

Heath #597-1442-01

TUBE DATA FOR HEATH

IT-17 IT-21 IT-3117 TUBE TESTERS

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IMPORTANT NOTES

* Special short test for tubes with internal connections. A good tube will not show short when the levers shown in parenthesis () are moved simultaneously. If moved individually it will show short.

Be sure to set filament selector switch to .63 volts when checking for continuity or short tests.

Tubes followed by suffixes such as G, GT, Y, W, A, B, etc., in general can be tested by the same setup listed for the tubes without a suffix.

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
00A	2	5	30	BC	D	1AD2	4	1.4	60	N	HM	1BQ2	4	1.4	86	N	BEH
01A	2	5	45	BC	D	No short test. Good tube reads above 20						Tube damaged if BE or H is moved.					
0A2	4	Off	40	AE	BDG	Tube damaged if H or M is moved.						1BX2	4	1.4	67	N	ADFJ
Good tube reads above 10.						1AE4	1	1.4	23	BCF	AE	No short test.					
0A3	4	Off	30	E	BCG	1AF4	1	1.4	26	BCF	AE	1BY2	4	1.4	60	N	HM
Good tube reads above 10.						1AF5	1	1.4	75	DEF	A	No short test. Good tube reads above 20.					
0A4	4	Off	40	G	BE	1AH5	1	1.4	32	DEF	CG	Tube damaged if H or M is moved.					
	4	Off	44	E	BG		1	1.4	53	C	G	1C3	1	1.4	25	BCDEF	G
0B2	4	Off	95	AE	BDG	1AJ4	1	1.4	24	BCF	G	No open element test on BE & F.					
Good tube reads above 10.						No open element test on B.						1C5	2	1.4	37	CDE	G
0B3	4	Off	30	E	BCG	1AU2*	4	1.4	100	(AJ)	E	1C6	2	2	42	CD	F
Good tube reads above 10.						1AX2	4	1.4	95	N	BEH		1	2	68	BEN	F
0C2	4	Off	40	AE	BDG	Good tube reads above 25.						1C7	2	2	41	EF	G
Tube normally shows leakage.						1AY2	4	1.4	58	N	G		1	2	56	CDN	G
Good tube reads above 10.						Insert into pins 2 & 7 of 9 pin min.						1C21	4	Off	45	E	BG
0C3	4	Off	30	E	BCG	1B3	1	1.4	98	N	ACDEFGH	1D5	2	2	39	CDN	G
Good tube reads above 10.						Use G & N only for element test.						1D5GP	2	2	33	CDN	G
0D3	4	Off	30	E	BCG	Good tube reads above 26.						1D7	1	2	31	EF	G
Good tube reads above 10.						1B4	1	2	27	BCN	D		1	2	95	CDN	G
0G3	4	Off	32	ACEF	BDG	1B4P	2	2	35	BCN	D	1D8	2	1.4	48	FN	G
Good tube reads above 10.						1B5(25S)	1	2	31	BE	F		2	1.4	37	CDE	G
0Y4	4	Off	22	E	CGH		1	2	40	D	F		1	1.4	95	G	H
0Z4	4	Off	22	E	CH		1	2	40	C	F	1D13*	1	1.4	75	(BF)	CG
	4	Off	22	C	EH	1B7	1	1.4	26	EF	G	1DG3	4	1.4	80	N	CE
1A3	1	1.4	75	BF	CG		1	1.4	95	CDN	G	Good tube reads above 30. No short test.					
1A4	1	2	28	BCN	D	1B8	2	1.4	32	CDE	G	1DK1	1	1.4	70	N	B
1A5	2	1.4	50	CDE	G		2	1.4	60	FN	G	Insert 2 base leads into pins 1 & 2 of 9 pin min. skt.					
1A6	2	2	50	CD	F		1	1.4	95	H	G	Use plate cap on single lead.					
	1	2	95	BEN	F	1BC2	4	1.4	70	N	BEH	Good tube reads above 20.					
1A7	1	1.4	31	EF	G	Tube damaged if BE or H is moved.						1DK29	1	1.4	32	N	B
	1	1.4	95	CDN	G	1BG2	1	1.4	32	N	B	Insert 2 base leads into pins 1 & 2 of 9 pin min. skt.					
1AB4	1	1.4	23	BCF	AE	Insert 2 base leads into pins 1 & 2 of 9 pin min. skt.						Use plate cap on single lead.					
1AB5	1	1.4	25	BCF	GH	Use plate cap on single lead.						Good tube reads above 20.					
1AB6	1	1.4	25	BCDEF	G	Good tube reads above 20.						1DN5	1	1.4	52	D	G
No open element test on B, E & F.						1BK2	4	1.4	52	N	BEH		1	1.4	27	BCF	G
						No short test. Good tube reads above 30.											

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	
1E3	3	1.4	30	AH	CE	1LA4	2	1.4	40	BCF	H	1T5	2	1.4	40	CDE	G	
1E4	2	1.4	45	CE	G	1LA6	1	1.4	30	CD	H	1U4	2	1.4	30	BCF	AE	
1E5	1	2	35	CDN	G		1	1.4	95	BEF	H	1U5	2	1.4	40	BCF	A	
1E7	2	2	30	CDH	G	Good tube reads above 40 on test 2.							1	1.4	66	D	A	
	2	2	30	EFH	G	1LB4	2	1.4	40	BCF	H	1U6	1	1.4	34	CD	BEFG	
1F1	1	1.4	24	BCF	G	1LB6	1	1.4	32	BCDEFG	H		1	1.4	40	BEF	CDG	
No open element test on B.						1LC5	1	1.4	32	BCDF	EH	Good tube reads above 30 on test 2.						
1F2	2	1.4	37	BCF	AE	1LC6	1	1.4	32	CD	H	1V	3	6.3	24	B	CD	
1F3	2	1.4	35	BCF	G		1	1.4	80	BEF	H	1V2*	1	.63	76	(AHJ)	E	
1F4	3	2	47	BCD	E	1LD5	1	1.4	32	BCF	H	Good tube reads above 20. H may not show short.						
1F5	2	2	36	CDE	G		1	1.4	95	D	H	1X2	4	1.4	67	N	ADFJ	
1F6	1	2	37	BCN	F	Good tube reads above 20 on test 2.							4	1.4	67	N	BEH	
	1	2	95	D	F	1LE3	2	1.4	37	BF	H	1Z2	4	1.4	85	N	BEG	
	1	2	95	E	F							2A3	3	2.5	28	BC	D	
1F7 (GV)	1	2	35	CFN	G	1LG5	2	1.4	35	BCF	DEH	2A4	3	2.5	25	E	G	
	1	2	95	E	G	1LH4	1	1.4	26	BF	H		3	2.5	25	C	EG	
	1	2	95	D	G		1	1.4	44	D	H	No short test.						
1FD1	1	1.4	32	DEF	CG	1LN5	2	1.4	40	BCDF	EH	2A5	3	2.5	36	BCD	EF	
	1	1.4	53	C	G	1N2	4	1.4	75	N	GH	2A6	3	2.5	26	BN	EF	
1FD9	1	1.4	25	DEF	G	1N5	1	1.4	27	CDN	G		1	2.5	40	C	EF	
	1	1.4	55	C	G	1N6	2	1.4	38	CDE	G		1	2.5	40	D	EF	
1G3	1	1.4	100	N	ACDEFGH		1	1.4	95	F	G	2A7	2	2.5	32	E	FG	
Use G & N only for element test.						Good tube reads above 20 on test 2.						2AF4*	2	2.35	21	(AG) (BF)	DE	
Good tube reads above 10.						1P1	1	1.4	23	BCF	E	2AH2	4	2.5	76	N	ABEFGHL	
1G4	1	1.4	30	CE	G	1P5	1	1.4	31	CDN	G	2AS2 Due to varying arrangements of internal connections, this tube cannot be tested.						
1G5	2	2	39	CDE	G	1P10	2	1.4	35	BCDF	AG	2AV2*	1	1.4	100	(AJ)	E	
1G6	1	1.4	35	CD	G	1P11	1	1.4	23	BCF	E	Good tube reads above 35.						
	1	1.4	35	EF	G	1Q5	2	1.4	33	CDE	G	2AZ2	4	2	63	N	ADFJ	
1H2	4	1.4	84	N	ADFJ	1R4	1	1.4	57	D	GH	2B3	2	2	40	N	B	
1H4	2	2	41	CE	G	Good tube reads above 10.						Good tube reads above 10.						
1H5	1	1.4	33	CN	G	1R5	1	1.4	21	D	AE	2B4	3	2.5	24	BC	DE	
	1	1.4	40	E	G		1	1.4	95	BCF	AE	2B6	2	2.5	95	B	FG	
1H6	1	2	30	CF	G	1RK23	1	1.4	90	N	ADFJ		3	2.5	50	CD	EG	
	1	2	40	E	G	Tube damaged if ADF or J is moved.						2B7	3	2.5	47	BCN	FG	
	1	2	40	D	G	Good tube reads above 35.							1	2.5	40	E	FG	
1H35	1	1.4	25	BCDEF	G	1RK41	4	1.4	52	N	BEH		1	2.5	40	D	FG	
No open element test on BE & F.						No short test. Good tube reads above 30.						2BA2*	4	2	53	(AJ)	E	
1J3/1K3	1	1.4	100	N	ACDEFGH	1S2A	1	1.4	90	N	ADFJ	2BJ2	4	2.35	65	N	ADFJ	
Good tube reads above 10.						Good tube reads above 35.						Tube damaged if ADFJ or BEH is moved.						
Tube damaged if ACDEFGH is moved.						1S4	2	1.4	30	BCDF	AE	2BN4* 1 2 19 (BG)E (AF)D						
1J5	2	2	38	CDE	G	1S5	1	1.4	25	DEF	G	2BU2	1	2.5	38	N	HM	
1J6	2	2	39	CD	G		1	1.4	55	C	G	Good tube reads above 10.						
	2	2	39	EF	G	1SA6	2	1.4	30	CDFH	G	Tube damaged if H or M is moved.						
1L4	2	1.4	37	BCF	AE	1SB6	1	1.4	36	CDH	G	2C21	2	6.3	29	CN	BG	
1L6	1	1.4	34	CD	G		1	1.4	90	E	G		2	6.3	29	DE	FG	
	1	1.4	37	BEF	G	1T4	2	1.4	35	BCF	G							
Good tube reads above 40 on test 2.																		

