



**GE Thorn Lamps**

C1/SfB | (63,2) | |

**TAL 50**

*The friendly mirror lamp*



# Then GX5.3 & GU5.3 bases

Mirror lamps, originally made for projectors, were designed to be mechanically supported at their front rim. The lamp's pins were intended only for electrical connection to a simple lampholder.

In display lighting applications, the lamps were held instead by the pins and this has proved to be not only bad engineering practice but also to contravene electrical safety standards as recognised in IEC Standards unless specifically designed for such purpose. To remedy these shortcomings THORN first introduced a lamp with a slot\* in its base and a lampholder whose springs latched into the slot thus securing the lamp mechanically. These features have been adopted by IEC standards and the improved lamp and lampholder have the designation GU5.3.

Other handicaps of the bi-pin base remain. During installation there is the difficulty of inserting the pins, most often in 'blind' situations, into the lampholder with the likelihood of damage to the lamp. Also present is the possibility that with the pins not fully engaged, only partial electrical contact is made and the risk of arcing created.





# *Now* **Twist And Lock** base

TAL designates the new *Twist And Lock*\* base created by GE Thorn engineers to make the lamp installation rapid and the luminaire safe. TAL is the first user-friendly base for low-voltage lamps and its benefits will endear it to all commercial and domestic users.

*Twist And Lock* describes exactly the movement required to mount the lamp onto the lampholder.

With TAL there is no need for force and trial-and-error is eliminated. The circular lampbase is guided into position and the pillars naturally find the keyhole entries. There is no risk of partial electrical contact since contact can only be made once mechanical lock is achieved. The generously sized TAL pillars offer greater contact area and thus improved electrical reliability. The sturdy construction of the TAL base offers also greater mechanical retention.

TAL lampholder is dimensionally compatible with THORN lampholder GL1228 and luminaires designed for the latter may be converted to TAL without any significant alteration.

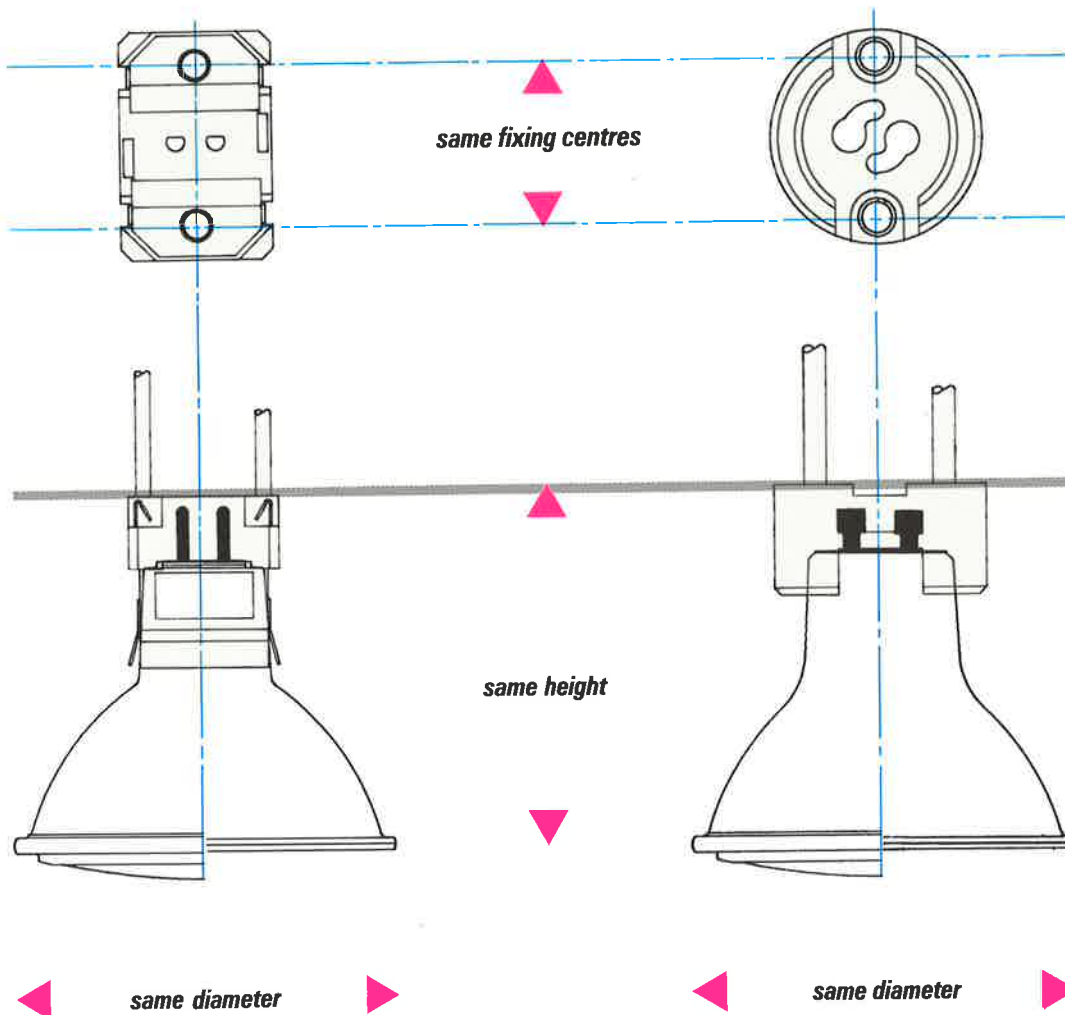
- lower pinch temperature
- easier, faster lamping
- increased electrical reliability
- sturdier construction
- straightforward replacement

