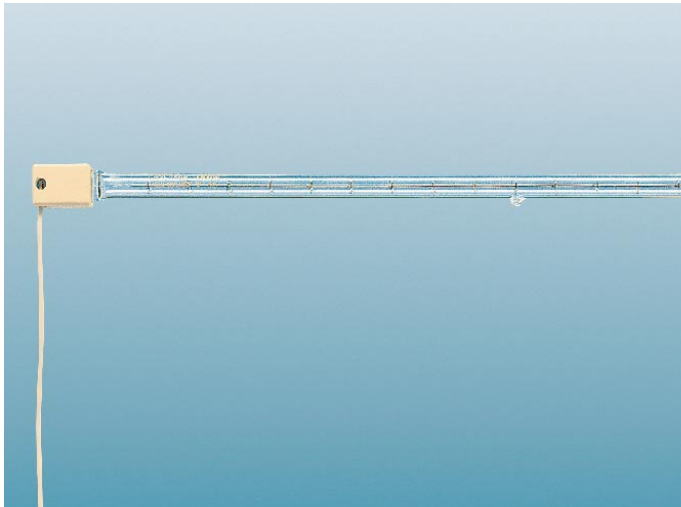


Special halogen lamps

Heat infrared: Industrial process



SK15 clear



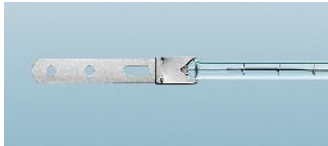
R7S clear



V clear



Y clear



X clear



U frosted



SK11 clear

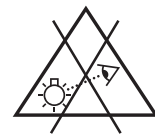


CER + lead clear

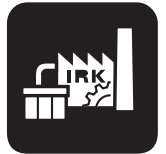
Tubular, double-ended quartz infrared lamps are high-powered heat sources incorporating a tungsten coil filament within a quartz envelope. They are of the halogen type, which avoids blackening of the tube and consequently infrared depreciation throughout their whole lifetime. Benefits of these lamps for industrial purposes include high efficiency, fast heat transfer, direct response to power control, compactness and light weight. Depending on their type, these lamps have a horizontal or universal burning position.

Applications

- Paint drying in tunnels and body shops
- Blowing of PETP bottles
- Plastics thermoforming
- Epitaxy, CVD, RTP, Oxidation processes in semiconductor industry
- Heating of food and keeping it warm
- Paper drying in paper mills
- Drying of lacquer, printing inks
- Pre-heating of wood prior to lacquering
- Heat sterilization
- Softening, melting of plastics



Prolonged looking at the lamp during operation may result in damage to the eye



Special halogen lamps

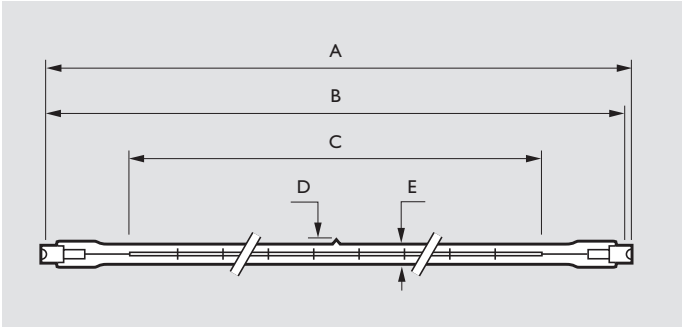


Fig. 1

Type	A max.	B	C	D max.	E max.
Cap/base R7s					
375T3/7	217.6	214.0±1.6	127.0±5.0	0	11
500T3/7	217.6	214.0±1.6	127.0±5.0	0	11
1600T3/7	498.6	494.0±1.6	406.0±5.0	0	11
2500T3/7	730.0	724.0±1.6	635.0±5.0	0	11
13169R	220.6	217.2±1.6	165.0±5.0	5	11
13908R	117.6	114.2±1.6	60.0±5.0	5	11
13935R	447.9	444.5±1.6	385.0±5.0	0	9

