



GE Thorn

10W 2D

& 16, 21, 28, 38W Compact fluorescents



10W 2D

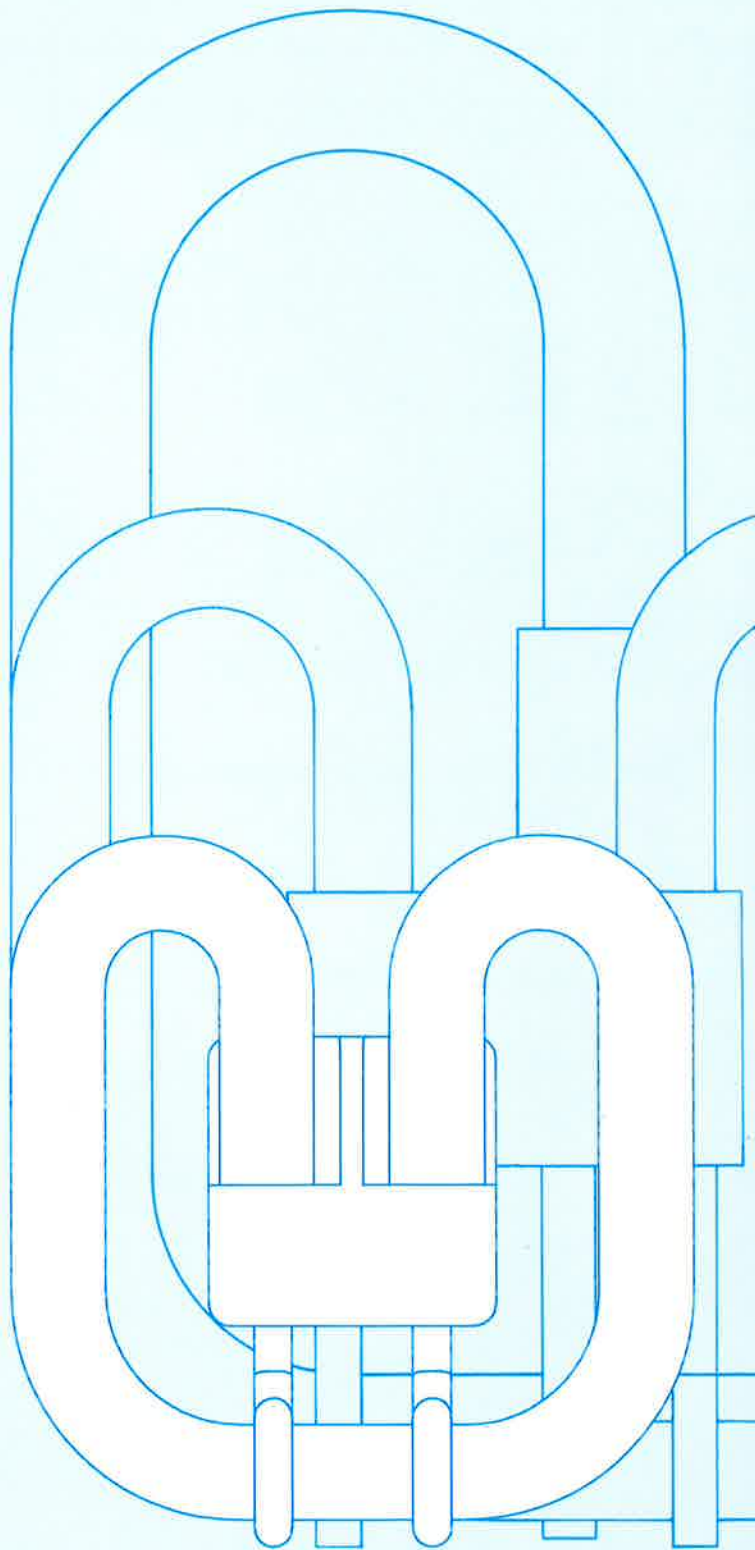
The 10W 2D's many qualities, some unique, make it the compact fluorescent of the 1990's.

Its efficacy, shape and size open significant opportunities, to OEM's in Luminaire Design and to the professional specifiers in Lighting Design.