*The range of GE Thorn light sources with TAL base includes the new TAL100 Sealed Metal Reflector Lamps which offer three wattages and four beam spreads. Any luminaire with the TAL lampholder offers therefore a comprehensive array of display lighting.*

# GX5.3 & GU5.3

# TAL 50

TAL lampholder is dimensionally compatible with THORN lampholder GL1228 and luminaires designed for the latter may be converted to TAL without any significant alteration.



TAL lampholder	PTFE lead length	lampbase	description
GL1252/150	150	GU7	With flying leads. Nickel contacts, steatite ceramic body, PTFE lead wire insulation. Lead 19 strand 0.25mm nickel plated copper. Max current: 35V, 10A. Universal operating position.
GL1252/250	250	GU7	



### TAL Lampholder



**Lampholder casing** in high temperature steatite ceramic contacts, nickel contacts afford greater contact area.



**Lampholder leads**, PTFE leads, 150mm & 250mm lengths; UL approved.



**Lamp pillars** are nickel plated, afford greatly increased contact area.

### TAL Lamp



**Optical integrity.** A precisely focussed lamp is achieved by photoelectric positioning of the capsule into its reflector.



**Optimum beam control** is achieved by reflectors specifically designed for medium/wide distribution (honeycomb facets) or narrow distribution (trapezoid facets).



**Sparkle**, with or without the front glass, produced by faceted reflectors gives a livelier accent lighting with a visually attractive lamp.



**Cool beam.** 23 layers of dichroic coatings reflect light forward and transmit heat rearward.



**Metal rim.** The anodised metal rim ensures retention of the front glass without affecting the light output.



**New standard.** Sealed lamps are 3mm longer than open types this demands a new international specification - to ensure all manufacturers' products are dimensionally compatible.



