

IndTech

Induction Lamp Technology

What is Induction Lighting?

Essentially induction lamps are an electrode-free fluorescent lamp where the lamp relies on the fundamental principles of electromagnetic induction and gas discharge to create the light. This elimination of filaments and electrodes results in a lamp of virtually unmatched longevity. The external magnetic induction lamp is in principle a fluorescent lamp with electromagnets located against the lamp tube. These are activated by high frequency energy from the electronic ballast through wires that are wrapped around the ferrite inductor coil, creating a powerful magnetic reaction. This magnetic field travels through the glass and energises the atoms in the interior, which are provided by a pellet of amalgam; this in turn emits UV light and as is the case with fluorescent tubes the UV light is up-converted to visible light by the phosphor coating on the inside of the lamp.

Luminaire options with the IndTech Induction Lamp Technology

The IndTech Induction Lamp and Ballast kit is suitable for inclusion within a number of the Morgan Hope Luminaires including but not limited to

- **Highbays**
- **Lowbays**
- **Canopy Lighting**
- **Floodlights**
- **Street lighting**
- **Wall Packs etc.**

In addition the system is ideal for the upgrade of existing luminaires and Morgan Hope can provide bespoke Gear Trays for retro-fit applications. For more information on all Luminaire options with the IndTech Induction Lamp Kits, call our helpline on 01704 512000.

Always ensure the fitting is fully earthed. **Important:** Installation must only be carried out by a Qualified Electrician. Morgan Hope Ltd reserves the right to change specification details without notice.



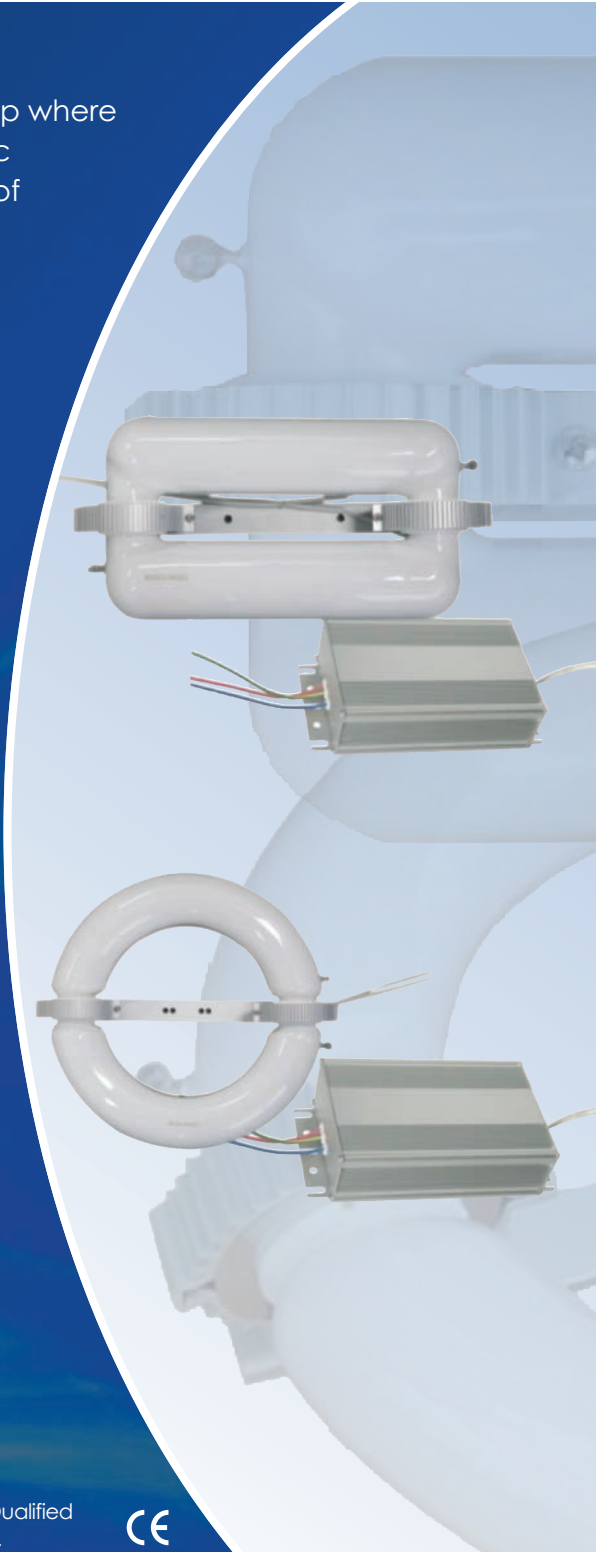
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morganhope
INDUSTRIES LTD