The range of wattages in 2D fluorescents, from 10 to 38W, will make significant contributions to energy saving now and in the future.

... and its luminaires

- Area Markers
- Bed Reading Lamps
- Bollards
- Brick Lights
- Bulkheads
- Buried Uplighters
- Cabin Lights
- Corridor Lights
- Desklamps
- Downlighters
- Directional Signage
- Draughting Table Lamps
- Decorative – surface, pendant and wall fittings
- Mirror Lights
- Pathway Indicators
- Photo-cell Fittings
- PIR's
- Ramps/Stair Lights
- Recessed Downlighters
- Recessed Wall Lights
- Sales Counter Lights
- Table Lamps
- 'Welcome' Lights



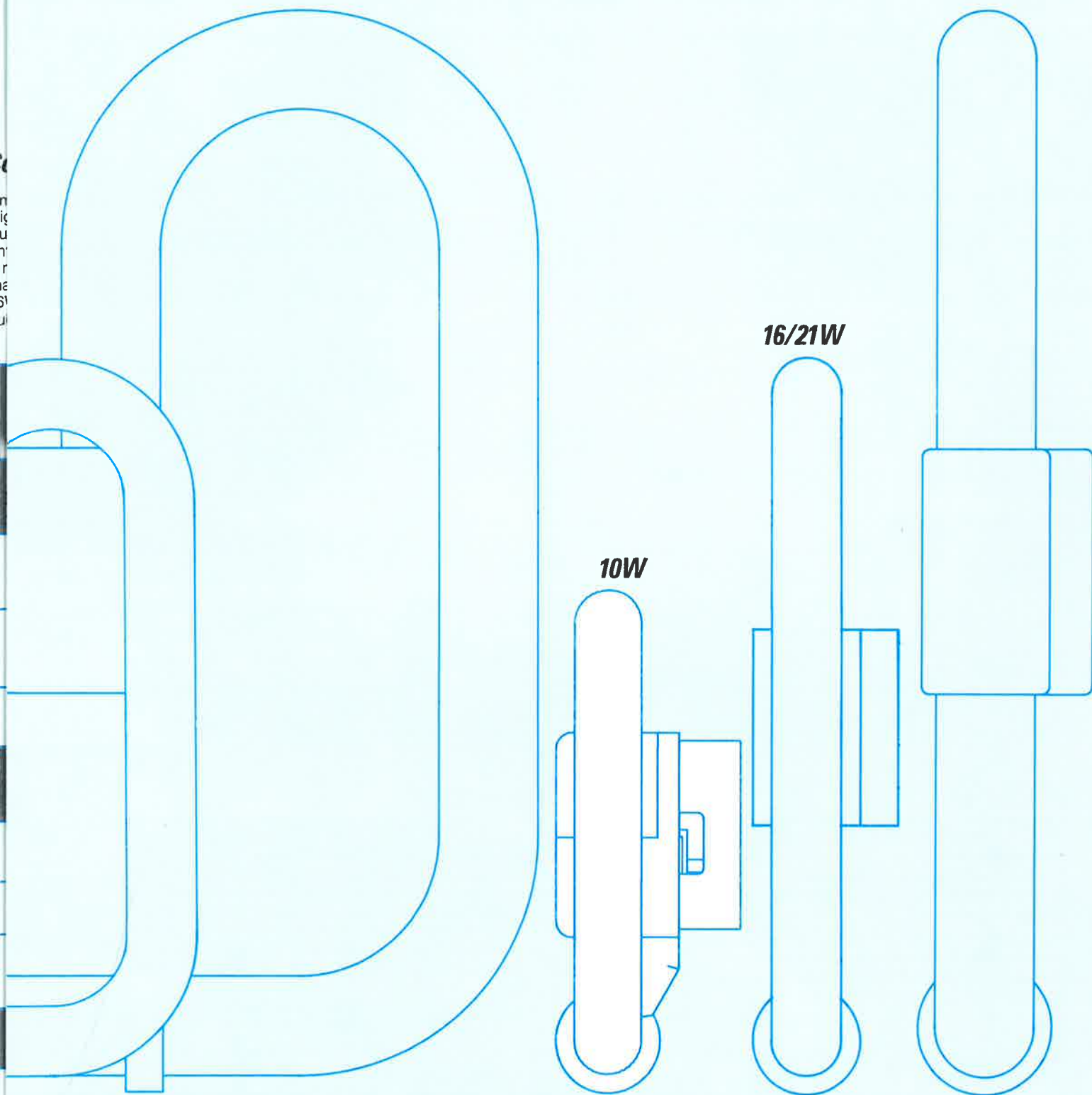
watts	A	B	C	D	weight
10	91	94	35	14	65g
16/21	140	140	27	15	65g
28/38	205	205	35	24 max	130g