**Sealed against dirt.** The front glass seals against dirt and maintains light output in dirty and harsh environments.



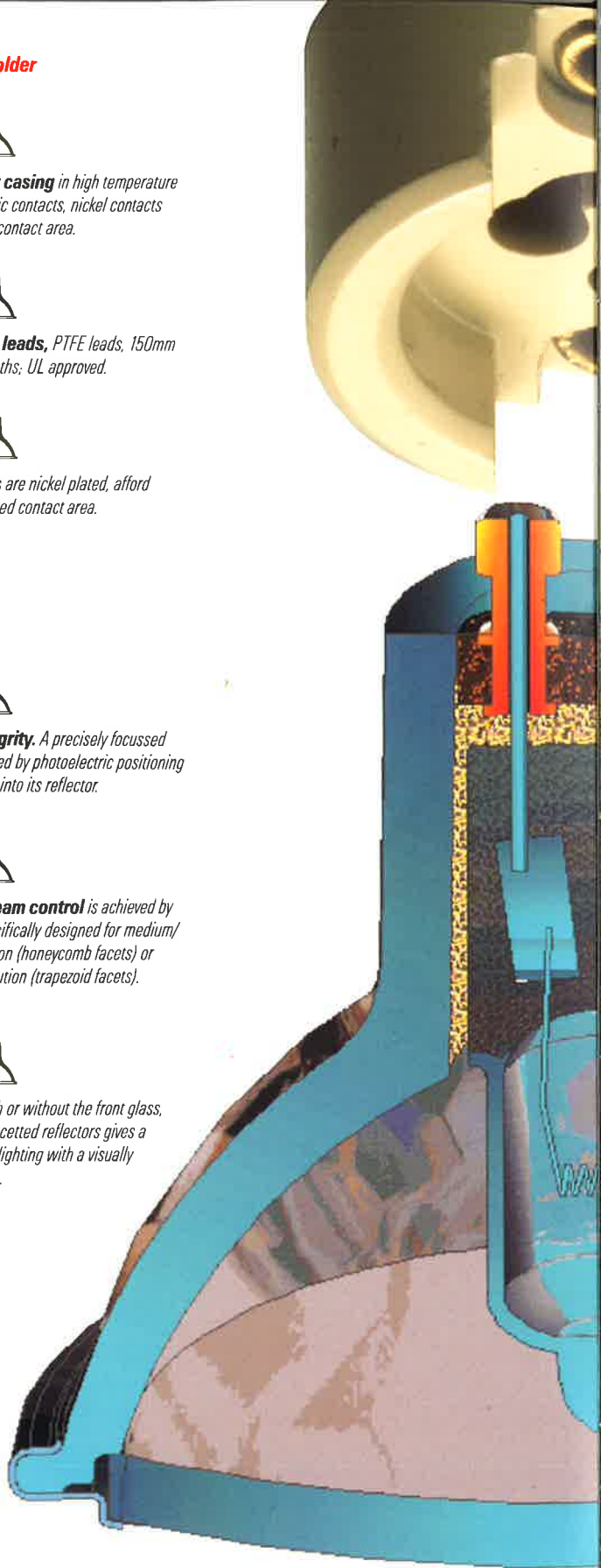
**Colours.** Red, yellow, green and blue, applied to the front glass of the sealed lamp, give saturated colours superior to reflector-coated lamps.



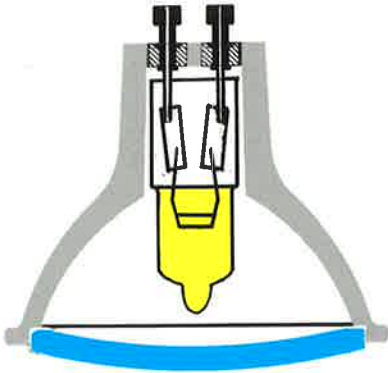
**U.V. filter** blocks 99% of ultra violet radiation while transmitting visible light with virtually no colour distortion.



**Neodymium.** Reduces yellow light producing whites of greater purity and enriched colours. Neodymium also induces appreciable differentiation in colours and patterns all of which gain in richness and depth.



