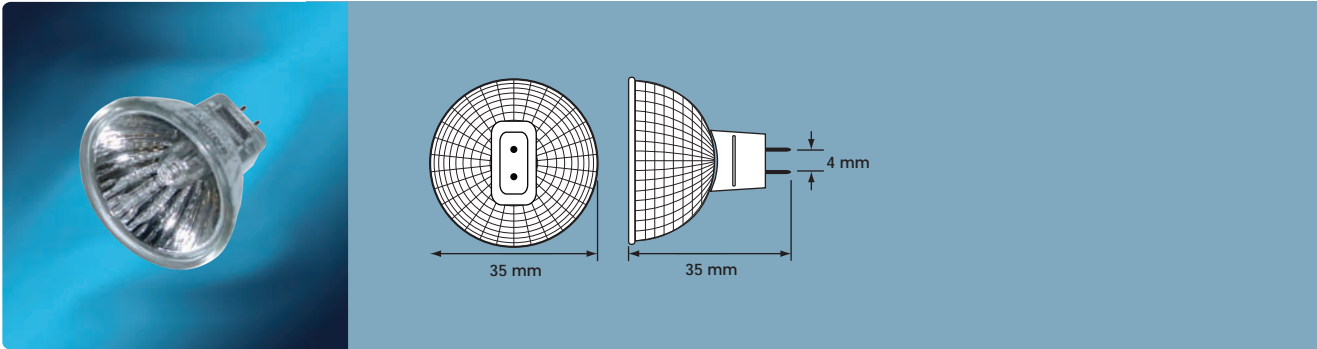


Other options :

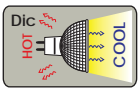
- Voltage variation : 6V, 14V, 24V
- High efficiency output (over 20lm/W) for photo-optics emergency lighting applications

Lamp Code	Voltage (V)	Wattage (W)	Beam Angle	Intensity (cd)		Base
				Standard	Super5K	
MR8 20W	12	20	10 -13°	1700	1700	GZ4
MR8 20W	12	20	23 -26°	800	800	GZ4
MR8 28W	12	28	10 -13°	1900	1900	GZ4
MR8 28W	12	28	23 -26°	1200	1200	GZ4
MR8 35W	12	35	10 -13°	2300	2300	GZ4
MR8 35W	12	35	23 -26°	1400	1400	GZ4

MR11 Standard 35mm diameter Halogen Reflector Lamps



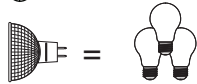
- Halogen reflector lamp for display lighting
- Colour temperature 3000K for dichroic reflector and 2900K for aluminium coated reflector
- Xenon halogen technology applied to Super 5K and Ultra 10K versions, glass covered type only
- Reflector :



- Average life :

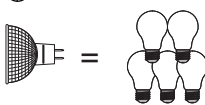
Standard MR11 :

3000 hours



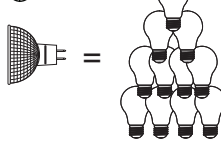
Super 5K MR11 :

5000 hours



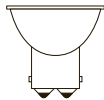
Ultra 10K MR11 :

10000 hours



Other options :

- Other wattages available, e.g. 5W, 10W, and 12W
- Other voltages available, e.g. 6V, 14V and 24V
- Other base types available, e.g. Ba15d
- High efficiency output (over 20lm/W) for photo-optics emergency lighting applications

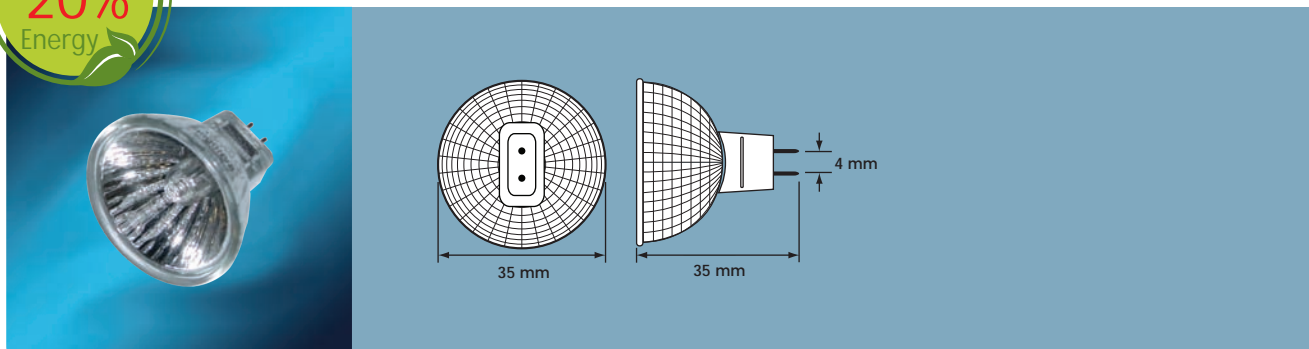


ANSI/UK Code	GC/UK Code	Voltage (V)	Wattage (W)	Approx Beam Angle	Intensity (cd)			Base
					Standard	Super5K	Ultra10K	
FTB M52	M252	12	20	10°	4100	5000	4100	GU4
FTC M51	M251	12	20	20°	1750	2200	1750	GU4
FTD M62	M262	12	20	30°	700	850	700	GU4
FTE M65	M265	12	35	10°	7000	8500	7000	GU4
FTF M66	M266	12	35	20°	3000	3600	3000	GU4
FTH M67	M267	12	35	30°	1500	1800	1500	GU4