nominal dimensions in mm

28/38W

16/21W

10W



Illustrations are Actual size.

Electrical Characteristics 10W 2D Lamp

Data for 240V 50Hz circuits tested in 25°C ambient temperature.

Rated lamp power	10W
Objective lamp power	10.5W
Objective lamp volts	72V
Nominal lamp current:	
running	0.180A
preheat	0.215A
Nominal circuit power	18.5 W

240V

220V

	240V		220V	
	LPF	HPF	LPF	HPF
Circuit power factor*	0.436	0.940	0.449	0.910
Lagging power factor	0.1764	0.0815	0.179	0.088
Supply current A	42.3	19.56	39.4	19.36
Total VA				

Min. starting temperature – 10°C.
At temperatures of below 0°C, a close proximity starting aid is required.

*for high power factor, use a 2µF capacitor.

10W 2D FEATURES

<i>Slim, compact, light and durable</i>	Measuring 91 x 94 x 35mm and weighing only 65g, this 2D lamp offers new possibilities for fresh and imaginative designs in functional and decorative luminaires.	
<i>Broad luminous area and pleasing shape</i>	The Lamp's large area does not impose the use of a diffuser, which in turn makes for a more efficient general lighting luminaire or, with the	addition of a reflector, a directional lighting fitting.
<i>8000 hours life</i>	The long average life of the 2D (typically 8 or 10 times the GLS equivalent) yields lower maintenance costs (running and replacement)	
<i>Ra 82 Colour rendering</i>	The high Ra group means that the 2D is suitable wherever accurate judgement of colour is required.	
<i>Choice of 2700K or 3500K</i>	The correlated colour temperatures permit the free "mixing" of 2D lamps with incandescent	sources with which they share the same pleasing warmth.
<i>10W 2D's 650 lumens equal 60W GLS</i>	The efficacy of 2D yields approximately 70% - 75% savings in power costs over a GLS lamp of similar lumen output.	
<i>Cool running</i>	This virtue of 2D increases the freedom to employ less costly materials and permits the	use of decorative materials such as papers or fabrics in the design of luminaires.
<i>Central lamp cap</i>	No end shadowing.	
<i>High output at lower temperature</i>	As the chart indicates 10W 2D works exceedingly well at lower temperatures; a quality most useful in a host of locations.	
<i>Dimmable</i>	Using the correct control gear the 10W 2D may be dimmed thus making it the ideal light source	for applications such as night lights in hospitals, corridors etc.
<i>Instant-start option for 2D</i>	Indispensable for 10W 2D in stairwells and photo-cell applications and very convenient in most domestic fittings.	
<i>4 pin cap</i>	By not including the starter switch within the lamp cap the lamp can be used in the fastest growing market areas: Emergency,	Dimming, Electronic Control and Transport applications.
<i>Lampcap: safety</i>	The design of the lampholder and cap are such as to make 10W 2D an extremely safe light source to handle.	
<i>Adaptors</i>	To take advantage of the vast incandescent replacement market a choice of conventionally ballasted adaptor or electronic adaptor is to be	made available for the 10W 2D. The adaptors will be designed to last the life of at least four lamps.
<i>Economical and 'green'</i>	The sum total of 2D's features and qualities make it a highly economical lamp, ideal in an energy conscious world.	

Residential and commercial

Task lighting,
showcase and
counter lighting.
Kitchens, bathrooms,
stairs, hallways,
porches.
Built-in lighting
in kitchens or
wardrobes.