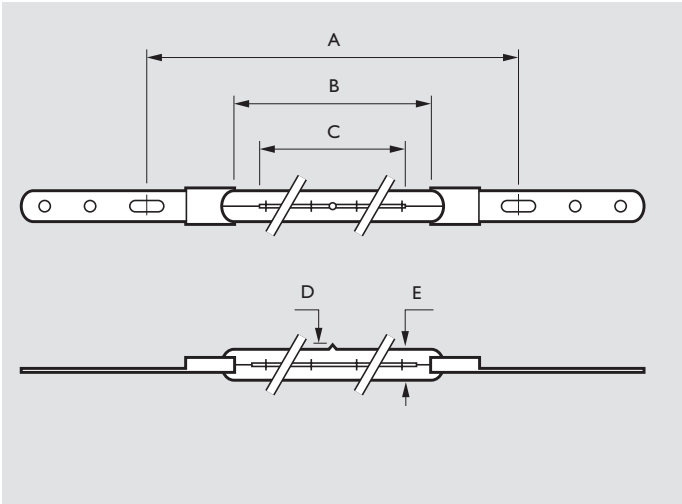


Fig. 3

Type	A	B min.	C	D max.	E max.
Cap/base X					
13168X	370±10	295	282±5	5	11.0
13169X	241±10	165	142±5	0	11.0
13195X	370±10	295	272±5	0	11.0
13230X	798±10	725	700±5	5	11.0
13245X	508±10	435	410±5	0	11.0
13565X	370±10	291	277±4	5	13.5
13713X	370±10	295	272±5	5	11.0
13765X	508±10	435	410±5	5	11.0
13169X/98	241±10	165	142±5	0	11.0
13195X/98	370±10	295	272±5	0	11.0
13230X/98	798±10	725	700±5	5	11.0
13245X/98	508±10	435	410±5	0	11.0
13713X/98	370±10	295	272±5	5	11.0
13765X/98	508±10	435	410±5	5	11.0