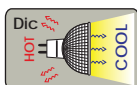
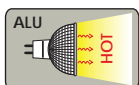


GREEN HALOER MR11

Energy Reduction 35mm diameter Halogen Reflector Lamps



- **Saving 20% of power energy** with NO sacrifice of lighting quality
- Xenon Halogen technology to enhance light output performance
- Optimized design of filament structure provides excellent light distribution
- High colour temperature gives more crispy white light
- Lower heat generation resulting in reduced air conditioning and heat stress on ambience
- Average life 4000 hours
- Reflector :

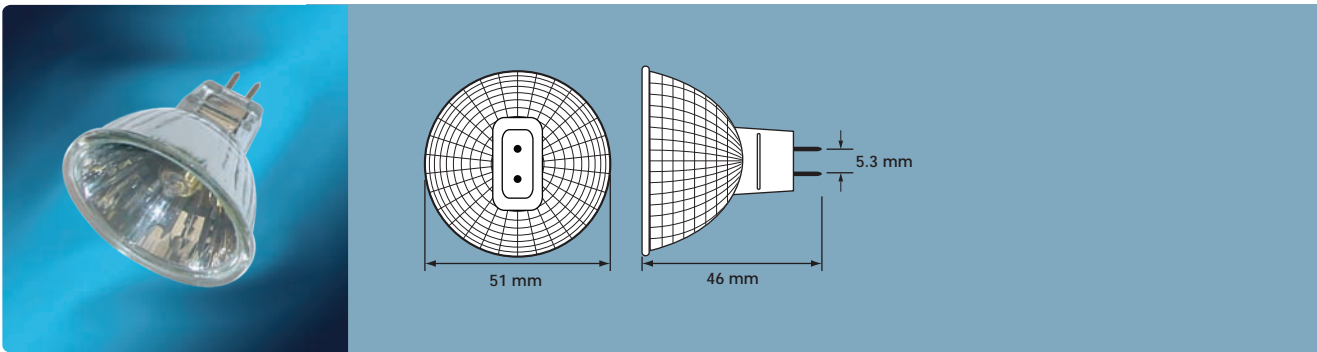


ANSI Code	Voltage (V)	Wattage (W)	Approx Beam Angle	Color Temp	Intensity (cd)	Base
FTB/ER	12	16	10°	2900K	4100	GU4
FTC/ER	12	16	20°	2900K	1750	GU4
FTD/ER	12	16	30°	2900K	700	GU4
FTE/ER	12	28	10°	3000K	7000	GU4
FTF/ER	12	28	20°	3000K	3000	GU4
FTH/ER	12	28	30°	3000K	1500	GU4

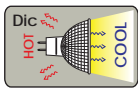
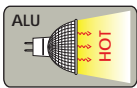
ER vs Traditional Lamps			
Energy Reduction ER series	Traditional Halogen MR11 lamps	Save on Energy	Electrical billing * saving / year
16W	20W	20%	US\$ 5.26
28W	35W	20%	US\$ 9.20

* based on 24 hrs operation/day - US\$0.15/1 KWH

MR16 Standard 51mm diameter Halogen Reflector Lamps



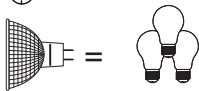
- Halogen reflector lamp for display lighting
- Colour temperature 3000K for dichroic reflector and 2900K for aluminium coated reflector
- Xenon halogen technology applied to Super 5K and Ultra 10K versions, glass covered type only
- Reflector :



- Average life :

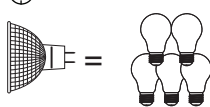
Standard MR16 :

3000 hours



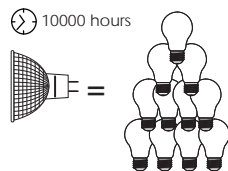
Super 5K MR16 :

5000 hours



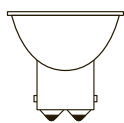
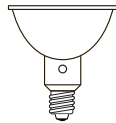
Ultra 10K MR16 :

10000 hours



Other options :

- Other wattages available, e.g. 10W, 42W and 65W
- Other voltages available, e.g. 6V, 14V, 24V and 28V
- Different reflector patterns available
- Other base types available, e.g. E11, Ba15d
- High efficiency output (over 20lm/W) for photo-optics emergency lighting applications