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
2C22	3	6.3	22	N	GH	2HM5	3	2	18	AE	BDG	3BE6	2	3.15	21	A	BD
Short top caps together.						Tube damaged if B or G is moved.						2	3.15	33	EFG	BD	
2C26	3	6.3	35	N	GH	2HQ5	3	2	18	AE	BDG	3BH2	4	3.15	60	N	AEJ
2C51	2	6.3	23	CD	BFGHJ	Tube damaged if B or G is moved.						Tube damaged if AE or J is moved.					
	2	6.3	23	FG	BCDHJ	2S/4S(G-2)						3BL2	1	3.15	38	N	HM
2C52	2	12.6	26	DE	FG	1	2.5	45	B		DE	Good tube reads above 35.					
	2	12.6	26	AB	CG	2T4*	2	2.35	22	(AG) (BF)	DE	Tube damaged if H or M is moved.					
2CN3	4	1.4	50	N	CEG	2V2	4	1.4	97	N	BDFGH	3BM2	4	3.15	40	N	HM
Tube damaged if CE or G is moved.						2V3	1	2.5	96	N	G	Tube damaged if H or M is moved.					
2CW4	1	2	18	BD	HM	Good tube reads above 20.						3BN2	4	3.15	100	N	ABEFJ
2CY5*	2	2	22	AEF	(BG)C	2W3	2	2.5	36	D	H	Tube damaged if ABEF or J is moved.					
2D21	3	6.3	18	AEFG	BD	2X2 (879)4	2.5	52	N		D	3BN4*	1	3.15	19	(BG)E	(AF)D
2DL4*	3	2.5	18	(ACFGJ)H	BE	2X2A	4	2.5	44	N	D	3BN6	1	3.15	35	BEFG	AC
2DS4	1	2	18	BD	HM	Good tube reads above 40.						Good tube reads above 20.					
2DV4*	3	2	19	(AB) (DF)	GM	2X3	3	2.5	43	D	H	3BS2	1	3.15	40	N	HM
2DZ4*	3	2.35	21	(AG) (BF)	DE	2Y2	1	2.5	95	N	D	Tube damaged if H or M is moved.					
2E5	2	2.5	44	BC	EF	Good tube reads above 40.						Good tube reads above 25.					
Eye CL	4	2.5	0	BD	CEF	2Z2 (G84)3	2.5	56	B		D	3BT2	1	3.15	38	N	HM
Eye OP	4	2.5	0	D	BCEF	3A2	4	3.15	54	N	ADFJ	Tube damaged if H or M is moved.					
2E22	3	6.3	25	BCDN	E	3A3	4	3.15	56	N	B	Good tube reads above 20.					
2E24	3	2.5	22	CEN	BG	Good tube reads above 25.						3BU8	1	3.15	22	BCFG	AE
	3	2.5	22	CEN	BG	3A4	2	1.4	26	BCDF	AG		1	3.15	22	BGHJ	AE
A, D & F should show short when moved to top position.						3A5	2	1.4	30	BC	D	3BW2	1	3.15	38	N	HM
2E25	3	6.3	28	DEHN	B		2	1.4	30	EF	D	Tube damaged if H or M is moved.					
2E26*	3	6.3	21	CEN	(ADF)B	3A8	1	1.4	36	CDN	BG	Good tube reads above 20.					
2E30	3	2.5	26	ABEF	CD		1	1.4	36	EF	BG	3BY6	2	3.15	25	AF	BD
2EA5*	2	2.35	22	AEF	(BG)C		1	1.4	45	H	BG		1	3.15	30	EG	BD
2EG4	2	2.0	19	BD	HM	3AF4*	2	3.15	21	(AG) (BF)	DE	3BZ6	2	3.15	20	AEFG	BC
2ER5*	2	2	20	BEF	(AG)D	3AL5	1	3.15	20	B	DE	No open element test of F & G.					
2EV5*	2	2.5	22	AEF	(BG)D		1	3.15	20	G	AD	3C2	1	1.4	60	N	DEFGH
2FH5*	2	2.35	21	BE	(AG)D	3AT2	4	3.15	61	N	ABEFJ	3C4	1	1.4	23	BCF	E
2FQ5	3	2.5	20	BE	AGD	3AU6	2	3.15	22	ABEF	DG	3C5	2	1.4	34	CDE	BG
Tube damaged if A or G is moved.						3AV6	1	3.15	21	AG	BD	3C6	2	1.4	40	CD	AH
2FS5*	3	2.5	20	AF	(BG)DE		1	3.15	43	E	BD		2	1.4	40	EF	AH
2FV6	2	2.5	20	AEF	DG		1	3.15	43	F	BD	3CA3	4	3.15	75	N	G
No open element test on E.						3AW2	4	2.5	52	N	ABEFJ	3CB6	2	3.15	21	AEFG	BC
2G5	2	2.5	44	BC	EF	Tube damaged if ABEF or J is moved.						3CE5*	2	3.15	21	AEF	(BG)D
Eye CL	4	2.5	0	BD	CEF	3AW3	2	3.15	68	N	CGH	No open element test on E.					
Eye OP	4	2.5	0	D	BCEF	Good tube reads above 10.						3CF6	1	3.15	19	AEFG	BD
2GK5	3	2.35	20	BE	ADG	3B2	1	3.15	50	N	ACDEG	No open element test on E & G.					
Tube damaged if A or G is moved.						Good tube reads above 10.						3CN3	4	3.15	50	N	ACEG
2GU5*	1	2.5	19	A	(BG)D	3B4	3	1.4	47	ACG	E	Tube damaged if ACE or G is moved.					
	1	2.5	29	EF	(BG)D	3B5	2	1.4	35	CDE	BG	3CS6	1	3.15	21	AF	BC
2GW5*	2	2.5	20	A(BF)	DE	3B7	1	1.4	33	BC	AH		1	3.15	40	EG	BC
2HA5	3	2	18	AE	BDG		1	1.4	33	FG	AH	3CU3	1	3.15	20	N	B
Tube damaged if B or G is moved.						3BA6	2	3.15	23	ABEF	DG	Good tube reads above 20.					
2HK5	3	2	18	AE	BDG	3BC5*	2	3.15	20	AEF	(BG)C						
Tube damaged if B or G is moved.						No open element test on E.											