Light **Where** you need it, **When** you need it



What are the benefits of SPL Induction Lamps?

Long Life Performance - eliminating electrodes and filaments and instead relying upon the fundamental principles of electromagnetic induction and gas discharge, to create light, results in lamps of unmatched life. Compared to the lifespan of metal halide lamps (10,000 to 12,000 hours) remote ballasted induction lamps should achieve 60,000 to 100,000 hours. This obviously means substantially reducing the amount of time and money spent maintaining and replacing lamps.

High CRI – the Colour Rendering Index (CRI) is a 1 to 100 scale that quantifies a light source's ability to accurately reflect the colours it is illuminating. The CRI of induction lighting is very high at 80-85 (compared to 50-70 for metal halide) meaning that colours seen under induction light are the actual colours of the object. As the human eye's perception of brightness depends upon colour rendition, induction lighting will be perceived as brighter than the equivalent output from metal halide, putting less strain on the eyes.

High Efficacy – induction lighting has a high lumen output per watt ratio which when combined with its' high CRI (as above) means that equivalent light levels can be achieved from less energy or a better quality and level of light can be achieved without an increase in energy consumption.

Environmentally Friendly – these inductive lamps contain less than 5mg of Mercury, a fraction of that used by metal halide. It's in the form of Amalgam (an alloy of Mercury and other metals) which is a more

eco-friendly and a safer alternative to liquid Mercury. This makes the lamps easier and safer to handle on disposal and would not lead to land and/or water contamination even if the lamps were not properly recycled.