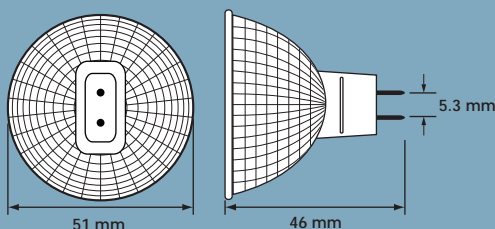


ANSI/UK Code	GC/UK Code	Voltage (V)	Wattage (W)	Beam Angle	Intensity (cd)			Base
					Standard	Super5K	Ultra10K	
ESX M68	M268	12	20	12°	3150	5000	4100	GU5.3
BBF M94	M294	12	20	24°	1200	2000	1500	GU5.3
BAB M69	M269	12	20	36°	510	900	700	GU5.3
FMT ---	---	12	35	12°	6500	9000	7000	GU5.3
FRA M70	M270	12	35	23°	3000	4400	3500	GU5.3
FMW M81	M281	12	35	36°	1050	1600	1250	GU5.3
EXT M49	M249	12	50	13°	10000	13000	10000	GU5.3
EXZ M50	M250	12	50	24°	4000	5600	4400	GU5.3
EXN M58	M258	12	50	38°	1500	2200	1700	GU5.3
FNV M80	M280	12	50	60°	1000	1300	1000	GU5.3
EYF M60	M260	12	75	14°	15000	-	15000	GU5.3
EYC M61	M261	12	75	38°	2950	-	2950	GU5.3

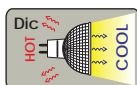
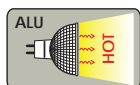


GREEN HALOER MR16

Energy Reduction 51mm diameter Halogen Reflector Lamps



- **Saving 20% of power energy** with NO sacrifice of lighting quality
- Xenon Halogen technology to enhance light output performance
- Optimized design of filament structure provides excellent light distribution
- High colour temperature gives more crispy white light
- Lower heat generation resulting in reduced air conditioning and heat stress on ambience
- Average life 4000 hours
- Reflector :

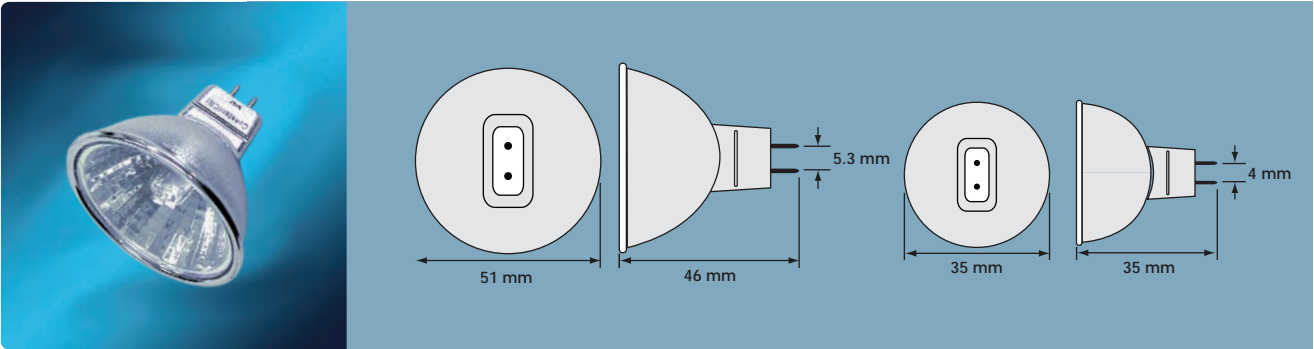


ANSI Code	Voltage (V)	Wattage (W)	Approx Beam Angle	Color Temp	Intensity (cd)	Base
ESX/ER	12	16	12°	2900K	5000	GU5.3
BAB/ER	12	16	36°	2900K	700	GU5.3
----	12	16	60°	2900K	300	GU5.3
FMT/ER	12	28	12°	3000K	10000	GU5.3
FMW/ER	12	28	36°	3000K	1300	GU5.3
----	12	28	60°	3000K	560	GU5.3
EXT/ER	12	40	12°	3050K	13000	GU5.3
EXZ/ER	12	40	24°	3050K	4000	GU5.3
EXN/ER	12	40	36°	3050K	1800	GU5.3
FNV/ER	12	40	60°	3050K	1000	GU5.3

ER vs Traditional Lamps			
Energy Reduction ER series	Traditional Halogen MR16 lamps	Save on Energy	Electrical billing * saving / year
16W	20W	20%	US\$ 5.26
28W	35W	20%	US\$ 9.20
40W	50W	20%	US\$ 13.14

* based on 24 hrs operation/day - US\$0.15/1 KWH

Constant CRI 6,000 hours MR11/16 lighting solution

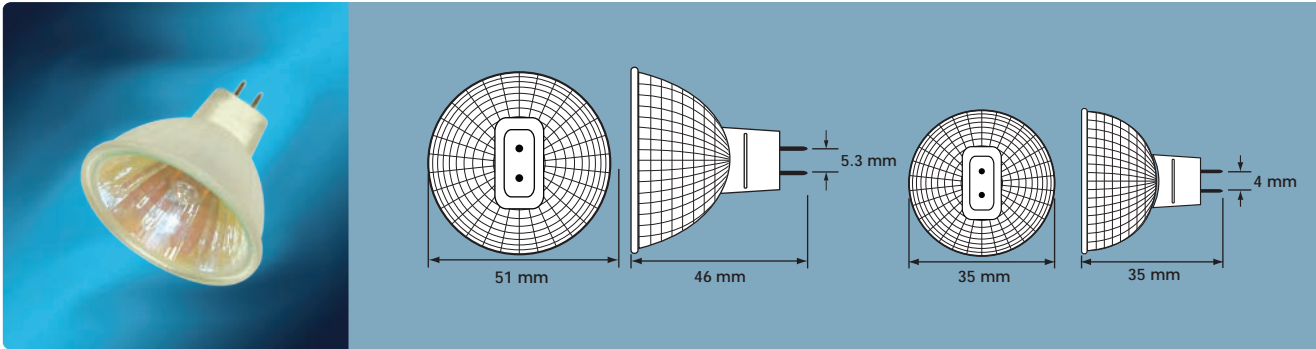


- Long service life 6000 hours
- Special durable coating inside and outside
- Cool beam Effect
- 30% brighter than standard lamps
- Constant colour and CRI throughout lamp life
- Energy / installation cost saving
- No back spill of light pollution
- Aesthetic glare free backside cosmetics