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
3CV3	4	3.15	56	N	B	3GK5	3	3.15	18	BE	ADG	4BC8	2	4.2	22	AB	CD
Good tube reads above 30.						Tube damaged if A or G is moved.						2 4.2 22 FG DH					
3CX3	4	3.15	40	N	CE	3GS8	2	3.15	20	BCFG	AE	4BE6	2	4.2	20	A	BD
Good tube reads above 35.						2 3.15 20 BGHJ AE						2 4.2 20 EFG BD					
Tube damaged if C or E is moved.						3GU5 1 3.15 19 A BDG						3 4.2 18 (AG)EF BC					
3CY3	4	3.15	54	N	B	1 3.15 29 EF BDG						2 4.7 22 AJ EH					
Good tube reads above 35.						Tube damaged if B or G is moved.						2 4.7 20 BC EFG					
3CY5*	3	3.15	22	AEF	(BG)C	3GW5*	2	3.15	20	A(BF)	DE	4BN6	1	4.2	36	BEFG	AC
3CZ3	4	3.15	44	N	B	3HA5	3	2.5	18	AE	BDG	Good tube reads above 23.					
Good tube reads above 35.						Tube damaged if B or G is moved.						2 4.2 21 AB CD					
3D6	2	1.4	30	BCF	AH	3HK5	3	3.15	18	AE	BDG	2 4.2 21 FG DH					
3DA3	4	3.15	40	N	CE	Tube damaged if B or G is moved.						2 4.2 22 AB CD					
Good tube reads above 35.						3HM5 3 3.15 18 AE BDG						2 4.2 22 FG DH					
Tube damaged if C or E is moved.						3HM6 1 3.15 34 GJ ACE						1 4.2 22 BCFG AE					
3DB3	4	3.15	54	N	B	3 3.15 19 BH ACE						1 5 19 AB CE					
Good tube reads above 35.						Tube damaged if A or C is moved.						1 5 19 FG EH					
3DC3	1	3.15	44	N	B	3HQ5	3	2.5	18	AE	BDG	4BZ6 1 4.2 18 AEFG BC					
Good tube reads above 25.						Tube damaged if B or G is moved.						No open element test of E & G.					
3DF3	4	3.15	40	N	C	3HS8	2	3.15	24	BHJ	AE	2 4.2 21 FG DH					
Good tube reads above 30. No short test.						2 3.15 21 CFG AE						2 4.2 20 AB CD					
3DG4	4	3.15	18	E	C	3HT6	1	3.15	34	GJ	ACE	3 4.2 16 FG EH					
4 3.15 18 G C						3 3.15 19 BH ACE						3 4.2 16 AB CE					
3DH3	4	3.15	40	N	CE	Tube damaged if A or C is moved.						4CB6 2 4.2 22 AEFG BC					
Good tube reads above 35.						3JG6 2 3.15 19 BGHJ ACE						No open element test on E.					
Tube damaged if C or E is moved.						Tube damaged if A or C is moved.						4CE5* 2 4.2 20 AEF (BG)D					
3DJ3	4	3.15	42	N	B	3KF8	2	3.15	20	BGHJ	AE	No open element test on E.					
Good tube reads above 20.						2 3.15 20 BCFG AE						4CM4* 3 4.2 19 (AJ)(BFH) CEG					
3DK6	3	3.15	22	AEF	BCG	3KT6	3	3.15	19	BGHJ	ACE	Tube damaged if C or G is moved.					
3DR3	4	3.15	40	N	CE	Tube damaged if A or C is moved.						4CS6 1 4.2 20 AF BC					
Good tube reads above 35. No short test.						3LE4 2 1.4 34 BCF AH						1 4.2 28 EG BC					
3DS3	4	3.15	40	N	CE	3LF4	2	1.4	30	BCF	AH	3 4.2 24 AEF (BG)C					
Good tube reads above 35. No short test.						3MP26 2 3.15 21 AEF BC						2 4.2 21 AEFG BC					
3DT6	1	3.15	20	AEFG	BD	3MR24	3	3.15	20	AEF	BD	No open element test on E & G.					
3DZ4*	3	3.15	21	(AG) (BF)	DE	3MV7	2	3.15	20	AEF	BD	4DK6 3 4.2 22 AEF BCG					
3E5	2	1.4	31	BCF	AG	3Q4	2	1.4	33	BCDF	AG	4DL4* 3 4.2 18 (ACFGJ)H BE					
3E6	2	1.4	30	BCDF	AH	3Q5	3	1.4	35	CDE	BG	1 4.2 20 AEFG BD					
3EA5*	2	3.15	22	AEF	(BG)C	3S4	2	1.4	35	BCDF	AG	2 4.2 21 BGHJ (AC)E					
3EH7*	2	3.15	21	BGHJ	(AC)E	3V4	2	1.4	28	BCF	AG	2 4.2 21 BGHJ (AC)E					
3EJ7*	2	3.15	21	BGHJ	(AC)E	4A6	2	2	35	CD	H	2 4.2 20 AB CE					
3ER5*	2	2.5	20	BEF	(AG)D	3 2 46 EF H						2 4.2 20 FG EH					
3EV5*	2	2.5	23	AEF	(BG)D	4AU6	2	4.2	22	ABEF	DG	4EW6 2 4.2 20 AEF BCG					
3FH5	2	3.15	21	BE	ADG	4AV6	1	4.2	21	AG	BD	No open element test on E & G.					
Tube damaged if A or G is moved.						1 4.2 43 E BD						2 4.2 19 HJ ACE					
3FQ5	3	3.15	20	BE	AGD	1 4.2 43 F BD						2 4.2 18 BFG ACE					
Tube damaged if A or G is moved.						4BA6 2 4.2 23 ABEF DG						Tube damaged if A or C is moved.					
3FS5*	3	3.15	19	AF	(BG)DE	4BC5*	1	4.2	18	AEF	(BG)C	4GK5 3 4.2 19 BE ADG					
												Tube damaged if A or G is moved.					

