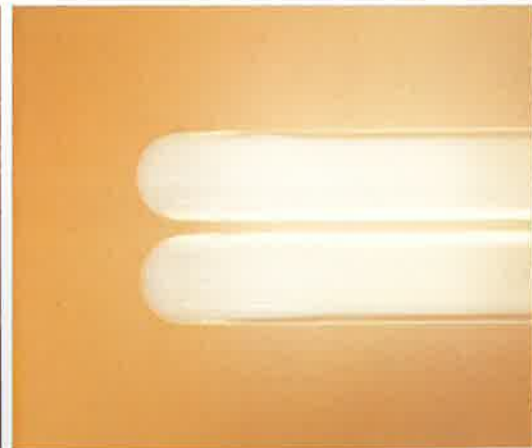
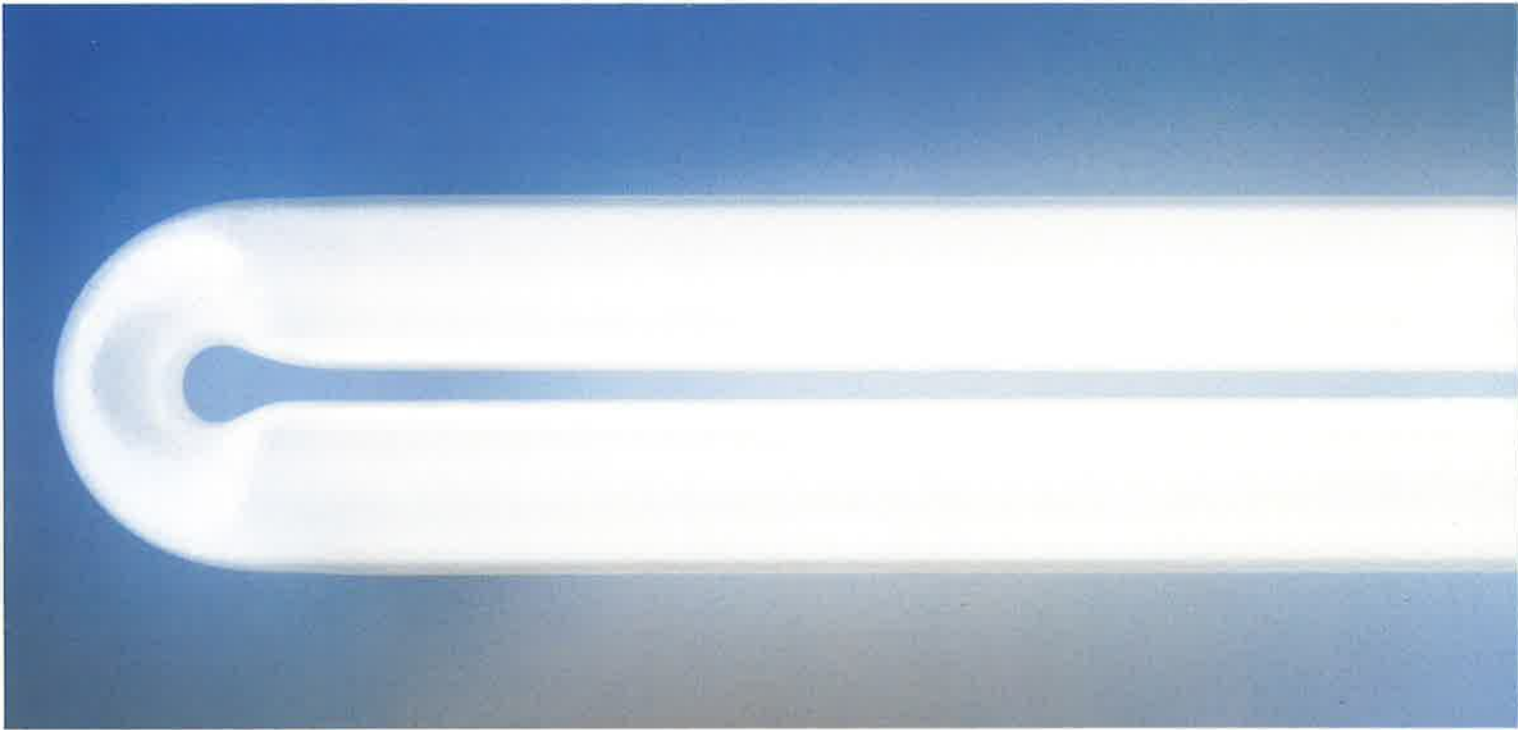