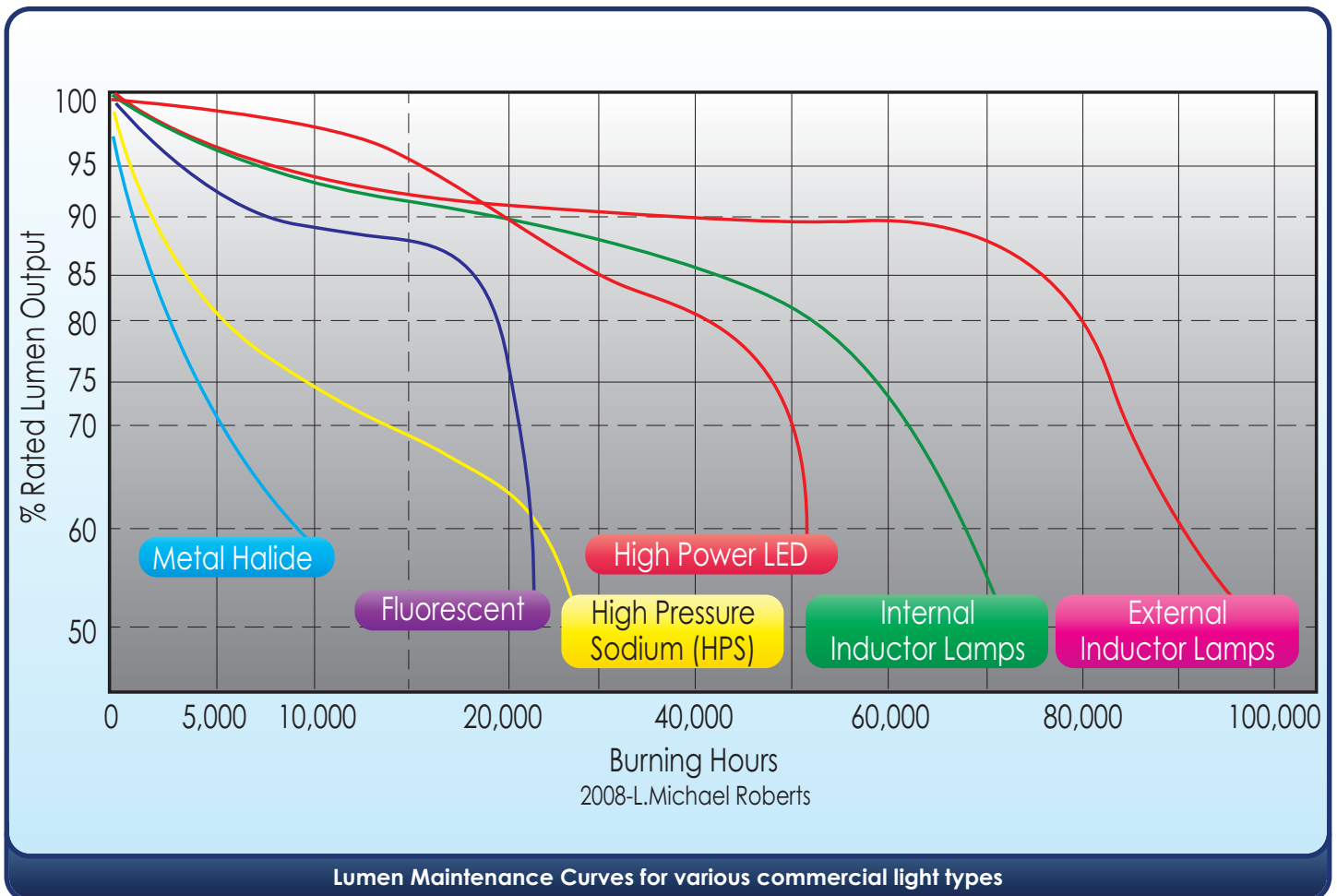
No Flicker – high frequency operation (230kHz) to create a comfortable environment for users, reducing eye strain and stress issues sometimes associated with other light sources.

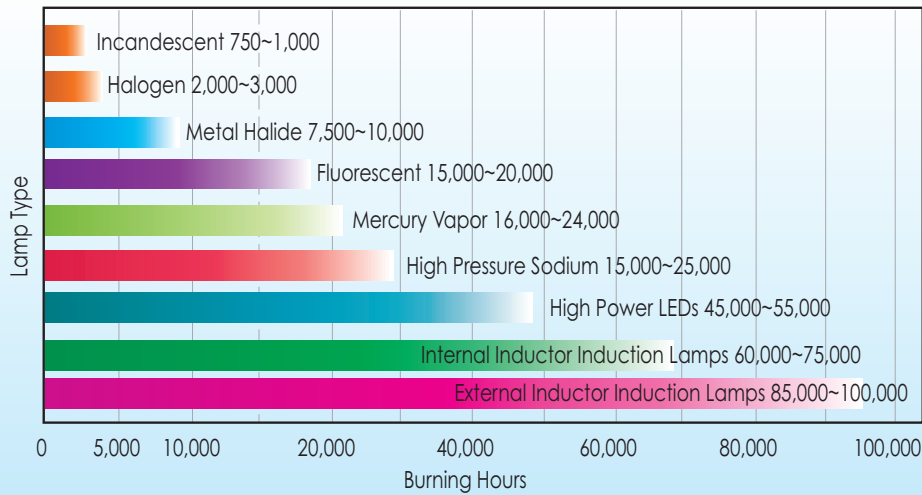
Excellent Temperature Tolerance – these lamps will operate reliably over a wide range of ambient temperatures maintaining at least 85% nominal lumen output from -30°C to 50°C.

Wide Voltage Range – this technology has a wide operating voltage range of plus or minus 10% with the light output, consumed power and system efficiency varying by less than 3% as a result of mains voltage fluctuations.