ANSI/UK Code	Voltage (V)	Wattage (W)	Beam Angle	Intensity (cd)	Base
Constant CRI - MR11					
FTB	12	20	10°	5000	GU4
FTC	12	20	20°	2200	GU4
FTD	12	20	30°	850	GU4
FTE	12	35	10°	8500	GU4
FTF	12	35	20°	3600	GU4
FTH	12	35	30°	1800	GU4
Constant CRI - MR16					
ESX	12	20	12°	5000	GU5.3
BBF	12	20	24°	2000	GU5.3
BAB	12	20	36°	900	GU5.3
FMT	12	35	12°	9000	GU5.3
FRA	12	35	23°	4400	GU5.3
FMW	12	35	36°	1600	GU5.3
EXT	12	50	13°	13000	GU5.3
EXZ	12	50	24°	5600	GU5.3
EXN	12	50	38°	2200	GU5.3
FNV	12	50	60°	1300	GU5.3
EYF	12	75	14°	19000	GU5.3
EYC	12	75	38°	3800	GU5.3

Special Dichroic Reflector Lamps

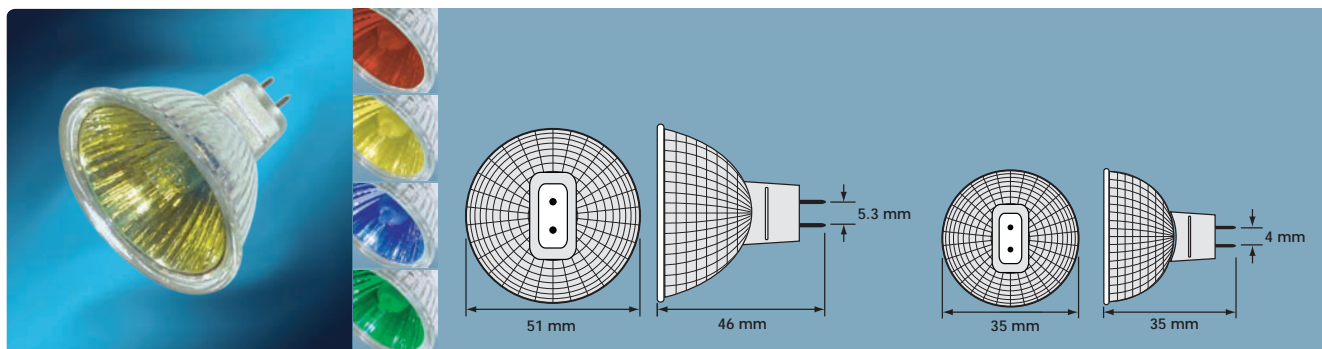
Neutral Daylight NDL colour with Décor Finish



- Long service life 5000 hours
- Colour temperature boosted by thin film coating on inside of reflector up to 4500K
- Satinized reflector back
- Cool beam effect
- Crisp cool neutral daylight output
- High colour temperature up to 4500K plus

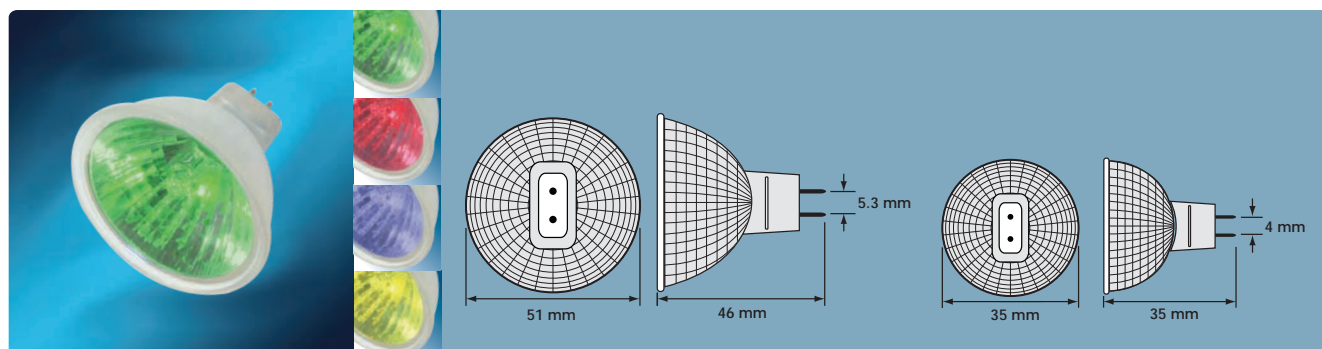
ANSI/UK Code	Voltage (V)	Wattage (W)	Beam Angle	Intensity (cd)	Base
Decor NDL - MR 11					
FTB	12	20	10°	3900	GU4
FTC	12	20	20°	1650	GU4
FTD	12	20	30°	650	GU4
FTE	12	35	10°	6650	GU4
FTF	12	35	20°	2850	GU4
FTH	12	35	30°	1400	GU4
Decor NDL - MR 16					
ESX	12	20	12°	3900	GU5.3
BBF	12	20	24°	1400	GU5.3
BAB	12	20	36°	650	GU5.3
FMT	12	35	12°	6650	GU5.3
FRA	12	35	23°	3300	GU5.3
FMW	12	35	36°	1200	GU5.3
EXT	12	50	16°	9500	GU5.3
EXZ	12	50	24°	4200	GU5.3
EXN	12	50	38°	1600	GU5.3
FNV	12	50	60°	950	GU5.3