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)					
4GM6	2	4.2	20	AEF	BDG	4KN8	3	4.7	19	AB	CE	5B8	2	4.7	21	BC	AE					
4GS7	3	4.2	19	FGJ	CEH		3	4.7	19	FG	HE		2	4.7	21	FHJ	ABCEG					
	3	4.2	21	AB	CEH	4KT6	3	4.7	19	BGHJ	ACE	No open element test on J.										
Tube damaged if C or H is moved.						Tube damaged if A or C is moved.						5BC3*						3	5	26	(EF)	BC
4GS8	2	4.2	20	BCFG	AE	4LJ8	2	5	18	FGJ	CEH		3	5	26	(HJ)	BC					
	2	4.2	20	BGHJ	AE		2	5	18	AB	CEH	Tube damaged if B or C is moved.										
4GW5*	2	4.2	20	A(BF)	DE	Tube damaged if C or H is moved.						5BE8	2	4.7	20	AB	CE					
4GX7	2	4.7	20	BFG	ACE	4LU6	3	4.2	20	AEFG	BD		2	4.7	20	FGJ	CEH					
	3	4.7	21	HJ	ACE	4MK8	2	4.2	20	BCFG	AE	5BK7	2	4.7	21	FG	EH					
Tube damaged if A or C is moved.							2	4.2	20	BGHJ	AE		2	4.7	21	AB	CE					
4GZ5*	3	4.2	19	(BE)F	ADG	4MP12	3	4.7	22	AEF	BD	5BQ7	2	4.7	22	AB	CD					
4HA5	3	4.2	18	AE	BDG	4MP26	2	4.2	21	AEF	BC		2	4.7	22	FG	DH					
Tube damaged if B or G is moved.						4RHH2	2	4.2	21	AB	CD	5BR8	2	4.7	20	AB	CE					
4HA7	1	4.2	20	BL	CM		2	4.2	21	FG	DH		2	4.7	20	FGJ	EH					
	2	4.2	23	JK	DM	4RHH8	3	4.7	19	AB	CE	No open element test on F.										
4HC7*	1	4.2	20	BL	CM		3	4.7	19	FG	EH	5BS8	2	4.7	22	AB	CD					
	2	4.2	23	(GK)J	DM	4RHH15	3	4.2	22	FG	EH		2	4.7	22	FG	DH					
4HK5	3	4.2	18	AE	BDG		3	4.2	22	AB	CE	5BT8	3	4.7	22	FGH	DJ					
Tube damaged if B or G is moved.						5A6	3	2.5	24	ACFGH	J		1	4.7	26	A	CD					
4HM5	3	4.2	18	AE	BDG	5AM8	1	4.7	18	BCFJ	AD		1	4.7	26	B	CD					
Tube damaged if B or G is moved.						No open element test on F & J.						5BW8	1	4.7	20	A	BE					
4HM6	3	4.2	18	BH	ACE		1	4.7	18	H	DG		1	4.7	20	C	BE					
	1	4.2	32	GJ	ACE	5AN8	2	4.7	22	FGH	EJ		2	4.7	21	FHJ	EG					
Tube damaged if A or C is moved.						No open element test on F.						No open element test on J.										
4HR8*	2	4.2	21	A(BG)FHJ	CE		2	4.7	23	AB	CE	5BZ7	2	4.7	20	AB	CD					
4HQ5	3	4.2	18	AE	BDG	5AQ4	3	5.0	25	F	H		2	4.7	20	FG	DH					
Tube damaged if B or G is moved.							3	5.0	25	D	H	5CG8	1	4.7	20	AB	CEH					
4HS8	2	4.2	24	BHJ	AE	5AQ5*	3	4.7	27	(AG)EF	BD		1	4.7	19	FGJ	CEH					
	2	4.2	21	CFG	AE	5AR4	3	5	26	D	H	No element or short test on C & H.										
4HT6	3	4.2	19	BH	ACE		3	5	26	F	H	5CL8	2	4.7	22	AB	CD					
	1	4.2	34	GJ	ACE	5AS4	1	5	23	D	H		2	4.7	22	FGJ	DH					
Tube damaged if A or C is moved.						5AS8	3	4.7	22	ABJ	CD	5CM6*	3	4.7	21	A(CF)J	DG					
4JC6	2	4.7	19	BGHJ	ACE		2	4.7	24	F	DH	5CM8	2	4.7	24	AJ	DH					
Tube damaged if A or C is moved.						5AT8	2	4.7	21	AB	CE		3	4.7	22	BFG	CD					
4JD6	3	4.7	19	BH	ACEG		2	4.7	20	FGHJ	CE	5CQ8	1	4.7	19	AJ	EH					
Tube damaged if A or C is moved.						No open element test on F & H.						5CR8	2	5	20	AJ	EH					
4JH6	3	4.2	20	AFEG	BD	5AU4	3	5	30	F	H		2	5	19	BFG	CE					
4JK6	3	4.7	18	AF	BD		3	5	30	D	H	5CZ5	1	4.7	21	ACFJ	EG					
	1	4.7	33	EG	BD	5AV8	2	4.7	22	FHJ	EG	5DH8	1	5	19	AB	CD					
4JL6	3	4.7	18	AF	BD	No open element test on F.							2	5	20	FGJ	DH					
	1	4.7	32	EG	BD		2	4.7	23	BC	AE	5DJ4*	3	5	30	(CD)	GH					
4JW8	2	4.7	20	BCF	EG	5AW4	4	5	18	D	H		3	5	30	(EF)	AB					
	2	4.7	21	AJ	EH		4	5	19	F	H	Tube damaged if GH or AB is moved.										
4KE8	2	4.2	18	BCF	EG	5AX4	3	5	40	D	H	5EA8	2	4.7	21	AJ	EH					
	2	4.2	18	AJ	EH		3	5	40	F	H		2	4.7	21	BCF	EG					
4KF8	2	4.2	20	BGHJ	AE	5AZ4	3	5	43	F	H	5EH8*	2	4.7	21	GHJ	(AF)E					
	2	4.2	20	BCFG	AE		3	5	43	D	H		2	4.7	21	BC	(AF)E					
												5EU8	2	4.7	21	AGJ	EH					
													2	4.7	21	BC	EF					

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
5EW6	2	5	19	AF	BD	5MHH3	2	5	22	AF	CG	6A4/LA	3	6.3	36	BCD	E
	1	5	41	EG	BD		2	5	22	BE	CG	6A5	2	2.5	28	CE	BG
5FG7*	2	4.7	19	AB	(CH)E	5MK9	3	5	28	E	C	6A6	3	6.3	36	BC	DG
	3	4.7	19	GJ	(CH)EF	5MQ8	2	5	20	BCF	EG		3	6.3	36	EF	DG
5FV8	2	4.7	21	FGJ	EH		2	5	21	AJ	EG	6A7	2	6.3	30	DE	FG
	2	4.7	21	AB	CE	5R4	3	5	46	D	H		2	6.3	38	BCN	FG
5GH8	2	4.7	17	BCF	EG		3	5	46	F	H	6A8	2	6.3	31	EF	GH
	2	4.7	17	AJ	EH	5R-DDH1	1	5	22	A	BE		2	6.3	40	CDN	GH
5FJ7	2	5	19	HJ	ACE		1	5	24	F	CE	6AB4	2	6.3	22	AF	CG
	2	5	18	BFG	ACE		1	5	20	GH	EJ	6AB5	2	6.3	36	BC	EF
Tube damaged if A or C is moved.						5RHP1	2	4.7	22	AJ	EH	Eye CL	4	6.3	0	BD	CEF
5GM6	2	5	19	AF	BD		2	4.7	20	BC	EFG	Eye OP	4	6.3	0	D	BCEF
	1	5	37	EG	BD	5RHR1	2	5	20	AJ	EH	6AB6	3	6.3	62	DE	CGH
5GS7	3	5	19	FGJ	CEH		2	5	20	BCF	EG		3	6.3	44	CE	DGH
	3	5	21	AB	CEH	No open element test on F.						6AB7	3	6.3	23	DFH	CEG
Tube damaged if C or H is moved.						5RK16	3	5	24	A	D	6AB7	1	6.3	20	FGHJ	CE
5GX6	1	5	19	A	BD		3	5	24	H	D	No open element test on F & G.					
	1	5	21	EFG	BD	5T4	3	5	26	F	H		1	6.3	23	AB	CE
5GX7*	2	5	20	BG	(AC)EF		3	5	26	D	H	6AC5	3	6.3	34	CE	GH
	3	5	21	HJ	(AC)E	5T8	1	4.7	20	A	CEG	6AC6	2	6.3	26	CDE	GH
5HA7	1	5	20	BL	CM		1	4.7	20	B	CEG	6AC7	3	6.3	21	DFH	CEG
	2	5	23	JK	DM		1	4.7	20	F	CEG	No open element test on C & H.					
5HB7	2	5	20	HJ	ACE	5U4	3	5	35	HJ	CEG	6AC9	1	6.3	19	B	CM
	3	5	20	BFG	ACE		3	5	35	F	H		1	6.3	19	BC	DM
Tube damaged if A or C is moved.						5U8	2	4.7	22	AJ	EH	6AC10	3	6.3	19	GJK	HLM
5HC7*	1	5	20	BL	CM		2	4.7	22	BCF	EG		3	6.3	20	JK	DM
	2	5	23	(GK)J	DM	No open element test on F.							3	6.3	20	EG	FM
5HG8*	3	5	19	BJ	(AC)EH	5V3	3	5	30	D	B	6AD6	4	6.3	95	CDE	GH
	3	5	23	FG	(AC)E		3	5	30	F	B	Good tube reads above 26.					
5HZ6	2	5	20	AEFG	BD	5V4	3	5	25	F	H	Eye CL	4	6.3	0	CDE	GH
5J6	1	4.7	20	AF	DG		3	5	25	D	H	Eye OP	4	6.3	0	E	CDGH
	1	4.7	20	BE	DG	5V6	3	4.7	29	CDE	AGH	6AD7	3	6.3	33	CDE	GH
5JK6	3	5	18	AF	BD		3	5	48	F	H		2	6.3	51	AF	GH
	1	5	33	EG	BD	5W4	3	5	48	D	H	6AD10	3	6.3	22	HKL	JM
5JL6	3	5	18	AF	BD		3	5	43	B	D		2	6.3	18	CFG	BEM
	1	5	32	EG	BD	5X3	3	5	43	C	D	6AE5	3	6.3	29	CE	GH
5JW8	2	5	20	BCF	EG		3	5	33	E	H	6AE6	2	6.3	33	CE	GH
	2	5	21	AJ	EH	5X4	3	5	33	C	H		2	6.3	33	DE	GH
5KD8	2	5	20	AJ	EH		3	5	33	C	H	6AE7	2	6.3	26	CD	EG
	2	5	20	BC	EFG	5X8	2	4.7	22	BC	EF		2	6.3	27	CF	GH
5KE8	2	5	18	BCF	EG		2	4.7	21	GHJ	AEF	6AF3*	4	6.3	18	(BJ)	EN
	2	5	18	AJ	EH	5Y3	3	5	50	D	H	6AF4*	2	6.3	21	(AG)(BF)	DE
5KZ8	3	5	19	AJ	EH		3	5	50	F	H	6AF5	2	6.3	24	CE	GH
	3	5	20	BG	CEF	5Y4	3	5	57	E	G	6AF6	4	6.3	95	CDE	GH
5LJ8*	3	5	22	AB	(CH)E		3	5	57	C	G	Good tube reads above 26.					
	3	5	19	GJ	(CH)EF	5Z3	3	5	35	C	D	Eye CL	4	6.3	0	CDE	GH
5MB8	3	5	21	AB	CE		3	5	35	B	D	Eye OP	4	6.3	0	E	CDGH
	3	5	19	GJ	EFH	5Z4	3	5	27	F	B						
5MF8*	3	5.0	19	D(FG)H	JM		3	5	27	D	B						
	1	5.0	19	BK	LM	6A3	3	6.3	28	BC	D						