Heat infrared: Industrial process

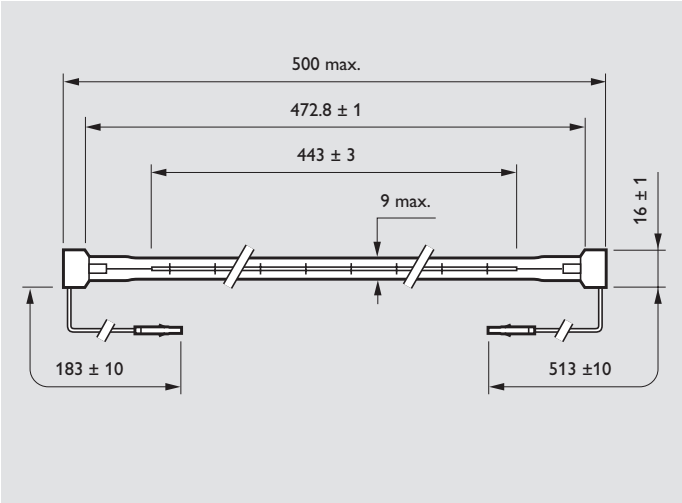


Fig. 2 - 13296C/13298C SK11

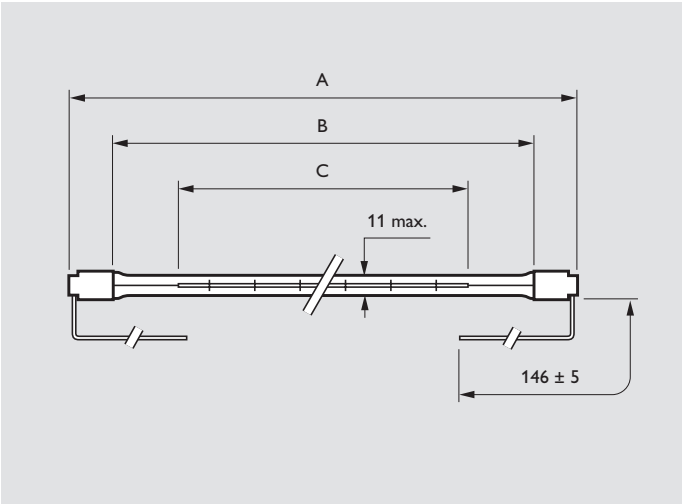


Fig. 4

Dimensions in mm

Type	A max.	B	C
Cap/base U			
2MT3/1CL/HT/UB/O	303.0	265±2	254±5
500T3	223.8	187±2	127±5
1000T3	351.0	313±2	254±5
1600T3	503.0	467±2	406±5
1600T3/CL	503.0	467±2	406±5
2000T3/1CL/HT	303.0	265±2	254±5
2500T3	731.0	694±2	635±5
2500T3/CL	731.0	694±2	635±5
3200T3/CL/UB	1062.0	1025±2	820±5
3800T3	1062.0	1025±2	965±5
3800T3/CL/UB	1062.0	1025±2	965±5
5000T3/1CL/HT	731.0	694±2	638±5



Special halogen lamps

Heat infrared: Industrial process

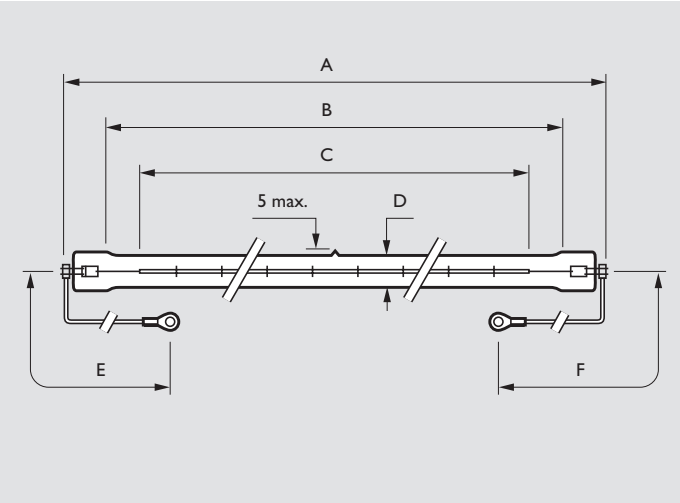


Fig. 5

Type	A max.	B	C	D max.	E	F
Cap/base V						
13136V	303	251±2	236±5	12.0	35±5	35±5
13138V	303	251±2	236±5	12.0	35±5	35±5
13168V	350	309±2	282±5	12.0	117±5	138±5
13170V	350	309±2	284±5	12.0	35±5	35±5
13565V	350	309±2	277±4	13.5	117±5	138±5