**GE Thorn**

# 2L & 4L

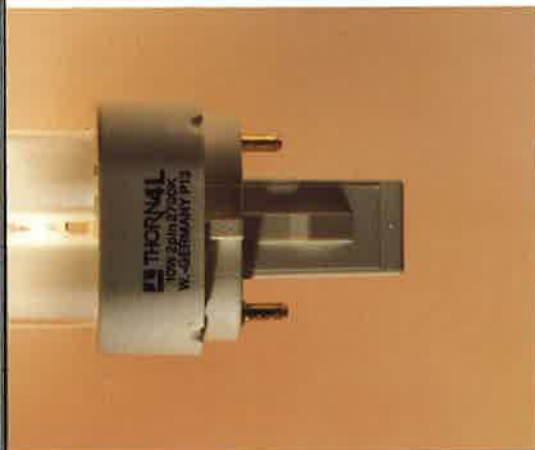
*Compact fluorescent lamps*



GE Thorn introduces a full range of two limbed **2L** and four limbed **4L** compact fluorescents which, together with the unique **2D** create probably the largest range of compact fluorescent lamps.

These lamps can produce a staggering 80 lumens per watt for a fraction of the power consumed by GLS lamps. Coupled with up to 8000 hours life, the GE Thorn **2L** and **4L** become the obvious choice in today's energy-conscious world.

The success of GE Thorn Compact Fluorescents is reflected in their wide and diverse usage, in social and domestic, commercial or industrial lighting.



- **2L** and **4L** compact fluorescents are designed to replace lamps up to 3 times their length. High light output is attained and maintained by the tri-phosphor technology, as developed for GE Thorn POLYLUX tubes.
- Up to 8000 hours life, typically 8 times longer than the 1000 hours life of GLS.
- 75% saving in power consumption compared to GLS.
- Space saving lamps for small luminaires - ideal for modern modular ceiling units. GE Thorn pioneered the 40W 2L design as the optimum size for 600 x 600 moduls.
- The shapes and sizes of **2L** and **4L** greatly widen the design scope for original luminaires with many different lighting performances.
- No task is too big for these small lamps. 11 wattages in 12 physical sizes, 4 colour temperatures, and with either 2 or 4 pin caps.
- 2 pin lamps have an integral starter which helps in the design of space-saving luminaires, and for ease of use.
- 4 pin lamps are available to take advantage of the growth areas in compact lighting - Emergency, High Frequency, Solar and Transport applications.

#### 4L energy savers

watts

10 = 60

13 = 75

18 = 100

26 = 150



#### 2L energy savers

watts

5 = 25

7 = 40

9 = 60

11 = 75

18 = 100

24 = 150



# Colour coordinated fluorescents

**2L** and **4L**'s colours are matched with those of a whole range of lamp types, sizes and wattages. GE Thorn fluorescents thus offer a coordinated set of lighting sources that facilitate specification, purchasing and maintenance.

**2L**    **4L**    **2D**    **T8 Polylux**    **T12 Polylux U-tubes**

## Applications

### 827 2700K

very warm colour for social areas eg restaurants. They can also be used in cold countries to create a warm effect.

### 830 3000K

warm colour with applications in social areas such as hotels, receptions and certain retail outlets.