Energy Control of Induction Lamps – Unlike Discharge Lighting, Induction lamps have immediate striking when switched on, enabling the suitability of control by occupancy and daylight control systems. Morgan Hope offer a full range of detection units details of which can be supplied on request.

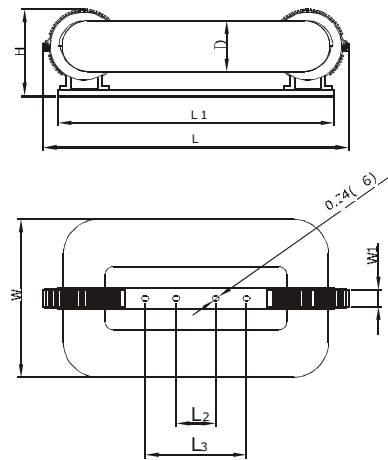
Certification – the IndTech range of induction lamps meet all international standards of control and production including FCC, CE, CCC, ETL and UL.





Typical Lamp Lifespan

Lamp Technical Data for Rectangular 'R' Series



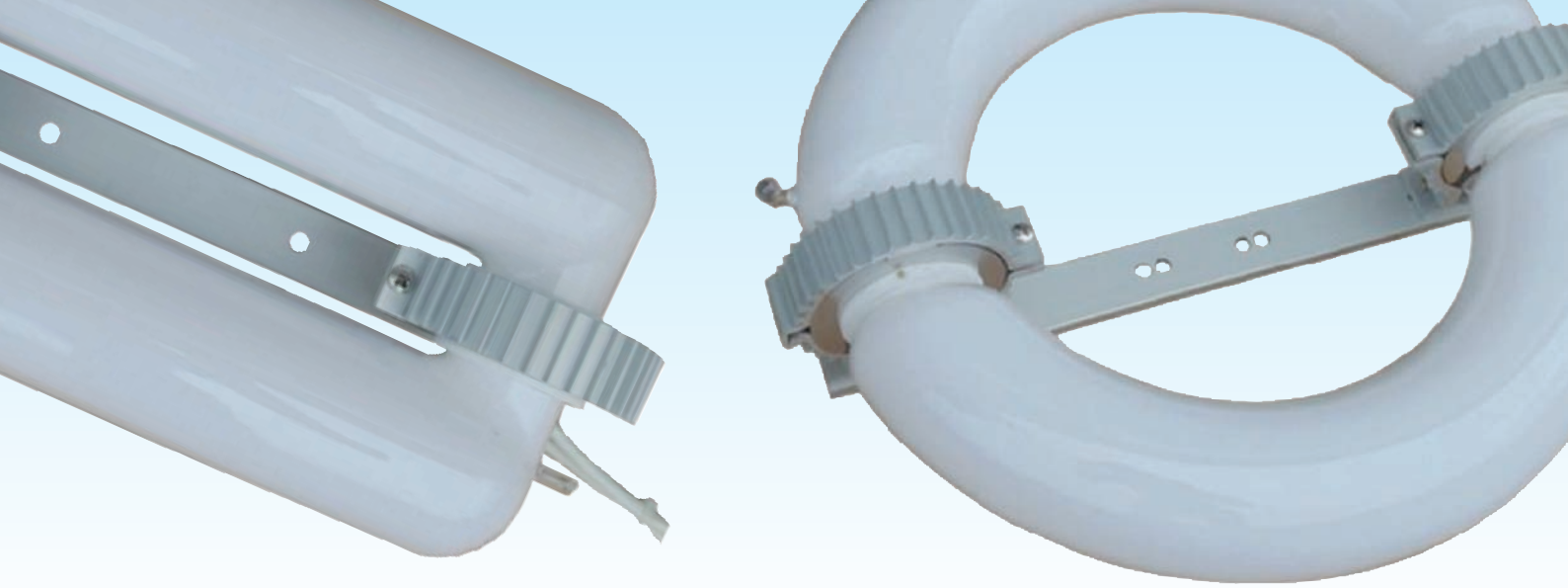
Dimensions:

mm (inch) Wattage	L	L1	L2	L3	W	W1	D	H
40W/60W	193(7.6)	179(7.05)	45(1.77)		113(4.45)	19(0.75)	42(1.65)	74(2.91)
80W/100W	298(11.73)	270(10.63)	85(3.35)		140(5.51)	20(0.79)	54(2.13)	87(3.43)
120W	368(14.48)	340(13.39)	85(3.35)		140(5.51)	20(0.79)	54(2.13)	87(3.43)
150W	396(15.6)	369(14.53)	85(3.35)		140(5.51)	20(0.79)	54(2.13)	87(3.43)
200W/250W	445(17.52)	411(16.18)	85(3.35)		147(5.79)	23(0.91)	58(2.28)	87(3.43)
300W	543(21.38)	505(19.88)	85(3.35)	10.4(255)	152(5.98)	39(1.54)	58(2.28)	87(3.43)
400W	848(33.38)	812(31.96)	85(3.35)	10.4(255)	176(6.93)	45(1.77)	58(2.28)	87(3.43)
500W	1048(41.26)	1012(39.84)	85(3.35)	10.4(255)	176(6.93)	36(1.42)	58(2.28)	109(4.30)

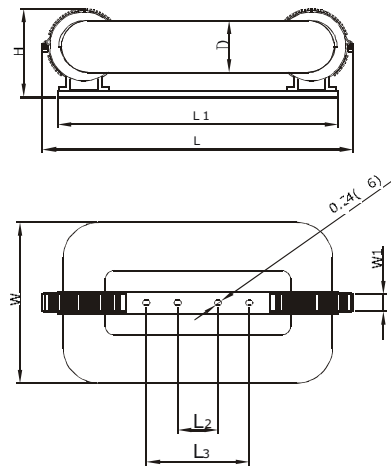
Specifications:

Model	Wattage (W)	Operating Frequency (Hz)	Pupil Lumens (LM)	Rated Lumens (LM)	Rated Efficiency (LM/W)	CCT (K)	CRI	Lumens Maintenance 56,000hrs	Average Lifespan (HRS)	Warranty (Years)
IndTech-R40-850	40	230	4160-4480	2600-2800	65-70	5000	≧80	≧70%	100,000	5
IndTech-R60-850	60	230	6720-7200	4200-4500	70-75	5000	≧80	≧70%	100,000	5
IndTech-R80-850	80	230	8960-9600	5600-6000	70-75	5000	≧80	≧70%	100,000	5
IndTech-R100-850	100	230	11200-12000	7000-7500	70-75	5000	≧80	≧70%	100,000	5
IndTech-R120-850	120	230	14400-15360	9000-9600	75-80	5000	≧80	≧70%	100,000	5
IndTech-R150-850	150	230	18000-19200	11250-12000	75-80	5000	≧80	≧70%	100,000	5
IndTech-R200-850	200	230	25600-27200	16000-17000	80-85	5000	≧80	≧70%	100,000	5
IndTech-R250-850	250	230	32000-34000	20000-21250	80-85	5000	≧80	≧70%	100,000	5
IndTech-R300-850	300	230	40800-43200	24000-25500	80-85	5000	≧80	≧70%	100,000	5
IndTech-R400-850	400	230	54400-57600	32000-34000	80-85	5000	≧80	≧70%	100,000	5
IndTech-R500-850	500	230	68000-72000	40000-42500	80-85	5000	≧80	≧70%	100,000	5

Note: 1. Products with CCT 2700-6500K are available upon request. 2. The lamp must be installed in an enclosed fixture. 3. Ambient working temperature must be -25~40°C(-13~104F) 4. Products for operating under working temperature from -40~0°C(-40~32F) are available upon request.