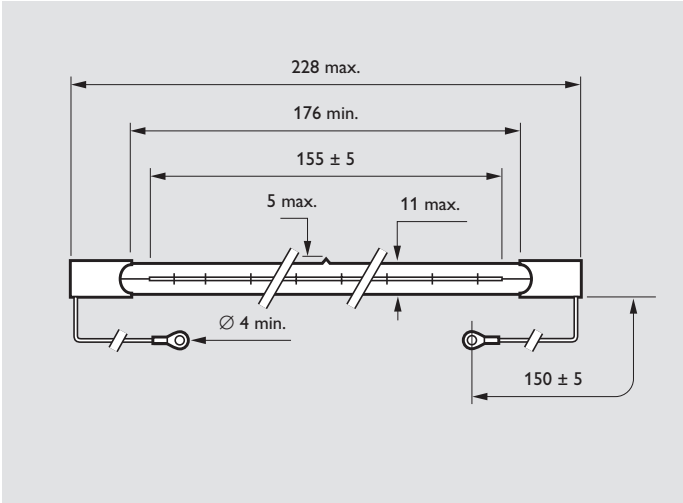


Fig. 6 - 13561Y/00, 13568Y/00 Dimensions in mm

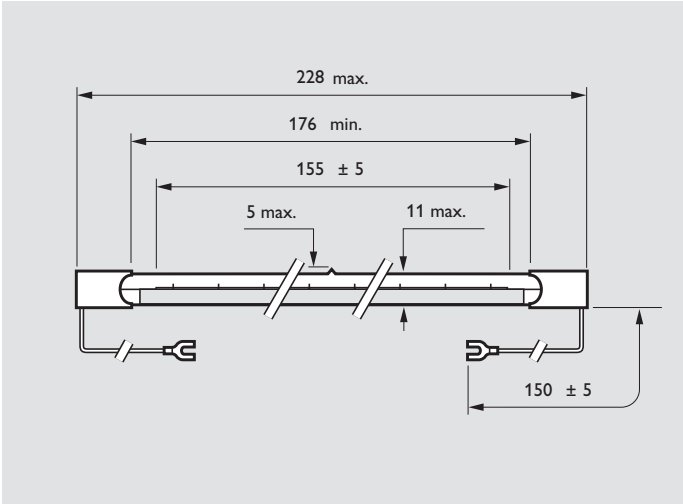


Fig. 7 - 13561Y/98, 13568Y/98

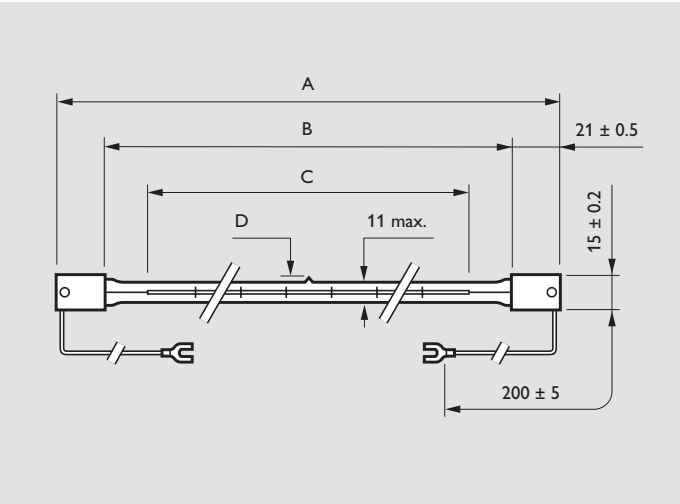


Fig. 8

Type	A max	B	C	D
Cap/base SK15				
13169Z	230	180.0±2	165±5	5
13169Z/98	230	180.0±2	165±5	0
13402Z	360	311.5±3	272±5	5
13713Z/98	360	310.0±3	272±5	5
13168Z/98	360	310.0±3	280±5	5
13393Z	790	740.0±3	700±5	5
13195Z/98	360	310.0±3	272±5	0