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
6AF11	2	6.3	21	CD	GM	6AM8	1	6.3	18	BCFJ	AD	6AU7	2	3.15	25	AB	CDE
	2	6.3	21	FH	EM	No open element test on F & J.							2	3.15	25	FG	DEH
	3	6.3	20	KL	BJM	1	6.3	18	H	DG		6AU8	2	6.3	21	BC	AD
6AG5*	3	6.3	20	AEF	(BG)C	6AN4*	2	6.3	20	(AG)(BF)	CE		2	6.3	21	GHJ	DF
No open element test on E.						6AN5*	3	6.3	17	AEF	(BG)D	No open element test on J.					
6AG7	3	6.3	17	DFH	EG	6AN6	1	6.3	23	B	FG	6AV5	2	6.3	25	AEH	BC
6AG9	2	6.3	19	BDKL	JM		1	6.3	23	C	FG	6AV6	1	6.3	21	AG	BD
	2	6.3	20	EG	FM		1	6.3	23	D	FG		1	6.3	43	E	BD
6AG11	1	6.3	20	C	BM		1	6.3	23	E	FG		1	6.3	43	F	BD
	1	6.3	20	K	LM	6AN8	2	6.3	22	FGH	EJ	6AV11	2	6.3	23	BL	CM
	2	6.3	20	EF	DM	No open element test on F.						2	6.3	23	EG	FM	
	2	6.3	20	GH	JM		2	6.3	23	AB	CE		2	6.3	23	JK	DM
6AH4	2	6.3	20	AE	GH	6AQ5*	3	6.3	27	(AG) EF	BD	6AW8	3	6.3	20	GHJ	DF
6AH6	2	6.3	22	AEF	BCG	6AQ6	1	6.3	20	AG	BC		3	6.3	23	BC	AD
6AH7	3	6.3	30	AC	BG		1	6.3	40	E	BC	6AX3	3	6.3	23	DK	GM
	3	6.3	30	EF	DG		1	6.3	40	F	BC	6AX4	3	6.3	22	E	CH
6AH9*	3	6.3	19	(EF)HJL	GM	6AQ7	1	6.3	22	DE	FH	6AX5	3	6.3	32	C	BH
	3	6.3	28	BC	DM		1	6.3	34	C	BH		3	6.3	32	E	BH
6AJ4*	2	6.3	19	(ACDFJ)E	BH		1	6.3	34	A	BH	6AX6G	1	6.3	19	E	GH
6AJ5*	2	6.3	23	AEF	(BG)C	6AQ8	2	6.3	21	AB	CE		1	6.3	19	C	DG
6AJ8	2	6.3	22	ABFG	CE		2	6.3	21	FG	EH	6AX7	1	3.15	20	AB	CDE
	2	6.3	23	HJ	CE	6AR5	3	6.3	30	AEF	BD		1	3.15	20	FG	DEH
6AK5*	2	6.3	22	AEF	(BG)C	6AR6	3	6.3	20	CEG	AH	6AX8	2	6.3	20	AJ	EH
6AK6	3	6.3	30	ABEF	CG	6AR8	3	6.3	22	BCFJ	EG		2	6.3	20	BCF	EG
6AK7	3	6.3	17	DFH	EG	No open element test on B, C & J.						No open element test on F.					
6AK8	1	6.3	20	A	DG		3	6.3	22	ACFH	EG	6AY3	3	6.3	22	BG	EJ
	1	6.3	20	B	CD	No open element test on A, C & H.						J may show leakage.					
	1	6.3	21	HJ	DG	6AR11	3	6.3	18	CE	BDFM	6AY11	1	6.3	19	GH	JM
	1	6.3	40	F	DG		3	6.3	18	JK	GHLM		1	6.3	19	EF	DM
6AK9	3	6.3	30	BC	GM	6AS5*	1	6.3	19	(BE) FG	AC		1	6.3	19	K	LM
	3	6.3	22	KL	GM	6AS6	2	6.3	25	AEFG	BC		1	6.3	19	C	BM
	3	6.3	21	EHJ	GM	6AS7	3	6.3	16	AB	CH	6AZ8	2	6.3	21	HJ	EG
6AK10	3	6.3	20	JK	DM		3	6.3	16	DE	FH		2	6.3	21	ABF	CE
	3	6.3	20	EG	FM	6AS8	1	6.3	19	ABJ	CEG	6B4	3	6.3	28	CE	G
	3	6.3	20	BL	CM		1	6.3	18	F	EH	6B5	3	6.3	45	BD	CEF
6AL3	3	6.3	19	ABCFGHJ	EN	6AS11	2	6.3	21	CD	GM		3	6.3	63	CD	BEF
No element test on top levers.							2	6.3	21	FH	EM	6B6	3	6.3	32	CN	GH
6AL5	1	6.3	22	B	DE		3	6.3	18	KL	BJM		1	6.3	40	D	GH
	1	6.3	22	G	AD	6AT6	1	6.3	20	AG	BC		1	6.3	40	E	GH
6AL6	3	6.3	24	DEN	GH		1	6.3	35	E	BC	6B7	3	6.3	50	BCN	FG
6AL7	1	6.3	40	ACDEF	BH		1	6.3	35	F	BC		1	6.3	40	D	FG
Eye OP	4	6.3	0	C	BDFH	6AT7N	3	6.3	20	AB	CE		1	6.3	40	E	FG
Eye CL	4	6.3	0	C	BH		3	6.3	20	FG	EH	6B8	3	6.3	45	CFN	GH
6AL9	2	6.3	20	BDKL	JM	6AT8	2	6.3	21	AB	CE		1	6.3	40	D	GH
	3	6.3	20	EG	FM		2	6.3	20	FGHJ	CE		1	6.3	40	E	GH
6AL11	1	6.3	21	CDFG	BM	No open element test on F & H.						6B10	1	6.3	20	H	JM
	3	6.3	20	HKL	JM	6AU4	4	6.3	22	E	CH		1	6.3	20	K	JM
6AM4*	1	6.3	18	(ACDFJ)E	BH	6AU5	3	6.3	22	AEH	CG		2	6.3	21	CD	BM
6AM5	1	6.3	22	AEG	BD	6AU6	2	6.3	22	ABEF	DG		2	6.3	22	EF	GM