# Sealed TAL 50



lamp	voltage	wattage	lamp cap	life av. hours	peak cd	beam angle	diameter mm max	length mm max	colour K	operating position	filament type	bulb finish
TAL414	12	20	GU7	3500	4500	11	50.7	50.5	2900	univ	trans	clear
TAL415					900	24						frosted
TAL416					450	36						frosted
TAL417	12	35	GU7	3500	8100	8	50.7	50.5	2900	univ	trans	clear
TAL418					3240	18						clear
TAL419					873	38						frosted
TAL420	12	50	GU7	3500	10800	10	50.7	50.5	3000	univ	trans	clear
TAL421					3330	21						clear
TAL422					1395	38						frosted
TAL423					630	60						frosted
TAL424	12	65*	GU7	3500	11500	12	50.7	50.5	3000	univ	axial	clear
TAL425					5000	18						axial clear
TAL426					1600	38						axial clear
TAL427					800	60						trans frosted

Neodymium filter lamp												
lamp	voltage	wattage	lamp cap	life av. hours	peak cd	beam angle	diameter mm max	length mm max	operating position	filament type	bulb finish	
TAL428	12	50	GU7	3500	6000	10	50.7	50.7	univ	trans	clear	
TAL429					2200	21	50.7				clear	

Ultra Violet filter lamp												
lamp	voltage	wattage	lamp cap	life av. hours	peak cd	beam angle	diameter mm max	length mm max	operating position	filament type	bulb finish	
TAL430	12	50	GU7	3500	10800	10	50.7	48	univ	trans	clear	
TAL431					3330	21	48				clear	
TAL432					1395	38	48				frosted	

\*Sealed 65W TAL dichroic mirror lamps availability to be advised.

20W TAL414			35W TAL417			50W TAL420			65W TAL424		
m	11°	lux	8°	lux	10°	lux	12°	lux	12°	lux	
1	.19	4500	.14	8100	.17	10800		21	12960		
2	.39	1125	.28	2025	.35	2700		42	3240		
3	.58	500	.42	900	.52	1270		63	1440		
4	.77	282	.56	504	.70	675		84	810		
5	.96	180	.70	324	.87	432		1.05	518		
TAL415			TAL418			TAL421			TAL425		
m	24°	lux	18°	lux	21°	lux	18°	lux			
1	.43	900	.32	3240	.37	3330	.32	6075			
2	.85	225	.63	810	.74	833	.63	1518			
3	1.28	100	.95	360	1.11	370	.95	675			
4	1.70	57	1.27	203	1.48	208	1.27	380			
5	2.13	36	1.58	130	1.85	133	1.58	243			
TAL416			TAL419			TAL422			TAL426		
m	36°	lux	38°	lux	38°	lux	38°	lux			
1	.65	450	.69	873	.69	1395	.69	1822			
2	1.30	113	1.38	219	1.38	349	1.38	455			
3	1.95	50	2.07	97	2.07	155	2.07	202			
4	2.60	28	2.75	55	2.75	87	2.75	113			
5	3.25	18	3.44	35	3.44	56	3.44	72			
TAL423			TAL427								
m	60°	lux	60°	lux							
1	1.15	630	1.15	729							
2	2.31	158	2.31	182							
3	3.46	70	3.46	81							
4	4.62	40	4.62	45							
5	5.77	25	5.77	29							

20W TAL428		50W TAL429		50W TAL430	
m	10°	m	10°	m	21°
1	.17	.17	.37		
2	.35	.35	.74		
3	.52	.52	1.11		
4	.70	.70	1.48		
5	.87	.87	1.85		



Neodymium

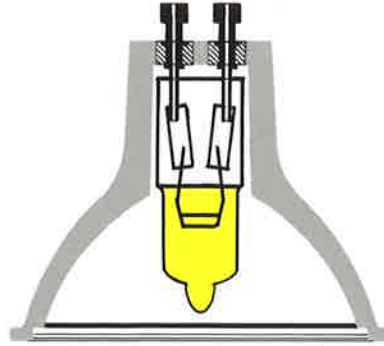


Halogen

**Neodymium.** Reduces yellow light producing whites of greater purity and enriched colours. Neodymium also induces appreciable differentiation in colours and patterns all of which gain in richness and depth.