Lamp Technical Data for Circular 'C' Series



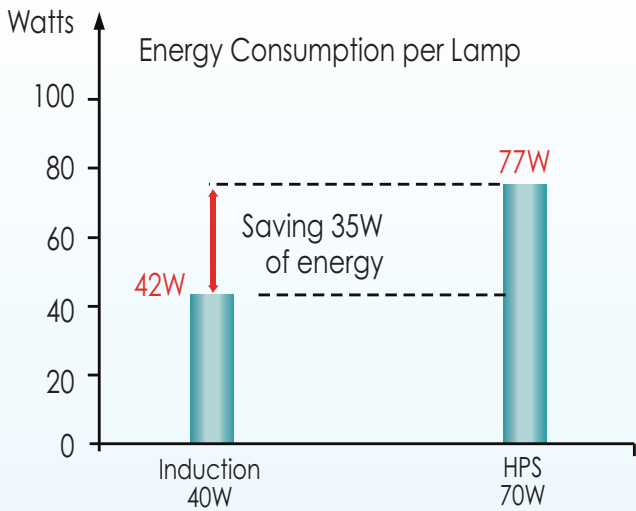
Dimensions:

mm (inch) Wattage	L	L1	L2	L3	W	W1	D	H
40W/60W	183(7.20)	152(5.98)	165(6.5)	30(1.18)		19(0.75)	42(1.65)	74(2.91)
80W/100W	245(9.65)	216(8.5)	217(8.54)	30(1.18)	45(1.77)	20(0.79)	54(2.13)	87(3.43)
120W	301(11.85)	275(10.83)	275(10.83)	30(1.18)	45(1.77)	20(0.79)	54(2.13)	87(3.43)
150W	348(13.7)	315(12.4)	313(12.32)	30(1.18)	45(1.77)	23(0.97)	58(2.28)	87(3.43)
200W/250W	425(16.73)	388(15.28)	390(15.35)	30(1.18)	45(1.77)	39(1.54)	58(2.28)	87(3.43)
300W	470(18.50)	445(17.52)	448(17.52)	30(1.18)	45(1.77)	45(1.77)	58(2.28)	87(3.43)
400W	485(19.10)	450(17.72)	510(20.07)	30(1.18)	45(1.77)	45(1.77)	65(2.56)	109(4.30)

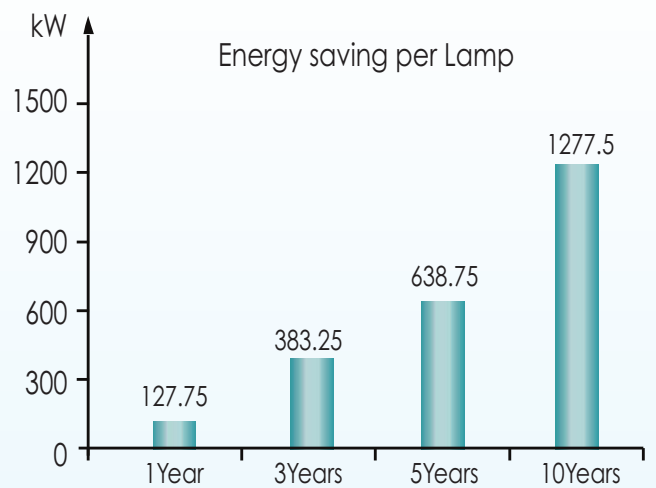
Specifications:

Model	Wattage (W)	Operating Frequency (Hz)	Pupil Lumens (LM)	Rated Lumens (LM)	Rated Efficiency (LM/W)	CCT (K)	CRI	Lumens Maintenance 56,000hrs	Average Lifespan (HRS)	Warranty (Years)
IndTech-C40-850	40	230	4160-4480	2600-2800	65-70	5000	#80	≠70%	100,000	5
IndTech-C60-850	60	230	6720-7200	4200-4500	70-75	5000	#80	≠70%	100,000	5
IndTech-C80-850	80	230	8960-9600	5600-6000	70-75	5000	#80	≠70%	100,000	5
IndTech-C100-850	100	230	11200-12000	7000-7500	70-75	5000	#80	≠70%	100,000	5
IndTech-C120-850	120	230	14400-15360	9000-9600	75-80	5000	#80	≠70%	100,000	5
IndTech-C150-850	150	230	18000-19200	11250-12000	75-80	5000	#80	≠70%	100,000	5
IndTech-C200-850	200	230	25600-27200	16000-17000	80-85	5000	#80	≠70%	100,000	5
IndTech-C250-850	250	230	32000-34000	20000-21250	80-85	5000	#80	≠70%	100,000	5
IndTech-C300-850	300	230	40800-43200	24000-25500	80-85	5000	#80	≠70%	100,000	5
IndTech-C400-850	400	230	54400-57600	32000-34000	80-85	5000	#80	≠70%	100,000	5
IndTech-C500-850	500	230	68000-72000	40000-42500	80-85	5000	#80	≠70%	100,000	5

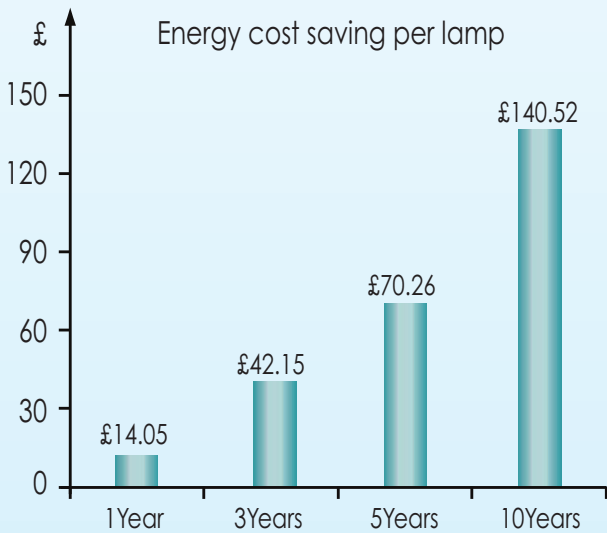
Note: 1. Products with CCT 2700-6500K are available upon request. 2. The lamp must be installed in an enclosed fixture. 3. Ambient working temperature must be -25~40°C(-13~104F) 4. Products for operating under working temperature from -40~0°C(-40~32F) are available upon request.



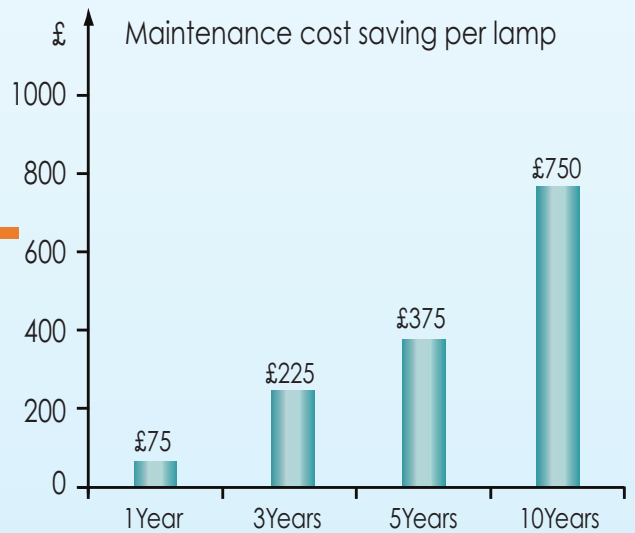
The Induction system consumes just a nominal 5% more energy than the actual lamp rating, whereas the HPS system consumes 10% ± more than actual lamp rating.



Runs 10hours/day, 365days/year.