### 835 3500K

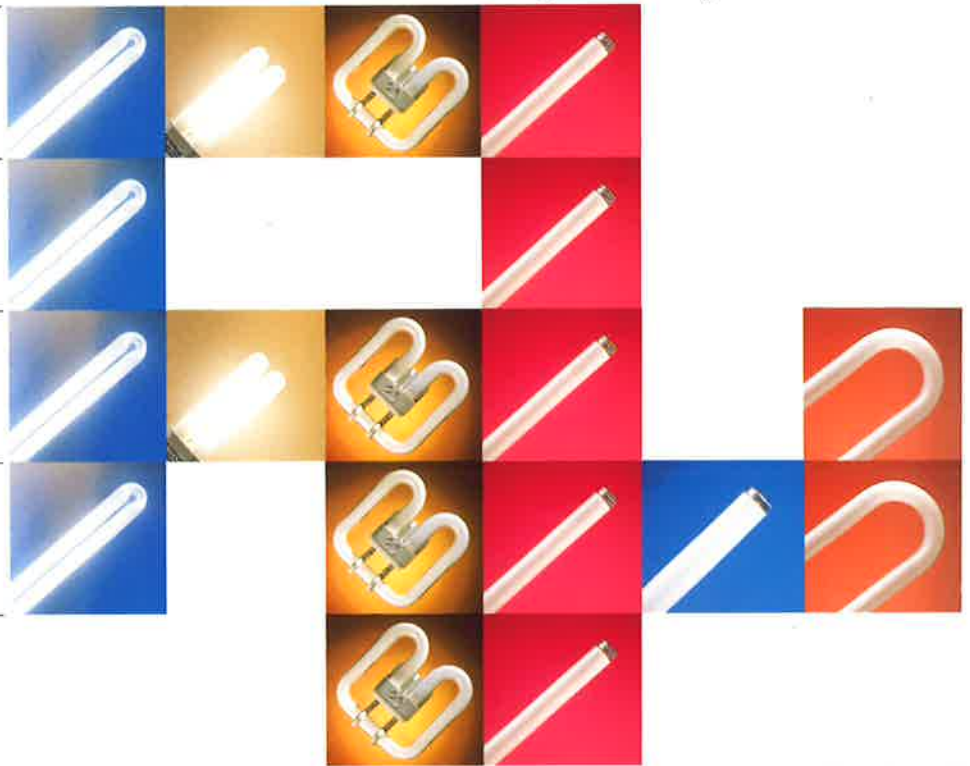
intermediate colour suitable for general commercial and industrial applications.

### 840 4000K

intermediate colour used to create a cool crisp, businesslike atmosphere

### 860 6000K

very cool colour used in very warm countries to create a cool ambience.



## Ease of specification

The Colour Rendering index and the Colour Temperature of GE Thorn **2L** and **4L** can be readily identified by their code, thus:

**Ra80+ CCT 3000K = 830**

**Ra80+ CCT 4000K = 840**

## Colour Rendering Index

Colour rendering is the ability of a lamp to help distinguish colour. The accuracy with which a lamp can render colour can be quantified by a general index, Ra, with a maximum value of 100. Fluorescent lamps generally vary from an Ra of 50 to an Ra of 95+. Lamps with an Ra of 80+ are considered very good.

## Colour Temperature

The Correlated Colour Temperature, CCT, defines the apparent colour emitted from a lamp. This is described in degrees Kelvin (K) and a lamp can be classified in the following way:

WARM colour temperature < 3300K

INTERMEDIATE colour temperature 3300K-5300K

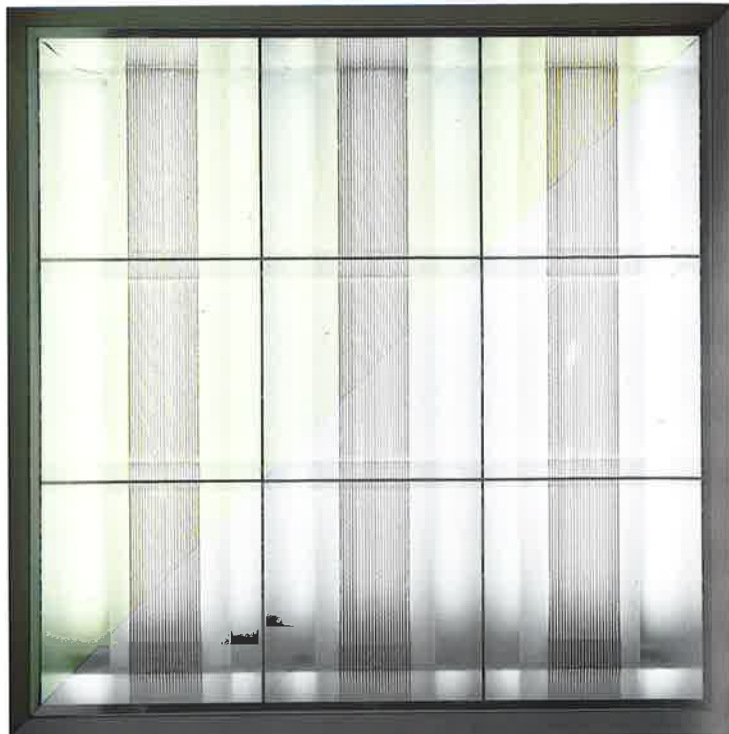
COOL colour temperature > 5300K

# Compact fluorescent lamps

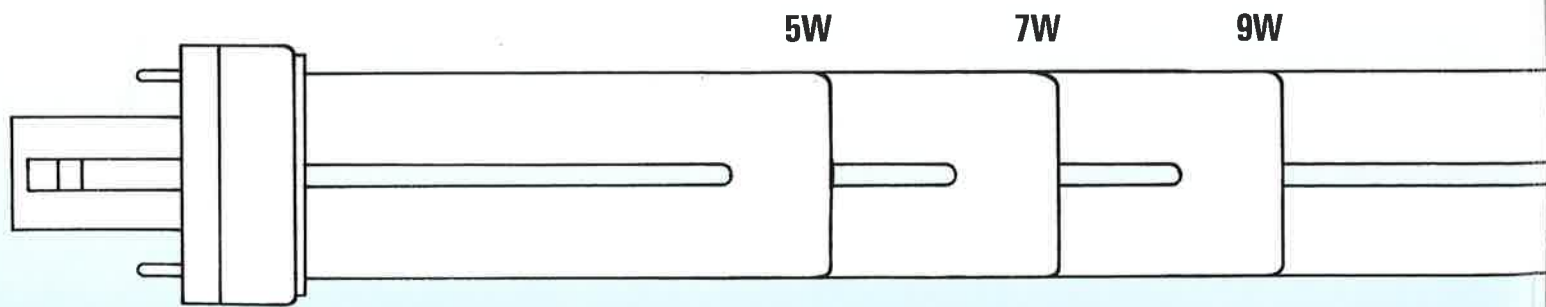
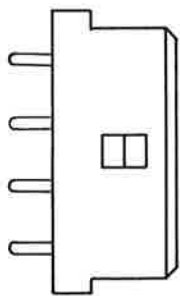
## 2L

### **40W 2L the perfect choice for modular luminaires**

*In the 600 x 600mm luminaires shown, the 40W 2L lamps, top left, fill the entire length of the reflector louvres maximising their effectiveness and increasing the efficiency of the luminaire. By contrast shorter lamps, bottom right, do not 'reach' and leave areas of the reflectors unutilized, or impose more complex and expensive solutions. Furthermore, the 40W 2L is specifically designed for operation with High Frequency Electronic ballast. This optimizes lamp efficacy, achieving 83 lumens per watt including circuit losses (twin lamp circuit).*



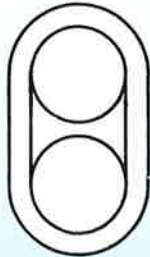
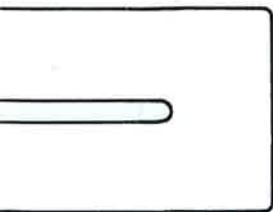
illustrations are actual size



wattage	lamp cap	operating position	correlated colour temperature *K	colour rendering index Ra	lumens at 100 hrs	lumens at 2000 hrs	life average hrs	minimum lamp starting temperature °C	weight g	lamp voltage V	lamp current A	packing data box kg	dimensions mm	volume m <sup>3</sup>	box quantity
5W	2L 827 2G7	G23 2pin univ	2700	82	250	230	8000	-15	25	40	0.18	0.4	122 x 122 x 77	0.00115	10
		G23 4pin "	"	"	"	"	"	"	"	"	"	"	"	"	"
7W	2L 835 2G7	G23 2pin univ	3500	82	250	230	8000	-15	"	"	"	"	"	"	"
		G23 4pin "	"	"	"	"	"	"	"	"	"	"	"	"	"
9W	2L 827 2G7	G23 2pin univ	2700	82	400	370	8000	-15	33	45	0.175	0.48	142 x 122 x 77	0.00133	10
		G23 4pin "	"	"	"	"	"	"	"	"	"	"	"	"	"
11W	2L 835 2G7	G23 2pin univ	3500	82	400	370	8000	-15	"	"	"	"	"	"	"
		G23 4pin "	"	"	"	"	"	"	"	"	"	"	"	"	"
18W	2L 830 2L 840	G23 2pin univ	2700	82	900	850	8000	-15	56	90	0.155	0.71	240 x 122 x 77	0.00226	10
		G23 4pin "	"	"	"	"	"	"	"	"	"	"	"	"	"
24W	2L 830 2L 835 2L 840	2G11 4pin univ	3000	82	1200	1130	7500	-15	96	61	0.37	3.5	260 x 235 x 136	0.00831	25
		" " "	3500	"	"	"	"	"	"	"	"	"	"	"	"
		" " "	4000	"	"	"	"	"	"	"	"	"	"	"	"
36W	2L 830 2L 835 2L 840	2G11 4pin univ	3000	82	1800	1690	1500	-15	132	91	0.34	4.4	355 x 235 x 136	0.01135	25
		" " "	3500	"	"	"	"	"	"	"	"	"	"	"	"
		" " "	4000	"	"	"	"	"	"	"	"	"	"	"	"
40W	2L 830 2L 835 2L 840	2G11 4pin univ	3000	82	2900	2725	7500	-15	168	112	0.43	5.3	446 x 235 x 136	0.01426	25
		" " "	3500	"	"	"	"	"	"	"	"	"	"	"	"
		" " " or cap down	4000	"	"	"	"	"	"	"	"	"	"	"	"