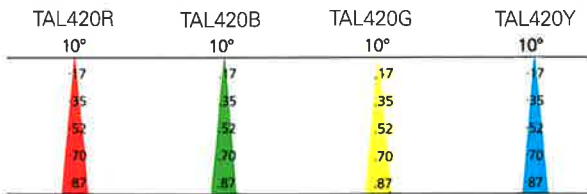
These cones indicate the angle at which the intensity of the beam is at 50% of peak. Peak illuminance (lux) and beam diameter are given for planes at right angles and at various distances (m) from the source.

# Open TAL 50



Colour filter lamp type	voltage	wattage	lamp cap	life av. hours	beam angle	diameter mm max	length mm max	operating position	filament type	bulb finish
TAL420R	Red	12	50	GU7	3500	10	50.7	50.5	univ	trans clear
TAL420B	Blue									
TAL420G	Green									
TAL420Y	Yellow									

lamp	voltage	wattage	lamp cap	life av. hours	peak cd	beam angle	diameter mm max	length mm max	colour K	operating position	filament type	bulb finish
TAL400	12	20	GU7	3500	5000	11	50.7	46	2900	univ	trans	clear
TAL401					1000	24						frosted
TAL402					500	36						frosted
TAL403	12	35	GU7	3500	9000	8	50.7	46	2900	univ	trans	clear
TAL404					3600	18						clear
TAL405					970	38						frosted
TAL406	12	50	GU7	3500	12000	10	50.7	46	3000	univ	trans	clear
TAL407					3700	21						trans clear
TAL408					1550	38						trans frosted
TAL409					700	60						axial frosted
TAL410	12	75	GU7	3500	16000	12	50.7	46	3000	univ	axial	clear
TAL411					7500	18						axial clear
TAL412					2250	38						axial frosted
TAL413					900	60						trans frosted



**New colours.** Red, yellow, green and blue, applied to the front glass of the sealed lamp, give saturated colours superior to reflector-coated lamps.

20W		35W		50W		75W	
TAL400		TAL403		TAL406		TAL410	
m	11° lux	m	8° lux	m	10° lux	m	12° lux
1	.19 5000	.14 9000	.17 12000	.21 16000			
2	.39 1250	.28 2250	.35 3000	.42 4000			
3	.58 556	.42 1000	.52 1333	.63 1778			
4	.77 313	.56 560	.70 750	.84 1000			
5	.96 200	.70 360	.87 480	1.05 640			
TAL401		TAL404		TAL407		TAL411	
m	24° lux	m	18° lux	m	21° lux	m	18° lux
1	.43 1000	.32 3600	.37 3700	.32 7500			
2	.85 250	.63 900	.74 925	.63 1875			
3	1.28 111	.95 400	1.11 411	.95 833			
4	1.70 63	1.27 225	1.48 231	1.27 469			
5	2.13 40	1.58 144	1.85 148	1.58 300			
TAL402		TAL405		TAL408		TAL412	
m	36° lux	m	38° lux	m	38° lux	m	38° lux
1	.65 500	.69 970	.69 1550	.69 2250			
2	1.30 125	1.38 243	1.38 388	1.38 562			
3	1.95 56	2.07 108	2.07 172	2.07 250			
4	2.60 31	2.75 61	2.75 97	2.75 140			
5	3.25 20	3.44 39	3.44 62	3.44 90			
TAL409		TAL413					
m	60° lux	m	60° lux				
1	1.15 700	1.15 900					
2	2.31 175	2.31 225					
3	3.46 78	3.46 100					
4	4.62 44	4.62 56					
5	5.77 28	5.77 36					

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**GE Thorn Lamps**  
A genius for light