Exterior and amenity

Gardens
Parks
Pathways
Stairs and ramps
Car parks
Service areas

24 hour service

Hotels and hospitals:
corridors, stairwells,
night-lights, subways,
car parks.
Travel termini:
lounges, bars,
restaurants.
Fire escape routes.

Emergency

Economical back up
in sustained operation,
or principal light source
in any mode for
Emergency exits,
routes, signs
and indicators.

Transport

Trains
Coaches
Buses
Ships
Boats
Caravans



Colours

Amusement arcades
Night clubs
Bars or other
entertainment areas.
A range of colours
matching those of
10W 2D are available,
subject to quantity.

Other applications

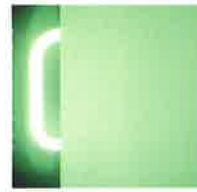
Slide viewers
Security lights
Inspection lights
12V operation



Peach



Lemon



Green



Blue



Lilac

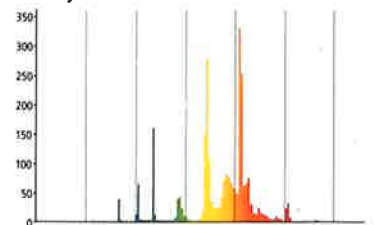


Magenta

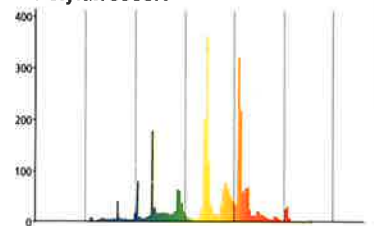


Red

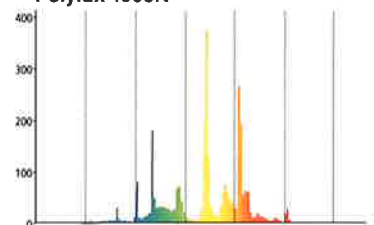
Polylux 2700K



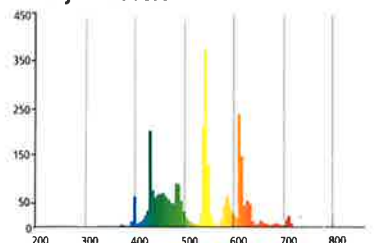
Polylux 3500K



Polylux 4000K



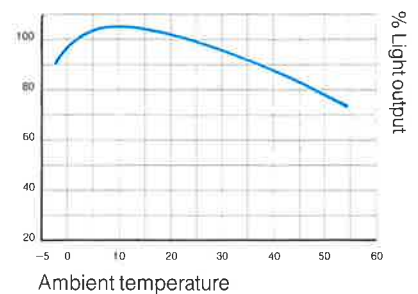
Polylux 6000K



wavelength nm

Spectral power mW/5nm/1000 lumens

Light output against ambient temperature for a 10W 2D lamp



2D range

lamp	lamp cap	operating position	colour	colour rendering index Ra			life average hrs	minimum lamp starting temperature °C	control gear options* Choice of electronic ballast	lampholders*	
				lumens at 100 hrs	lumens at 2000 hrs	lumens at 100 hrs				lampholder 2 pin	lampholder 4 pin
10W GR10q	4 pin	univ	2700K 3500K	82	650	570	8000	-10	13SC69589.4 (240V) 13SC69589.2 (220V)	B1685	B1690
16W GR8	2 pin	univ	2700K 3500K 6000K red blue green peach lemon lilac magenta	82 85	1050 1050	925				8000	-10
16W GR10q	4 pin	univ	2700K 3500K	82 85	1050	925	8000	-10	16SC69562.4 (240V) 16SC69562.2 (220V) G69613 (110V)		
21W GR10q	4 pin	any except	2700K 3500K	82	1350	1170				8000	-10
28W GR10q	4 pin	univ	2700K 3500K 4000K UV	82 85	2050	1850	10000	-10	28SC69603.4 (240V) 28SC69603.2 (220V)		
38W GR10q	4 pin	any except	2700K 3500K	82 85	2950	2600				10000	-10

NA: not applicable

*Control gear and lampholders obtainable from Smart & Brown Ltd, Telephone 0388 420222

Applications

The 10W lamp and adaptor can be used wherever a 60W standard incandescent lamp is currently used.