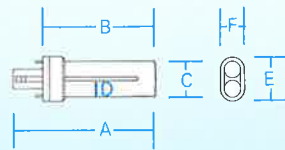
**Starters**  
 For use with 4 pin lamps only.  
 2 pin lamps have integral starter.  
 In single circuits use 155/500.  
 In twin circuits use 155/200 x 2.

11W



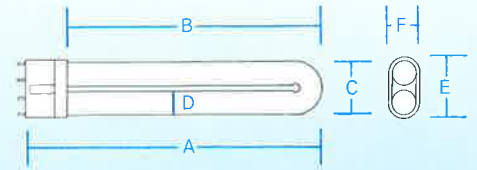
A B C D E F

5W	108	85	27	12	34	19.5
7W	138	115	27	12	34	19.5
9W	168	145	27	12	34	19.5
11W	238	215	27	12	34	19.5



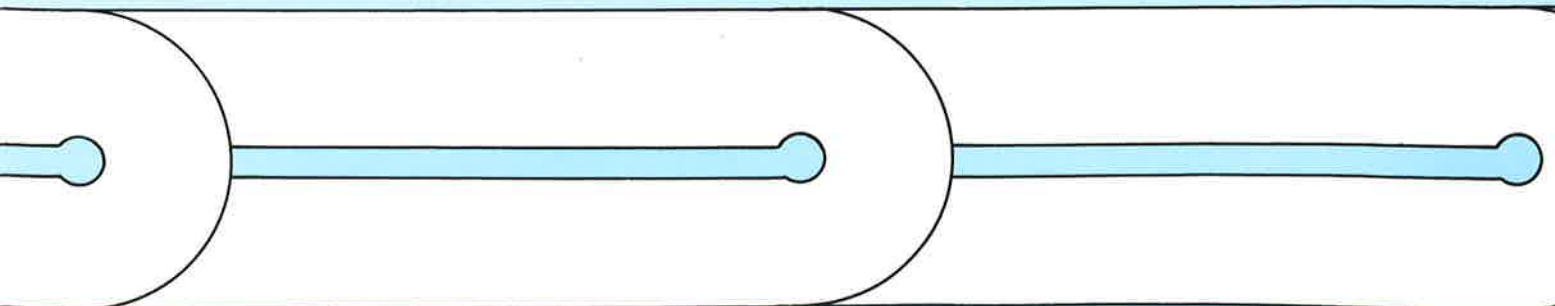
A B C D E F

18W	225	193	40	20	43.9	23.6
24W	320	288	40	20	43.9	23.6
36W	415	383	40	20	43.9	23.6
40W	530	498	40	20	43.9	23.6



18W

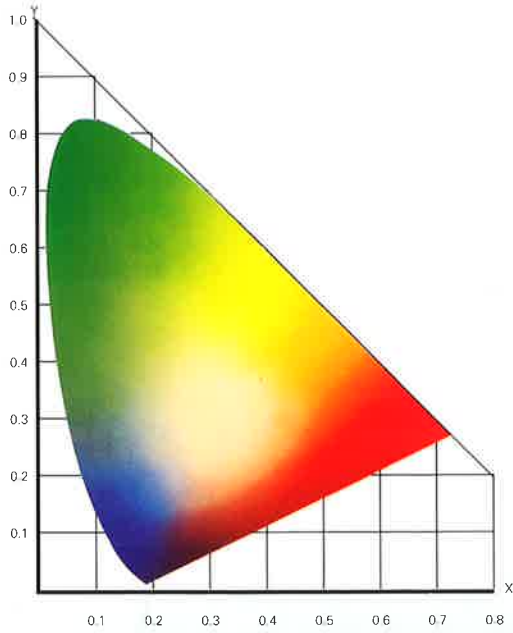
24W



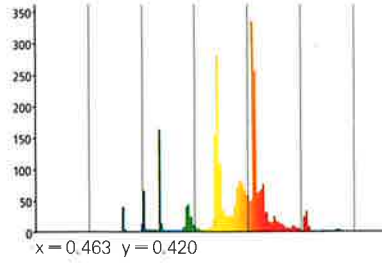