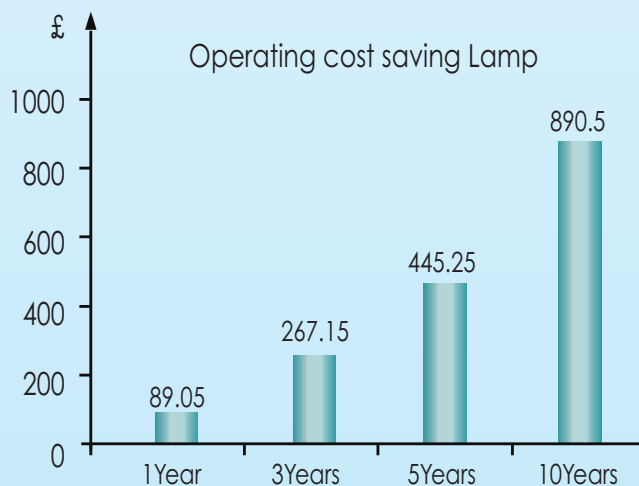
Energy Cost: Average £0.11/kWh.



Average Assessed Replacement Cost: £150/bulb.

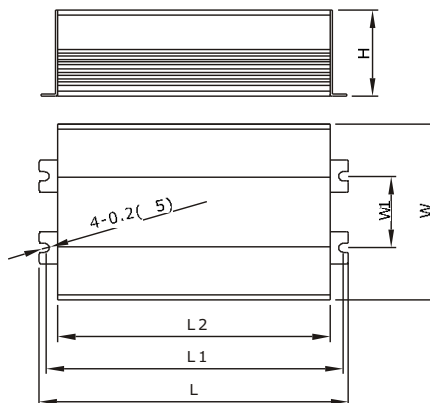
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Electronic Ballasts

Profiled Aluminium Case (40-300W)



Dimensions:

mm (inch)	Wattage	L	L1	L2	W	W1	H
	40W/60W/80W/100W	141 (5.55)	133 (5.24)	123 (4.84)	98 (3.86)	40 (1.57)	48 (1.89)
	120W/150W/200W	185 (7.28)	177 (6.97)	167 (6.58)	98 (3.86)	40 (1.57)	48 (1.89)
	250W/300W	228 (8.98)	212 (8.35)	196 (7.72)	120 (4.72)	40 (1.57)	63 (2.48)

Specifications:

Model	Wattage (W)	Voltage	Current (A)	THD	Power Factor (A)	Allowed Case Temperature
G40UNRP1	40	120-277V	0.33-0.14	<10%	>0.96	<70°C (158F)
G40S5RP1	40	347V	0.11	<10%	>0.96	<70°C (158F)
G60UNRP1	60	120-277V	0.5-0.22	<10%	>0.96	<70°C (158F)
G60S5RP1	60	347V	0.17	<10%	>0.96	<70°C (158F)
G80UNRP1	80	120-277V	0.67-0.29	<10%	>0.96	<70°C (158F)
G80S5RP1	80	347V	0.23	<10%	>0.96	<70°C (158F)
G100UNRP1	100	120-277V	0.83-0.36	<10%	>0.96	<70°C (158F)
G100S5RP1	100	347V	0.29	<10%	>0.96	<70°C (158F)
G1200UNRP1	120	120-277V	1-0.43	<10%	>0.96	<70°C (158F)
G120S5RP1	120	347V	0.35	<10%	>0.96	<70°C (158F)
G150UNRP1	150	120-277V	1.25-0.54	<10%	>0.96	<70°C (158F)
G150S5RP1	150	347V	0.43	<10%	>0.96	<70°C (158F)
G200UNRP1	200	120-277V	1.67-0.72	<10%	>0.96	<70°C (158F)
G200S5RP1	200	347V	0.58	<10%	>0.96	<70°C (158F)
G250UNRP2	250	120-277V	2.08-0.9	<10%	>0.96	<70°C (158F)
G250S5RP2	250	347V	0.72	<10%	>0.96	<70°C (158F)
G300UNRP2	300	120-277V	2.5-1.08	<10%	>0.96	<70°C (158F)
G300S5RP2	300	347V	0.86	<10%	>0.96	<70°C (158F)



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All electrical installation work should be carried out by a qualified electrician.

*Morgan Hope Industries reserve the right to amend assembly details, specifications or components without notice.