Ideal applications are those where the lamp is running for several hours per day where the use of this type of energy saving lamp can save large amounts of money in electricity costs.

For the same light output as a 60W standard lamp, energy consumption is reduced by over 76%.

The adaptor has a rated life of 32,000 hours (four lamp lives) thus reducing replacement costs when the lamp fails.

Suggested areas of application are hotels, pubs and clubs, hospitals, schools and local authority institutions as well as domestic applications, especially areas where access is difficult.

In addition the lamp and adaptor unit is capable of operating at temperatures down to -10 °C making it suitable for exterior and security lighting.

Description

The 10W 2D lamp is connected by a 4 pin cap to the adaptor, but the two are separable.

The lamp is a narrow diameter, compact fluorescent lamp formed into the familiar 2D shape which uses Polylux phosphors for continuing high light output together with good colour rendering. The lamp supplied with the adaptor has a 2700K (Warm White) colour which is directly equivalent to the colour of a tungsten filament lamp.

The adaptor is available with either E27 (Edison Screw) or B22 (Bayonet) caps to fit all standard sockets.

Within the adaptor is a conventional ballast together with an electronic starter switch to give instant start characteristics.

The adaptor is made of white glass filled polyester, exactly the same material as the lamp moulding, and the angle of the base is designed to fit most lampholders.

Life

Adaptor has a rated average life of 32,000 hours i.e. equivalent to 4 x 10W 2D lamps.

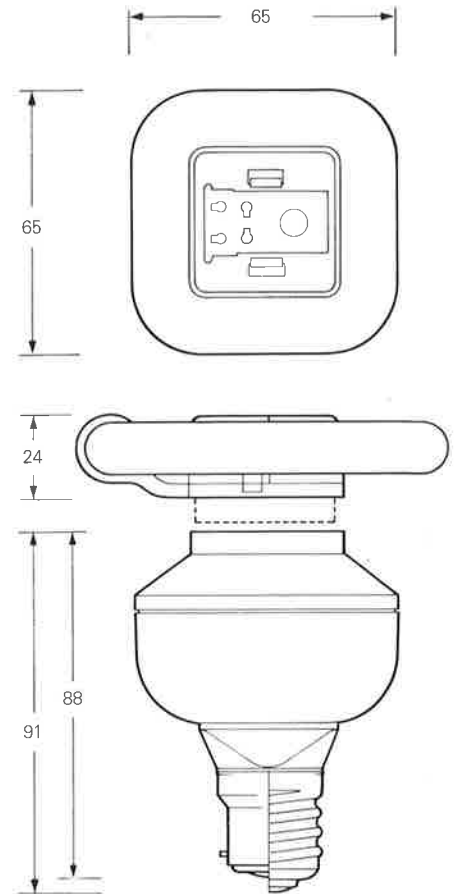
Dimming

The adaptor cannot be used with dimmer switches.

Operating Position

The adaptor has a universal operating position.

10W 2D Adaptor



All dimensions in millimetres

Thermal Features

A feature of the adaptor is that it contains a one shot thermal fuse to prevent overheating in fault condition. However, it is recommended that the lamp should not be used in very small, entirely enclosed fittings where potential overheating could occur.

Electrical Characteristics Lamp/Adaptor

Data at 50Hz tested at 25 °C ambient temperature

Supply volts (V)	240	230	220
Ballast rating (V)	240	230	230
Nominal lamp power (W)	10	10	10
Nominal lamp volts (V)	77	77	79
Total circuit power (W)	14	14	13
Lagging power factor	0.37	0.37	0.39
Supply current (A)	0.160	0.160	0.150
Total volts amps (VA)	38.5	37	33
Min. starting temp. (°C)	-10	-10	-10
Starting time (seconds)	0.3	0.3	0.3
Weight of lamp and adaptor	0.395kg.		

Made in Great Britain.

GE Thorn Lamps reserves the right to alter specification without prior notice or public announcement.

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