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
6B32	1	6.3	22	B	DE	6BH3	3	6.3	22	BG	EJ	Eye OP	4	6.3	0	AB	D
	1	6.3	22	G	AD	6BH6	2	6.3	22	AEFG	BC	No open element test on A, B & G.					
6BA3*	3	6.3	23	(BG)	EJ	6BH8	2	6.3	22	BC	AD	6BR7	1	6.3	20	BGHJ	CE
6BA6	2	6.3	23	ABEF	DG		2	6.3	21	GHJ	DF	6BR8	2	6.3	20	AB	CE
6BA7	3	6.3	18	AB	CEGJ	No open element test on J.							2	6.3	20	FGJ	EH
	1	6.3	36	AFGJ	BCE	6BH11	3	6.3	18	HJK	LM	No open element test on F.					
6AB8	3	6.3	25	BC	AD		3	6.3	18	FG	EM	6BS3*	2	6.3	20	(BG)	EJ
	3	6.3	22	GHJ	DF		3	6.3	18	CD	BM	6BS8	2	6.3	22	AB	CD
6BA11	2	6.3	23	BCE	HM	6BJ3	3	6.3	21	DK	GM		2	6.3	22	FG	DH
	2	6.3	22	DFG	HM	6BJ6	2	6.3	22	AEFG	BD	6BT6	1	6.3	21	AG	BC
	2	6.3	22	JL	KM	6BJ7	1	6.3	20	B	AE		1	6.3	30	E	BC
6BB14*	3	6.3	18	(AB)(FG)N	CEH		1	6.3	20	F	EG		1	6.3	30	F	BC
Tube damaged if C or H is moved.						6BJ8	1	6.3	20	H	EJ	6BU8	1	6.3	22	BCFG	AE
6BC4*	1	6.3	20	(AJ)BCGH	EF		1	6.3	20	A	BE		1	6.3	22	BGHJ	AE
6BC5*	2	6.3	22	AEF	(BG)C		1	6.3	20	F	CE	6BV8	1	6.3	20	F	EH
6BC7	1	6.3	20	B	AD		3	6.3	25	GH	EJ		1	6.3	20	J	EG
	1	6.3	20	H	DJ	6BK4	1	6.3	30	EN	ABCDHF		2	6.3	22	BC	AE
	1	6.3	21	F	DG	No open element test on N.						6BV11	2	6.3	20	GJKL	HM
6BC8	1	6.3	19	FG	DH	6BK5	2	6.3	21	ACGH	DF		2	6.3	20	BCDF	EM
	1	6.3	19	AB	CD	6BK6	1	6.3	24	AG	BC	6BW3*	4	6.3	21	(DK)	GM
6BD4	1	6.3	29	EN	AG		1	6.3	32	E	BC	6BW4	4	6.3	20	G	EJ
6BD5	3	6.3	18	AEH	CG		1	6.3	36	F	BC		4	6.3	20	A	EJ
6BD6	2	6.3	26	ABEF	DG	6BK7	2	6.3	21	FG	EH	6BW6*	3	6.3	26	(AB)GHJ	CE
6BD7	1	6.3	21	AB	CE		2	6.3	21	AB	CE	6BW8	1	6.3	20	A	BD
	1	6.3	46	H	CE	6BK8	2	6.3	22	AHJ	CE		1	6.3	20	C	BD
	1	6.3	51	F	CE	6BK11	1	6.3	20	BL	CM		3	6.3	22	FHJ	DG
6BD11	3	6.3	20	KL	BJM		1	6.3	20	EG	FM	6BW11	3	6.3	18	GHJL	KM
	2	6.3	20	FH	EM		1	6.3	20	JK	DM		3	6.3	17	CDEF	BM
	2	6.3	21	CD	GM	6BL4	4	6.3	22	AE	CG	6BX4	3	6.3	30	F	DG
6BE3	3	6.3	20	DK	GM	6BL7	3	6.3	22	AB	CG		3	6.3	30	A	DG
6BE6	2	6.3	22	A	BD		3	6.3	22	DE	FG	6BX6*	2	6.3	22	BGHJ	(AC)E
	2	6.3	26	EFG	BD	6BL8	2	6.3	22	AJ	EH	6BX7	3	6.3	22	DE	FG
6BE7*	1	6.3	20	ABFGJ	(CH)E		2	6.3	20	BC	EFG		3	6.3	22	AB	CG
No open element test on F.						6BM8	1	6.3	20	AJ	EH	6BY5	3	6.3	23	D	AG
	1	6.3	30	FJ	(CH)E		1	6.3	20	CFG	BE		3	6.3	23	E	GH
6BE8	2	6.3	20	AB	CE	6BN4*	1	6.3	19	(BG)E	(AF)D	6BY6	1	6.3	19	AF	BD
	2	6.3	20	FGJ	CEH	6BN6	1	6.3	36	BEFG	AC		1	6.3	25	EG	BD
6BF5	3	6.3	18	AEFG	BC	Good tube reads above 23.						6BY7	1	6.3	22	BGHJ	ACE
6BF6	3	6.3	28	AG	BDEF	6BN8	1	6.3	20	A	BE	No element or short test on A & C.					
	1	6.3	38	E	ABDFG		1	6.3	20	F	CE	6BY8	2	6.3	26	ABGH	EJ
	1	6.3	38	F	ABDEG		1	6.3	20	GH	EJ		2	6.3	22	F	CE
6BF8	1	6.3	19	A	EF	6BN11	3	6.3	18	GJKL	HM	6BY11	1	6.3	19	CEFG	BM
	1	6.3	19	B	EF		3	6.3	18	CDEF	BM		3	6.3	19	HKL	JM
	1	6.3	19	C	EF	6BQ5	3	6.3	22	ABGJ	CD	6BZ3*	3	6.3	20	(DK)	GM
	1	6.3	19	G	EF	6BQ6	3	6.3	21	DEN	GH	6BZ6	1	6.3	18	AEFG	BC
	1	6.3	19	H	EF	6BQ7	2	6.3	22	AB	CD	No open element test on E & G.					
	1	6.3	19	J	EF		2	6.3	21	FG	DH	6BZ7	2	6.3	21	FG	DH
6BF11	1	6.3	20	CEFG	BM	6BR3*	4	6.3	18	(BJ)	EN		2	6.3	20	AB	CD
	3	6.3	20	HKL	JM	6BR5											
6BG6	3	6.3	24	EHN	CG	Eye CL	4	6.3	0	ABG	D						

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
6BZ8	3	6.3	16	FG	EH	6CH3*	3	6.3	19	(BG)	EJ	6CX8	1	6.3	20	BC	AD
	3	6.3	16	AB	CE	6CH6	4	6.3	19	BGHJ	CE		2	6.3	23	GHJ	DF
6C4	2	6.3	25	AEF	DG	6CH7*	1	6.3	19	AB	CE	6CY5*	3	6.3	22	AEF	(BG)C
6C5	2	6.3	30	CE	GH		1	6.3	19	FG	E(HJ)	6CY7	1	6.3	20	FG	DH
6C6	1	6.3	21	BCN	DEF	6CH8	2	6.3	22	HJ	AE		3	6.3	20	ABC	DJ
6C7	1	6.3	21	B	FG		2	6.3	21	BCG	EF						
	1	6.3	40	D	FG	No open element test on B.						6CZ5	1	6.3	20	ACFJ	EG
	1	6.3	40	E	FG	6CH40	2	6.3	22	ABFG	CE	6D1*	1	6.3	20	(AE)F	DG
6C8	2	6.3	27	CN	DG		2	6.3	23	HJ	CE	6D4	3	6.3	20	AG	DE
	2	6.3	27	EF	GH	6CJ3*	3	6.3	20	(BG)	EJ	6D5	3	6.3	32	CE	GH
6C9	2	6.3	20	ABC	EK	6CJ6	3	6.3	16	ABFGHJN	CE	6D6	3	6.3	27	BCDN	EF
	2	6.3	20	GHJ	EF	6CK3*	3	6.3	18	(BG)	EJ	6D7	2	6.3	28	BCN	DFG
6C10	1	6.3	20	BL	CM	6CK4	1	6.3	21	ACE	GH	6D8	2	6.3	34	EF	GH
	1	6.3	20	EG	FM	6CL3*	3	6.3	19	(BG)	EJ		2	6.3	42	CDN	GH
	1	6.3	20	JK	DM	6CL5*	3	6.3	20	(AH)(DE)N	B(CF)	6D10	1	6.3	18	BL	CM
6C16	2	6.3	22	AJ	EH	6CL6*	3	6.3	22	(BJ)(CH)FG	AD		1	6.3	18	EG	FM
	2	6.3	20	BC	EFG	6CL8	2	6.3	22	AB	CD		1	6.3	18	JK	DM
6C18	3	6.3	17	BOG	EFH		2	6.3	22	FGJ	DH	6DA4	3	6.3	21	E	CG
	3	6.3	22	J	EFH	6CM3*	3	6.3	17	(BG)	EJ	6DA5	1	6.3	22	AG	BE
Tube damaged if F or H is moved.						6CM4*	3	6.3	19	(AJ)(BFH)	CEG	Eye CL	4	6.3	0	CGHJ	ABE
6CA4	2	6.3	22	A	CD	Tube damaged if C or G is moved.						Eye OP	4	6.3	0	CHJ	ABEG
	2	6.3	22	G	CD	6CM5*	3	6.3	19	(AD)EN	CGH	6DA6	3	6.3	18	BGHJ	CE
6CA5	3	6.3	22	BEFG	AC	Tube damaged if C or H is moved.						6DB5*	3	6.3	20	A(CF)J	(BG)D
6CA7	3	6.3	22	ACDE	GH	6CM6*	3	6.3	28	A(CF)J	DG	6DB6	1	6.3	18	AEFG	BD
6CA11	3	6.3	22	BC	AG	6CM7	2	6.3	24	AH	EJ	6DC6	1	6.3	18	AEFG	BD
	3	6.3	20	DF	AE		2	6.3	26	FG	CE	No open element test on E & G.					
	3	6.3	20	HKL	AJ	6CM8	2	6.3	24	AJ	DH	6DC8	2	6.3	22	ABFJ	CE
6CB5*	2	6.3	20	(AH)(DE)	B(CF)		2	6.3	22	BFG	CD		1	6.3	36	G	CE
6CB6	2	6.3	22	AEFG	BC	6CN7	1	3.15	21	GH	DEF		1	6.3	36	H	CE
No open element test on E & G.							3	3.15	20	A	CDE	6DE4	4	6.3	22	E	CH
6CC31	1	6.3	18	AF	DG		3	3.15	20	B	CDE	6DE6	2	6.3	20	AEFG	BD
	1	6.3	18	BE	DG	6CQ4	3	6.3	21	E	CH	No open element test on E & G.					
6CC42	2	6.3	23	CD	BFGHJ	6CQ8	1	6.3	19	AJ	EH	6DE7	2	6.3	26	FG	DH
	2	6.3	23	FG	BCDHJ		1	6.3	19	BCF	EG		3	6.3	22	ABC	DJ
6CC43	2	6.3	21	AB	CE	6CR6	2	6.3	23	EFG	AD	6DG6	3	6.3	20	CDE	GH
	2	6.3	21	FG	EH		1	6.3	36	B	AD	6DJ8	2	6.3	21	FG	EH
6CD3*	3	6.3	18	(DK)	GM	6CS6	1	6.3	20	AF	BC		2	6.3	21	AB	CE
6CD6	3	6.3	17	EHN	BC		1	6.3	25	EG	BC	6DK3*	3	6.3	18	(BG)	DN
6CE3*	1	6.3	18	(DK)	GM	6CS7	3	6.3	24	AC	DJ	6DK6	3	6.3	22	AEF	BCG
6CE5*	2	6.3	20	AEF	(BG)D		2	6.3	28	FG	DH	6DL3*	3	6.3	18	(BG)	DN
No open element test on E.						6CT3*	3	6.3	18	(BF)	EJ	6DL4*	3	6.3	18	(ACFGJ)H	BE
6CF6	2	6.3	22	AEFG	BC	6CU5	3	6.3	18	BEFG	AD	6DL5*	3	6.3	23	(AG)EF	BD
No open element test on E & G.						6CU6	3	6.3	18	DEN	GH	6DL7					
6CF8	1	6.3	20	AFHJ	CD	6CU8	1	6.3	20	HJ	AE	Eye OP	4	6.3	0	E	DGH
6CG3*	3	6.3	18	(DK)	GM		1	6.3	19	BCG	EF	Eye CL	4	6.3	0	CEF	DGH
6CG7	2	6.3	23	AB	CD	6CW4	1	6.3	18	BD	HM	No open element test.					
	2	6.3	23	FG	DH	6CW5*	3	6.3	16	•	CE	6DL8	1	6.3	40	A	EH
6CG8	1	6.3	20	AB	CEH	•(AB)(FJ)(GH)							1	6.3	20	CFG	BE
	1	6.3	19	FGJ	CEH	A, F or H is not used in some tubes.							1	6.3	40	J	EH
No element test or short test on C & H.												6DM4	3	6.3	22	E	CH