Special MR16 and MR11 Reflector Lamps – Colour Lights

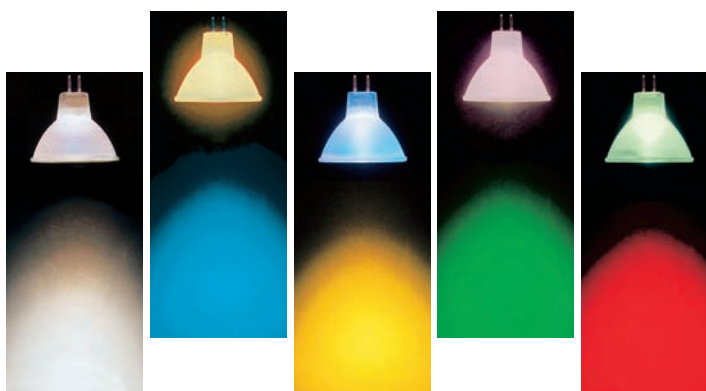


- The standard MR16 lamps are fitted with a front glass cover with special thin film coating that enables specific color transmission to the front thereby producing dramatic color effects
- Colour available : Red, Yellow, Blue and Green
- Available also with MR11 lamps
- Average Life 3000 hours

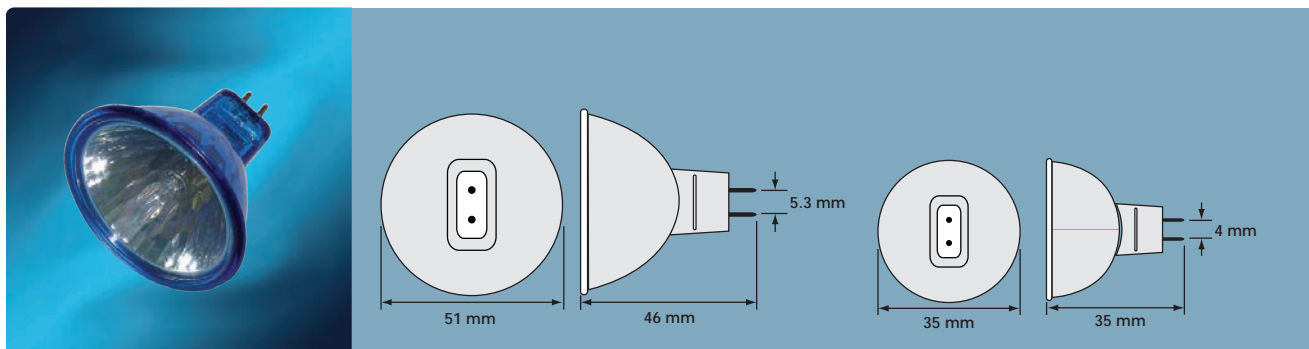
Special Dichroic Reflector Lamps – Décor Colours



- Opal glass reflector in White, Red, Yellow, Blue and Green dichroic coating
- Soft tone back color – the normally unwanted back light becomes a diffused coloration with a dramatic soft-tone effect
- Available with MR11 and MR16 reflector lamps
- Average Life 3000 hours



Special MR16 Reflector Lamps – Fun Colours



- High temperature resistant paint applied to the back of reflector lamps provides colour
- Stimulation to the interior design decor
- Available with MR11 and MR16 reflector lamps
- Most standard paint colors available
- Average Life 3000 hours

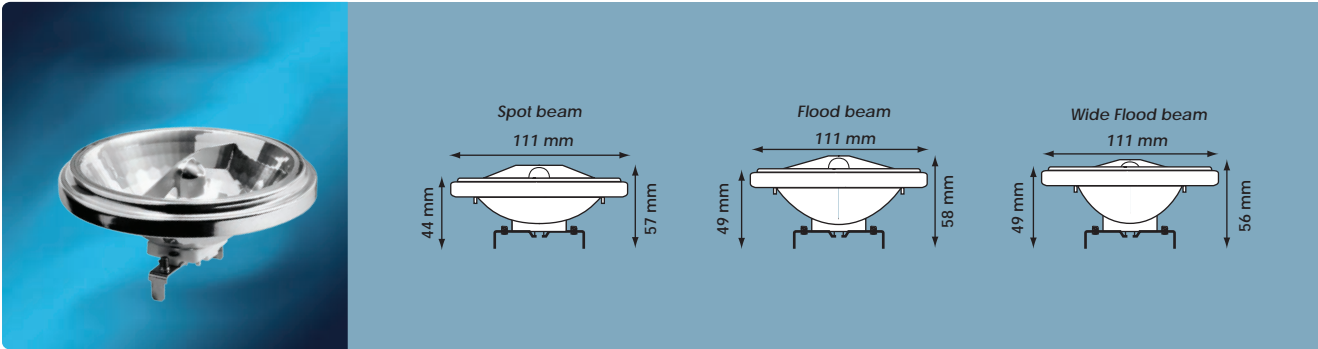
Dichroic reflector :