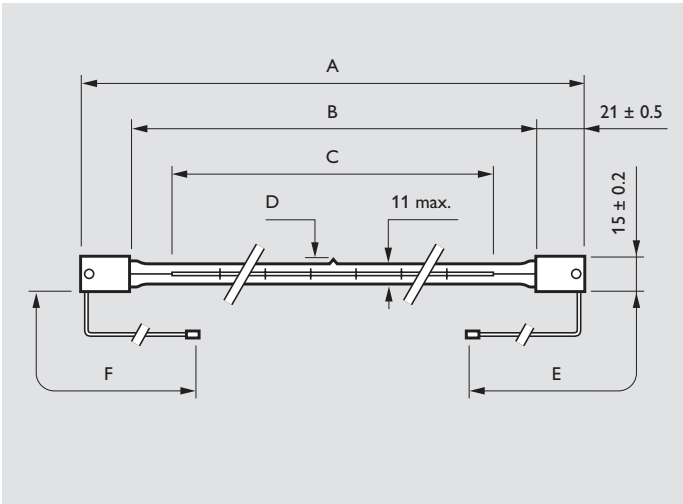


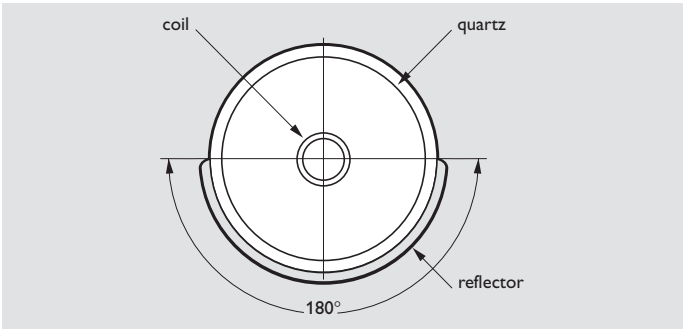
Fig. 9

Type	A max.	B	C	D max.	E	F
Cap/base SK15						
14103Z/98	360	310±3	280±5	0	230±5	-
14117Z	790	740±3	700±5	5	230±5	1200±5

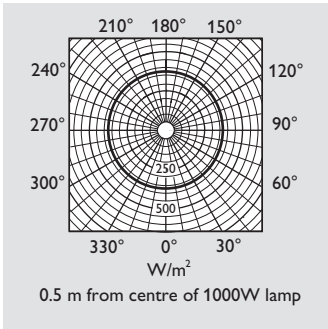


Special halogen lamps

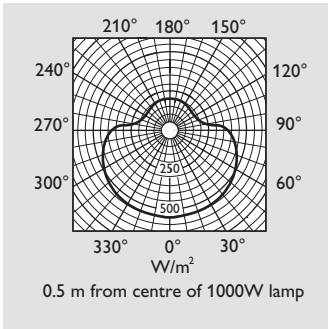
Heat infrared: Industrial process



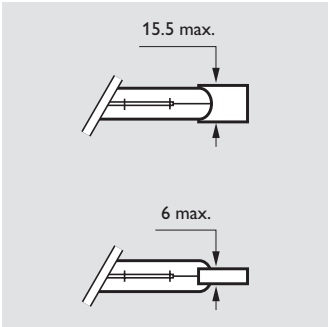
Cross-section of lamp with reflector I98