**2L & 4L Performance with temperature**

Careful design of the "cool tip" (inside the lamp cap) which controls the light output of the lamp relative to ambient temperature has produced a lamp which holds within 10% of the maximum light output over a wide temperature range.

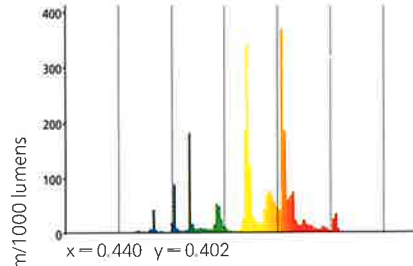
**Chromaticity coordinates: x y**



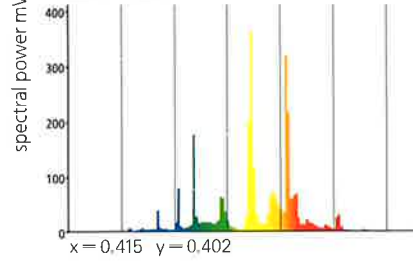
**2L 827 4L 827**



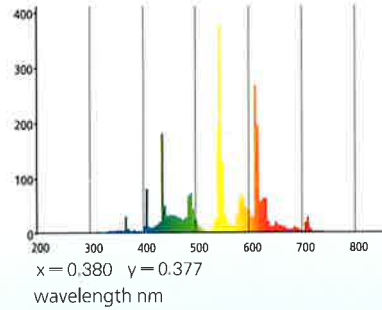
**2L 830**



**2L 835 4L 835**



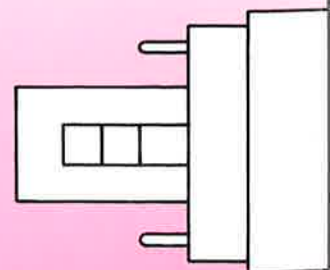
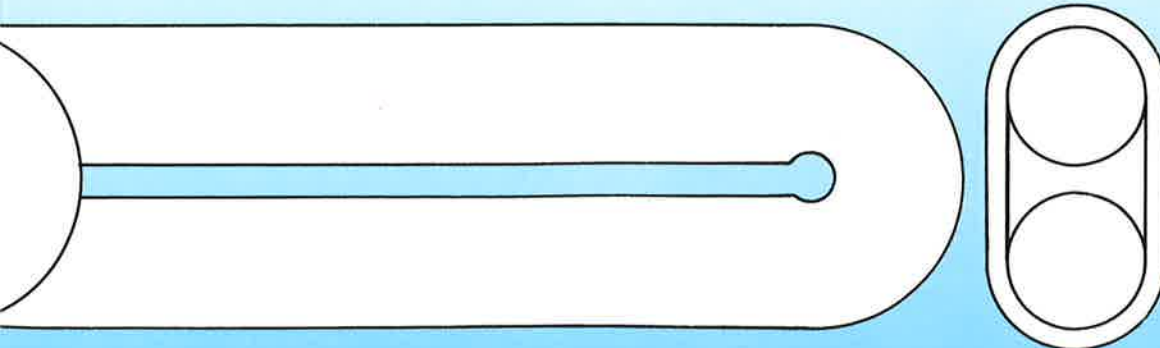
**2L 840**