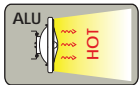
Aluminium coated reflector :



HaluR-Spot111 Standard Low Voltage Halogen Spot Lights

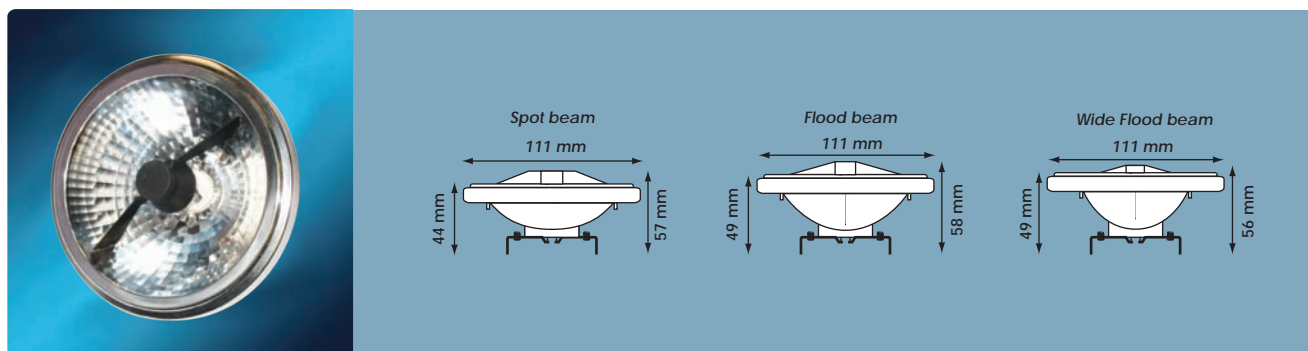


- Low voltage halogen point source lighting
- Intelligent spots – versatile shop-lighting, exhibition and art gallery display
- The front bridge cover allows glare-free comfortable light quality
- Aluminium reflector allows 100% light reflection with no color shift throughout life of lamp
- Average life 3000 hours
- Colour temperature 3000K
- Aluminium reflector :

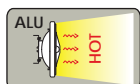


Lamp Code	Voltage (V)	Wattage (W)	Beam Angle	Intensity (cd)	Base
Spot111/35/SP	12	35	8°	12000	G53
Spot111/35/FL	12	35	24°	2500	G53
Spot111/50/SP	12	50	8°	20000	G53
Spot111/50/FL	12	50	24°	4000	G53
Spot111/50/WFL	12	50	45°	1200	G53
Spot111/75/SP	12	75	8°	30000	G53
Spot111/75/FL	12	75	24°	5300	G53
Spot111/75/WFL	12	75	45°	1900	G53
Spot111/100/SP	12	100	8°	48000	G53
Spot111/100/FL	12	100	24°	8500	G53
Spot111/100/WFL	12	100	45°	2800	G53

HaluR-Spot111 Super5K and Ultra10K



- Low voltage halogen point source lighting
- Intelligent spots – versatile shop-lighting, exhibition and art gallery display
- The front bridge cover allows glare-free comfortable light quality
- Ceramic cap allows better heat dissipation to provide an optimum operation condition
- Aluminium reflector allows 100% light reflection with no color shift throughout life of lamp
- Average life 5000/10000 hours
- Aluminium reflector :