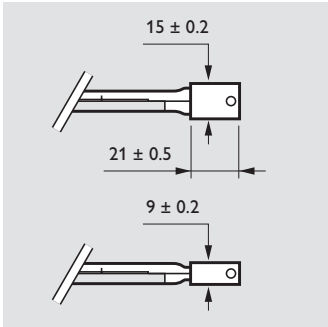
Without reflector



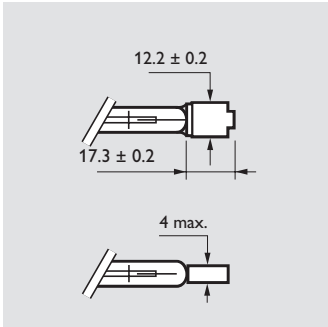
With reflector I98



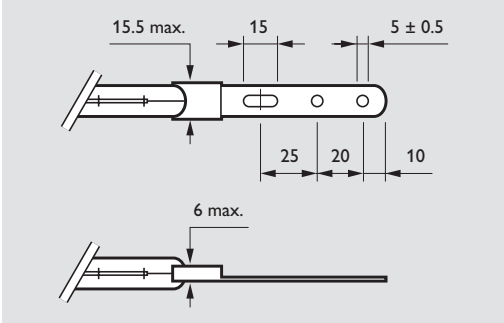
Detail of Y-version



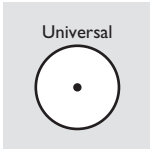
Detail of SK15-cap version



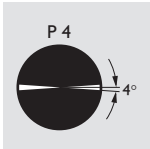
Detail of U-clip version



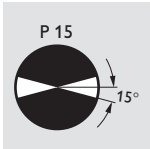
Detail of X-clip version



Universal

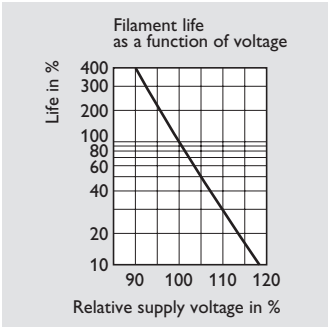


P 4

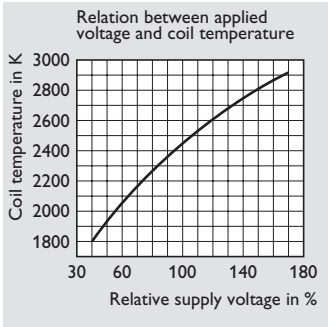


P 15

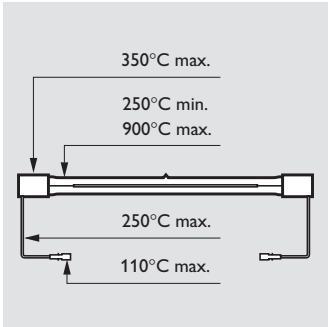
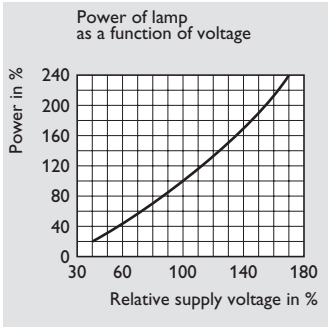
Burning positions