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
6FM8	1	6.3	20	B	CE	6GJ7*	3	6.3	19	BG	(AC)EF	6H5	2	6.3	36	BC	EF
	1	6.3	20	F	AE		3	6.3	20	HJ	(AC)E	Eye CL	4	6.3	0	BD	CEF
	1	6.3	22	HJ	EG	6GK5	3	6.3	20	BE	ADG	Eye OP	4	6.3	0	D	BCEF
6FQ5*	3	6.3	20	BE	(AG)D	Tube damaged if A or G is moved.						6H6	1	6.3	25	C	DG
6FQ7	2	6.3	23	AB	CE	6CK6*	2	6.3	20	BGH	A(CJ)E		1	6.3	25	E	GH
	2	6.3	23	FG	EH	6GK17	3	6.3	22	E	CG	6H7S	3	6.3	33	BCD	FG
6FR7*	3	6.3	19	A(BC)	EJ	6GL7	3	6.3	19	AB	CH		2	6.3	52	EN	FG
	3	6.3	30	FG	EH		1	6.3	20	DE	FH	6HA5	3	6.3	18	AE	BDG
6FS5*	2	6.3	20	AF	(BG)DE	6GM5	3	6.3	21	AFJ	EG	Tube damaged if B or G is moved.					
6FV6	2	6.3	20	AEF	DG	6GM6	2	6.3	20	AEF	BDG	6HA6*	3	6.3	19	BG(FH)	ACEJ
No open element test on F.						6GM8	2	6.3	22	AB	CE	Tube damaged if C or J is moved.					
6FV8	2	6.3	21	FGJ	EH		2	6.3	22	FG	EH	6HB5*	3	6.3	18	B(CL)G	(DK)M
	2	6.3	21	AB	CE	6GN8	1	6.3	19	BC	AE	6HB6*	3	6.3	18	B(FH)	AE
6FW5	3	6.3	20	AEH	CG		3	6.3	19	GH	EFJ		1	6.3	24	(CJ)G	AE
6FY5	2	6.3	20	BE	ADG	6GQ7	1	6.3	20	F	EG	6HB7	2	6.3	20	HJ	ACE
No element or short test on A & G.							1	6.3	20	H	EJ		3	6.3	20	BFG	ACE
6FY7	3	6.3	19	CE	GM		1	6.3	20	B	AE	Tube damaged if A or C is moved.					
	1	6.3	21	KL	JM	6GS7	3	6.3	19	FGJ	CEH	6HC8	3	6.3	23	CFG	BE
6G5	2	6.3	36	BC	EF		3	6.3	21	AB	CEH		3	6.3	26	AJ	EH
Eye CL	4	6.3	0	BD	CEF	Tube damaged if C or H is moved.						6HD5*	3	6.3	19	(CL)(EJ)G	(DK)M
Eye OP	4	6.3	0	D	BCEF	6GS8	2	6.3	20	BCFG	AE	6HD7	3	6.3	20	BFG	AGE
6G6	3	6.3	36	CDE	GH		2	6.3	20	BGHJ	AE		3	6.3	19	HJ	ACE
6G6G	2	6.3	28	CDE	BH	6GT5*	3	6.3	19	(AG)(BF)J	CE	Tube damaged if A or C is moved.					
6G7	3	6.3	36	BN	CEG	6GU5*	1	6.3	19	A	(BG)D	6HE5*	3	6.3	21	(BJ)(CK)F	(DL)M
	1	6.3	24	D	CG		1	6.3	29	EF	(BG)D	6HE7	1	6.3	19	B	DM
	1	6.3	24	F	CG	6GU7	3	6.3	22	AB	CE		3	6.3	18	EJL	HM
6G11	1	6.3	20	CDFG	BM		3	6.3	22	FG	EH	6HF5*	3	6.3	19	C(EJ)FHLN	(DK)M
	3	6.3	20	HKL	JM	6GV5*	3	6.3	19	CGL(EJ)N	(DK)M	6HF8	1	6.3	19	BC	AE
6GA7*	3	6.3	20	(BC)DG	EM	6GV7	3	6.3	17	BCG	EFH		3	6.3	19	GH	EFJ
	3	6.3	24	L	HM		3	6.3	22	AJ	EFH	6HG5*	3	6.3	26	(AG)EF	BD
6GA8	2	6.3	22	FG	EH	Tube damaged if F or H is moved.						6HG8*	3	6.3	18	BJ	(AC)EH
	2	6.3	22	AB	CE	6GV8	1	6.3	19	AB	CE		3	6.3	20	FG	(AC)E
6GB3	3	6.3	19	DE	GH		3	6.3	20	FGJ	EH	6HJ5*	3	6.3	18	(CL)(EJ)G	BDKM
6GB5*	3	6.3	19	(AB)(FG)N	CEH	6GW5*	2	6.3	20	A(BF)	DE	Tube damaged if D or K is moved.					
Tube damaged if C or H is moved.						6GW6	3	6.3	20	DEN	GH	6HJ7	3	6.3	19	BFG	ACE
6GB6	3	6.3	21	DEN	GH	6GW8	1	6.3	20	AJ	BE		3	6.3	18	HJ	ACE
6GB7	3	6.3	18	DEN	BH		3	6.3	20	CFH	EG	Tube damaged if A or C is moved.					
6GB9	3	6.3	22	DEN	GH	6GX6	1	6.3	19	A	BD	6HJ8	1	6.3	19	H	EG
6GC5*	3	6.3	21	(AH)(CF)J	EG		1	6.3	21	EFG	BD		3	6.3	19	BC	AE
6GC6	2	6.3	21	DEHN	CG	6GX7*	2	6.3	20	BG	(AC)EF		3	6.3	28	CFJ	AE
6GD7*	3	6.3	19	AB	(CH)E		3	6.3	21	HJ	(AC)E	6HK5	3	6.3	18	AE	BDG
	3	6.3	19	GJ	(CH)EF	6GY5*	3	6.3	18	(CGL)(EJ)N	(DK)M	Tube damaged if B or G is moved.					
6GE5*	3	6.3	19	B(CL)G	(DK)M	6GY6	3	6.3	19	AEFG	BD	6HL5*	3	6.3	18	(AB)GJ	CE
6GF5*	3	6.3	19	B(CL)G	(DK)M	6GY8	1	6.3	26	AB	E	6HL8	2	6.3	20	AJ	EH
6GF7	3	6.3	18	BF	CE		1	6.3	19	CJ	EH		3	6.3	19	BC	EFG
	1	6.3	20	HJ	AE		1	6.3	22	F	EG	6HM5	3	6.3	18	AE	BDG
6GH8	2	6.3	17	BCF	EG	No open element test on B & C.						Tube damaged if B or G is moved.					
	2	6.3	17	AJ	EH	6GZ5*	3	6.3	19	(BE)F	ADG	6HM6	3	6.3	19	BH	ACE
6GJ5*	3	6.3	20	(AG)(BF)N	CE	6H4	1	6.3	26	D	GH		1	6.3	34	GJ	ACE