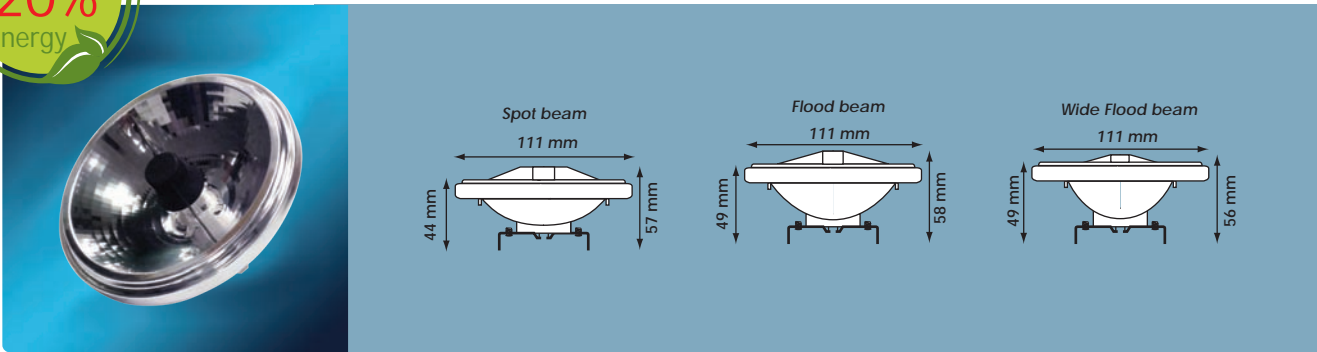


Lamp Code	Voltage (V)	Wattage (W)	Beam Angle	Intensity (cd)		Base
				Super5K	Ultra10K	
Spot111/35/SP	12	35	8°	14400	12000	G53
Spot111/35/FL	12	35	24°	3000	2500	G53
Spot111/50/SP	12	50	8°	24000	20000	G53
Spot111/50/FL	12	50	24°	4800	4000	G53
Spot111/50/WFL	12	50	45°	1450	1200	G53
Spot111/75/SP	12	75	8°	36000	30000	G53
Spot111/75/FL	12	75	24°	6350	5300	G53
Spot111/75/WFL	12	75	45°	2300	1900	G53
Spot111/100/SP	12	100	8°	57600	48000	G53
Spot111/100/FL	12	100	24°	10200	8500	G53
Spot111/100/WFL	12	100	45°	3350	2800	G53

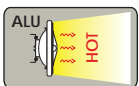


GREEN HALOER HaluR-Spot111

Energy Reduction Low Voltage Halogen Spot Lights



- **Saving 20% of power energy** with NO sacrifice of lighting quality
- Xenon Halogen technology to enhance light output performance
- Optimized design of filament structure provides excellent light distribution
- Ceramic cap allows better heat dissipation to provide an optimum operation condition
- Lower heat generation resulting in reduced air conditioning and heat stress on ambience
- Average life 4000 hours
- Aluminium reflector :

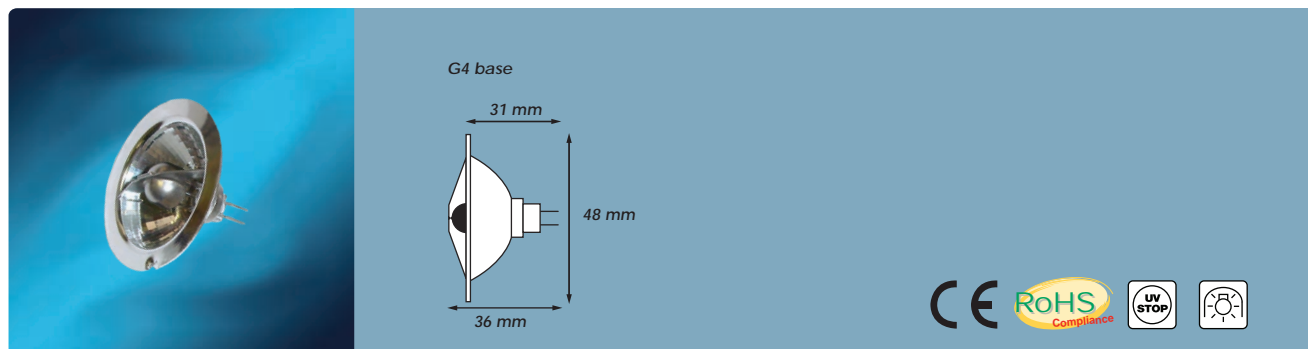


Lamp Code	Voltage (V)	Wattage (W)	Beam Angle	Intensity (cd)	Base
Spot111/ER/28/SP	12	28	8°	12000	G53
Spot111/ER/28/FL	12	28	24°	2500	G53
Spot111/ER/28/WFL	12	28	45°	1100	G53
Spot111/ER/40/SP	12	40	8°	20000	G53
Spot111/ER/40/FL	12	40	24°	4000	G53
Spot111/ER/40/WFL	12	40	45°	1200	G53
Spot111/ER/75/SP	12	75	8°	38000	G53
Spot111/ER/75/FL	12	75	24°	7500	G53
Spot111/ER/75/WFL	12	75	45°	2500	G53

ER vs Traditional Lamps			
Energy Reduction ER series	Traditional Halogen AR111 lamps	Save on Energy	Electrical billing * saving / year
28W	35W	20%	US\$ 9.20
40W	50W	20%	US\$ 13.14
75W	90W	20%	US\$ 19.71

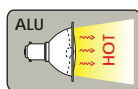
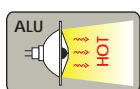
* based on 24 hrs operation/day - US\$0.15/1 KWH