Special diagrams



Remark: 100% = 2450 K



Permissible temperatures



PHILIPS

Special halogen lamps

Heat infrared: Industrial process

Type	V	W	Fig.	Cap/base	Finish	Correlated colour temperature K	Burning position	Lamp wattage per cm W/cm	Lamp life 50% h	Ordering number
GENERAL INDUSTRIAL										
13169X	120V	500W	3	X	CLEAR	2450	P15	35,2	5000	9238 500 32300
13169X/98	120V	500W	3	X	REFLECTOR	2450	P15	35,2	5000	9238 502 32300
500T3	120V	500W	4	U	FROST	2500	P15	39,4	5000	9245 176 36300
13169Z	235V	500W	8	SK15	CLEAR	2450	P15	30,3	5000	9245 308 44500
13169Z/98	235V	500W	8	SK15	REFLECTOR	2500	P15	30,3	5000	9238 527 44500
13402Z	235V	1000W	8	SK15	CLEAR	2450	UNIVERSAL	36,8	5000	9245 335 44900
13195Z/98	235V	1000W	8	SK15	REFLECTOR	2450	P15	36,8	5000	9238 543 44500
13195X	235V	1000W	3	X	CLEAR	2450	P15	36,8	5000	9238 510 43900
13195X/98	235V	1000W	3	X	REFLECTOR	2450	P15	36,8	5000	9238 514 43900
13713X	235V	1000W	3	X	CLEAR	2450	UNIVERSAL	36,8	5000	9238 515 43900
13713X/98	235V	1000W	3	X	REFLECTOR	2450	UNIVERSAL	36,8	5000	9238 960 44500
13713Z/98	235V	1000W	8	SK15	REFLECTOR	2450	UNIVERSAL	36,8	5000	9238 535 44500
1000T3	240V	1000W	4	U	FROST	2500	P15	39,4	5000	9245 178 43800
13561Y/00	144V	1200W	6	Y	CLEAR	2400	P15	77,4	5000	9239 207 57700
13561Y/98	144V	1200W	7	Y	REFLECTOR	2400	P15	77,4	5000	9245 033 57700
13568Y/00	144V	1600W	6	Y	CLEAR	2500	P15	103,2	5000	9239 457 57700
13568Y/98	144V	1600W	7	Y	REFLECTOR	2500	P15	103,2	5000	9245 032 57700
1600T3	240V	1600W	4	U	FROST	2500	P15	39,4	5000	9245 182 45500
1600T3/CL	240V	1600W	4	U	CLEAR	2500	P15	39,4	5000	9245 181 43800
14103Z/98	235V	2000W	9	SK15	REFLECTOR	2450	P15	71,4	5000	9245 347 44900
13168V	235V	2000W	5	V	CLEAR	2450	UNIVERSAL	71,4	5000	9238 504 44500
13168X	235V	2000W	3	X	CLEAR	2450	UNIVERSAL	71,4	5000	9238 525 43900
13168Z/98	235V	2000W	8	SK15	REFLECTOR	2450	UNIVERSAL	71,4	5000	9238 536 44500
2000T3/ICL/HT	240V	2000W	4	U	CLEAR	2500	P15	78,8	5000	9245 174 45500
2MT3/ICL/HT/UBO	240V	2000W	4	U	CLEAR	2500	UNIVERSAL	78,8	5000	9245 185 45500
13245X	400V	2000W	3	X	CLEAR	2450	P15	48,8	5000	9238 530 57900
13245X/98	400V	2000W	3	X	REFLECTOR	2450	P15	48,8	5000	9238 529 57900
13765X	400V	2000W	3	X	CLEAR	2450	UNIVERSAL	48,8	5000	9238 531 57900
13765X/98	400V	2000W	3	X	REFLECTOR	2450	UNIVERSAL	48,8	5000	9245 054 57900
2500T3	480V	2500W	4	U	FROST	2500	P15	39,4	5000	9245 183 51600
2500T3/CL	480V	2500W	4	U	CLEAR	2500	P15	39,4	5000	9245 264 51600
13565V	235V	3000W	5	V	CLEAR	2400	UNIVERSAL	109,0	5000	9245 143 44500
13565X	235V	3000W	3	X	CLEAR	2400	UNIVERSAL	109,0	5000	9239 456 44500
13230X	400V	3000W	3	X	CLEAR	2450	UNIVERSAL	42,9	5000	9238 540 57900
13230X/98	400V	3000W	3	X	REFLECTOR	2450	UNIVERSAL	42,9	5000	9238 541 57900
3200T3/CL	240V	3200W	4	U	CLEAR	2500	P15	39,0	5000	9245 326 45500
3200T3/CL	277V	3200W	4	U	CLEAR	2300	P15	38,9	5000	9245 326 46900
3800T3	575V	3800W	4	U	FROST	2500	P15	39,4	5000	9245 184 51100
3800T3/CL/UB	575V	3800W	4	U	CLEAR	2500	UNIVERSAL	39,4	5000	9245 173 51100
5000T3/ICL/HT	600V	5000W	4	U	CLEAR	2500	P15	78,4	5000	9245 290 51300
HIGH TEMPERATURE										
13136V	400V	4600W	5	V	CLEAR	3000	P4	194,7	1000*	9238 508 49100
13138V	480V	6000W	5	V	CLEAR	3000	P4	254,2	1000*	9245 340 51700
13170V	480V	6000W	5	V	CLEAR	2900	P4	211,3	1000*	9245 298 51700
LOW TEMPERATURE										
13296C	110V	400W	2	SK11	CLEAR	1800	P4	9,0	5000	9239 470 31900
13298C	110V	630W	2	SK11	CLEAR	1900	P4	14,0	5000	9245 012 31900
14117Z	230V	750W	9	SK15	CLEAR	2000	UNIVERSAL	10,7	5000	9245 405 44216
13393Z	235V	1300W	8	SK15	CLEAR	2000	UNIVERSAL	18,6	5000	9239 454 44500
VARIOUS APPLICATIONS										
13908R	230V	300W	1	R7S	CLEAR	2500	P15	50,0	1000	9238 503 43300
375T3/7	120V	375W	1	R7S	FROST	2500	P15	29,5	5000	9245 205 34600
500T3/7	120V	500W	1	R7S	FROST	2500	P15	39,4	5000	9245 177 34600
13169R	235V	500W	1	R7S	CLEAR	2450	P15	30,3	5000	9239 468 44500
13935R	230V	1530W	1	R7S	CLEAR	2400	P15	39,7	5000	9239 472 44200
1600T3/7	240V	1600W	1	R7S	FROST	2500	P15	39,4	5000	9245 190 43800
2500T3/7	480V	2500W	1	R7S	FROST	2500	P15	39,4	5000	9245 191 51600

* Average life in free air at 400V

Replacement table

W	Old type Z cap	Corresponding new type SK15 cap
2000	13213Z/98F	14103Z/98

Philips Lighting is also able to meet special customer demands.
If you have any questions, please contact your local Philips Lighting organisation.