**4L**

**36W**

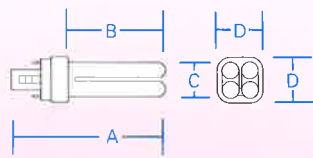
**40W**



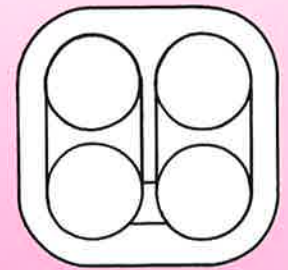
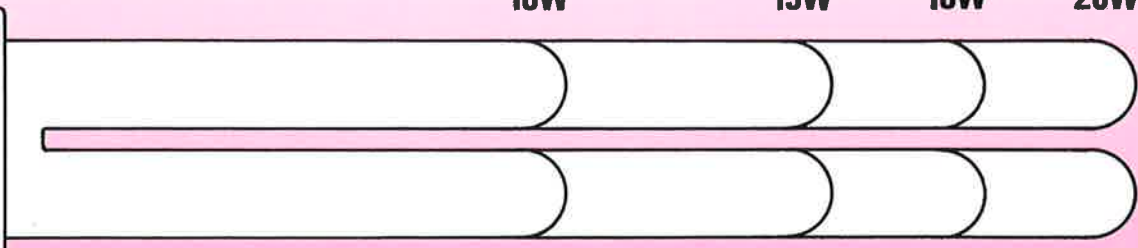
wattage	lamp cap	operating position	correlated colour temperature °K				colour rendering index Ra	lumens at 100 hrs	life average hrs	minimum lamp starting temperature °C	weight g	lamp voltage V	lamp current A	packing data	dimensions mm	volume m <sup>3</sup>	box quantity
10W	4L 827	G24d-1 2pin univ	2700	82	600	550	8000	-15	46	60	0.19	0.61	185 x 125 x 80	0.00185	10		
		G24q-1 4pin "	"	"	"	"	"	"	"	"	"	"	"	"	"		
10W	4L 835	G24d-1 2pin univ	3500	82	600	550	8000	-15	"	"	"	"	"	"	"		
		G24q-1 4pin "	"	"	"	"	"	"	"	"	"	"	"	"	"		
13W	4L 827	G24d-1 2pin univ	2700	82	900	850	8000	-15	62	90	0.175	0.77	185 x 160 x 80	0.00237	10		
		G24q-1 4pin "	"	"	"	"	"	"	"	"	"	"	"	"	"		
13W	4L 835	G24d-1 2pin univ	3500	82	900	850	8000	-15	"	"	"	"	"	"	"		
		G24q-1 4pin "	"	"	"	"	"	"	"	"	"	"	"	"	"		
18W	4L 827	G24d-2 2pin univ	2700	82	1200	1100	8000	-15	76	90	0.2	0.91	185 x 180 x 80	0.00266	10		
		G24q-2 4pin "	"	"	"	"	"	"	"	"	"	"	"	"	"		
18W	4L 835	G24d-2 2pin univ	3500	82	1200	1100	8000	-15	"	"	"	"	"	"	"		
		G24q-2 4pin "	"	"	"	"	"	"	"	"	"	"	"	"	"		
26W	4L 827	G24d-3 2pin univ	2700	82	1800	1650	8000	-15	84	100	0.315	0.99	185 x 200 x 80	0.00296	10		
		G24q-3 4pin "	"	"	"	"	"	"	"	"	"	"	"	"	"		
26W	4L 835	G24d-3 2pin univ	3500	82	1800	1650	8000	-15	"	"	"	"	"	"	"		
		G24q-3 4pin "	"	"	"	"	"	"	"	"	"	"	"	"	"		

**Starters**  
 For use with 4 pin lamps only.  
 2 pin lamps have integral starter.  
 In single circuits use 155/500.  
 In twin circuits use 155/200 x 2.

	A	B	C	D
10W	118	95	27	34
13W	153	130	27	34
18W	173	150	27	34
26W	193	170	27	34



10W                      13W                      18W                      26W





**GE Thorn**  
*A genius for light*

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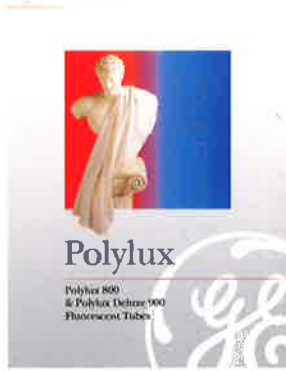
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