AR48 48mm diameter Aluminium Reflector Lamps

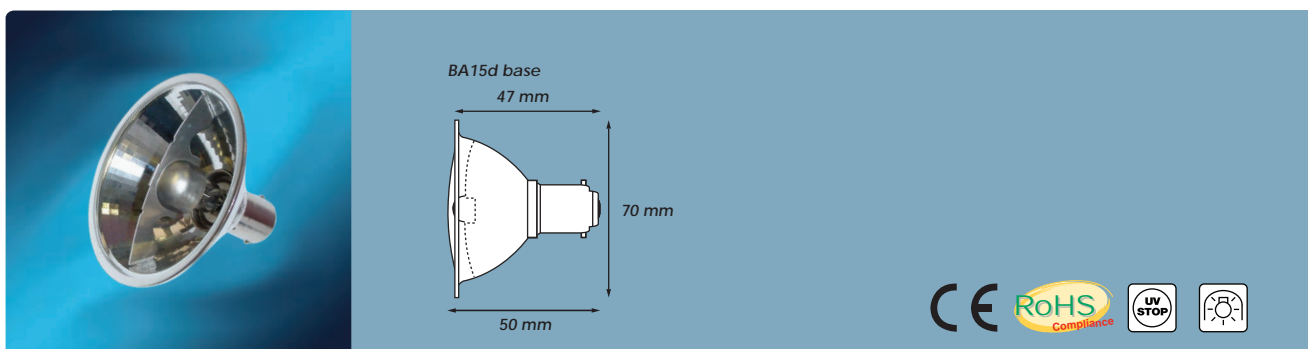


Lamp Code	Voltage (V)	Wattage (W)	Beam Angle	Intensity (cd)	Base
AR48/10W/SP	12	10	8°	1800	G4
AR48/20W/SP	12	20	8°	3600	G4
AR48/35W/SP	12	35	8°	6000	G4

- Low voltage halogen point source lighting
- Intelligent spots – versatile shop-lighting, exhibition and art gallery display
- Anti-glare shield features comfortable visual quality
- Energy saver: **KANDOLite** 35W lamps retrofit for other brand 50W lamps
- Average life 5000 hours
- Colour temperature 3000K
- Aluminium reflector :



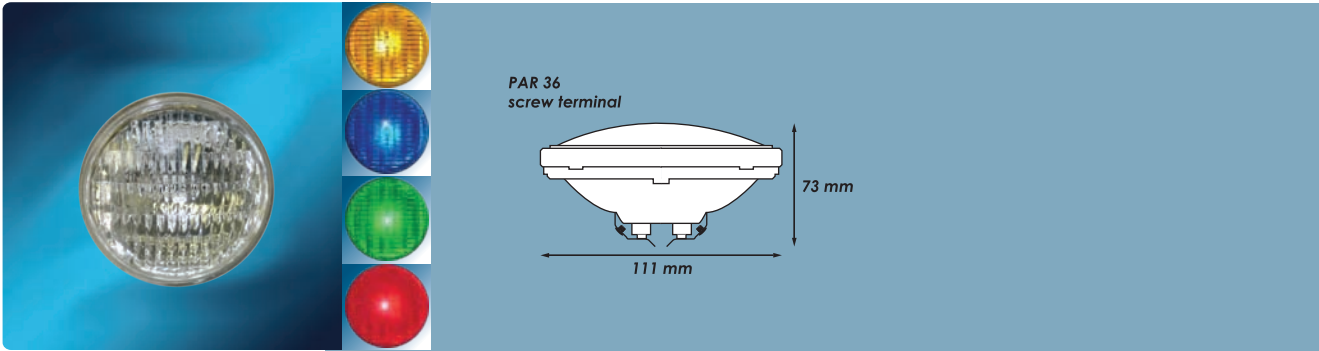
AR70 70 mm diameter Aluminium Reflector Lamps



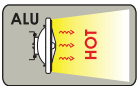
Lamp Code	Voltage (V)	Wattage (W)	Beam Angle	Intensity (cd)	Base
AR70/20W/SP	12	20	8°	5600	BA15d
AR70/20W/FL	12	20	24°	1500	BA15d
AR70/35W/SP	12	35	8°	12000	BA15d
AR70/35W/FL	12	35	24°	2400	BA15d
AR70/50W/SP	12	50	8°	19000	BA15d
AR70/50W/FL	12	50	24°	3400	BA15d

PAR36 Sealed Beam Halogen Lamps

With screw terminals for 12V operation



- Transformer is required
- Shorter lamp length allows flexibility in design of display lighting fixtures
- Xenon-halogen lamp capsule gives high lumen output
- Front hard glass lens cuts UV radiation
- Super Spotlight for outdoor garden lighting
- Colour lens types offer various aesthetic effects available in 35W and 50W in VNSP, NSP, NFL and WFL beams
- Average life 5000 hours
- Aluminium reflector :



Lamp Code	Voltage (V)	Wattage (W)	Beam Angle	Intensity (cd)	Base
20PAR36/VNSP	12	20	5 - 7°	4200	Screw terminal
20PAR36/NSP	12	20	8 - 12°	1700	Screw terminal
# 20PAR36/NFL	12	20	18 - 22°	900	Screw terminal
20PAR36/WFL	12	20	32 - 36°	450	Screw terminal
35PAR36/VNSP	12	35	5 - 7°	8500	Screw terminal
35PAR36/NSP	12	35	8 - 12°	3500	Screw terminal
# 35PAR36/NFL	12	35	18 - 22°	2000	Screw terminal
35PAR36/WFL	12	35	32 - 36°	1000	Screw terminal
50PAR36/VNSP	12	50	5 - 7°	15000	Screw terminal
50PAR36/NSP	12	50	8 - 12°	6000	Screw terminal
# 50PAR36/NFL	12	50	18 - 22°	3200	Screw terminal
50PAR36/WFL	12	50	32 - 36°	1600	Screw terminal

The Narrow Flood beam is unique in KANDOLite PAR36 series