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	
6HQ5	3	6.3	18	AE	BDG			2	6.3	20	HJ	(AG)E	6JX8	2	6.3	20	HJ	CE
Tube damaged if B or G is moved.						6JD5*	3	6.3	18	(BL)(CK)G	DM		2	6.3	20	ABFG	CE	
6HR5*	3	6.3	26	(AG)EF	BD	6JD6	3	6.3	19	BH	ACEG	6JY8	2	6.3	20	BC	AE	
6HR6	3	6.3	18	ABEF	DG	No element or short test on A & C.						2	6.3	20	GHJ	EF		
6HS5*	3	6.3	18	(BL)(CK)G	DM	6JE6*	3	6.3	17	•	CE	6JZ6*	3	6.3	18	(DK)CEN	BM	
6HS6	1	6.3	19	A	DG	•(AG)(BF)HN						6JZ8*	3	6.3	20	D(FG)H	JM	
	1	6.3	21	BEF	DG	6JE8	2	6.3	20	BC	AE	1	6.3	21	BK	LM		
6HS8	2	6.3	24	BHJ	AE	3	6.3	19	GHJ	EF	6K5	1	6.3	20	CN	GH		
	2	6.3	21	CFG	AE	6JF6*	3	6.3	18	•	CE	6K6	3	6.3	34	CDE	GH	
6HT5	1	6.3	40	FN	M	•(AG)(BF)HN					6K7	2	6.3	32	CDN	EGH		
6HU6*	1	6.3	22	AJ	CE	6JG5	3	6.3	19	GHJ	DF	6K8	1	6.3	20	DE	GH	
	4	6.3	100	(BFH)G	CE	6JG6*	3	6.3	18	(AG)BJ	ECF	1	6.3	20	EF	GH		
Good tube reads above 8.						6JH5*	3	6.3	20	•	DM	1	6.3	39	CN	GH		
6HU8	3	6.3	21	ABC	EG	•(BL)(CK)(GH)					6K11	2	6.3	23	JK	DM		
	3	6.3	21	FHJ	EG	6JH6	3	6.3	18	AF	BD	1	6.3	20	BL	CM		
6HV5*	3	6.3	20	(BL)(CK)G	DM	1	6.3	48	EG	BD	6KA8	3	6.3	19	FGHJ	CE		
6HW8	3	6.3	22	CF	ABEGHJ	6JH8	2	6.3	35	ABCJ	DG	2	6.3	21	AB	CE		
6HZ5*	3	6.3	18	(BL)(CK)G	DM	3	6.3	23	CF	DG	6KD6*	2	6.3	17	•	BM		
6HZ6	2	6.3	20	AIEFG	BD	6JK5*	3	6.3	20	•	DM	•(CL)(DK)(EJ)N						
6HZ8	2	6.3	21	BC	AE	•(BL)(CK)(GH)					6KD8	2	6.3	20	BCF	EG		
	3	6.3	19	GH	EFJ	6JK6	3	6.3	18	AF	BD	No open element test on F.						
6J4	2	6.3	20	AIEFG	BD	1	6.3	33	EG	BD	2	6.3	20	AJ	EH			
6J5	2	6.3	24	CE	GH	6JK8	2	6.3	19	AB	CE	2	6.3	18	AJ	EH		
6J6	1	6.3	18	AF	DG	2	6.3	20	FG	EH	2	6.3	18	BCF	EG			
	1	6.3	18	BE	DG	6JL6	3	6.3	18	AF	BD	6KF8	2	6.3	20	BGHJ	AE	
6J7	2	6.3	29	CDN	AEGH	1	6.3	32	EG	BD	2	6.3	20	BCFG	AE			
6J8	2	6.3	25	CDN	GH	6JM6	3	6.3	20	CEN	BDKM	6KG6*	4	6.3	21	•	EJ	
	2	6.3	25	EF	GH	Tube damaged if D or K is moved.						•(AH)(BG)(CF)N						
6J9	2	6.3	20	AB	CE	6JN6	3	6.3	20	CGL	BDKM	6KH8	3	6.3	24	AB	DG	
	2	6.3	20	FJ	EK	Tube damaged if D or K is moved.						3	6.3	20	BCJ	DG		
	2	6.3	20	GH	EK	6JN8	3	6.3	19	AB	CE	3	6.3	20	FHJ	DG		
6J10	4	6.3	68	DEFG	HM	3	6.3	20	GJ	EFH	6KL8	1	6.3	48	H	CE		
	3	6.3	20	BJL	CM	6JQ6*	3	6.3	20	A(BC)(GH)	DJ	2	6.3	20	ABFG	CE		
6J11	3	6.3	18	BE	CDFM	1	6.3	23	F	DJ	6KM6*	3	6.3	18	•	CE		
	3	6.3	18	GL	HJKM	6JR6*	3	6.3	18	(AG)BJ	CEF	•(AG)(BF)HN						
6JA5*	3	6.3	21	(BJ)(CK)F	DLM	6JS6*	3	6.3	18	(CL)(EJ)N	BDKM	6KMB*	1	6.3	48	C	EF	
Tube damaged if D or L is moved.						Tube damaged if D or K is moved.						2	6.3	20	GH	EF		
6JA8	2	6.3	20	BC	AE	6JT6*	3	6.3	20	(AG)BFJ	CE	1	6.3	30	ABJ	EF		
	3	6.3	19	GH	EFJ	6JT8	3	6.3	18	GH	EFJ	6KN6*	3	6.3	17	•	BM	
6JB5*	3	6.3	21	(BJ)(CK)F	DLM	1	6.3	19	BC	AE	•(CL)(DK)(EJ)N							
Tube damaged if D or L is moved.						6JU6*	3	6.3	17	•	CE	6KN8	3	6.3	19	AB	CE	
6JB6*	3	6.3	19	•	CE	•(AG)(BF)HN					3	6.3	19	FG	EH			
						6JU8	3	6.3	22	GH	EJ	6KR8	3	6.3	20	BC	AE	
6JC5*	3	6.3	21	(BJ)(CK)F	DLM	3	6.3	22	G	EH	3	6.3	20	GHJ	EF			
Tube damaged if D or L is moved.						3	6.3	22	AB	CE	6KS8	1	6.3	20	BC	AE		
6JC6	2	6.3	19	BGHJ	ACE	3	6.3	22	A	BE	3	6.3	19	GH	EFJ			
No element or short test on A & C.						6JV8	3	6.3	18	GH	EFJ	F may show leakage.						
6JC8*	2	6.3	20	BCF	(AG)E	1	6.3	19	BC	AE	6KT6	3	6.3	19	BFHJ	ACE		
No open element test on F.						6JW8	2	6.3	21	AJ	EH	Tube damaged if A or C is moved.						
						2	6.3	20	BCF	EG								

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	
6KT8	3	6.3	20	GH	EFJ	6LT8	1	6.3	18	H	EG	6MJ8	3	6.3	22	BL	CM	
	1	6.3	19	BC	AE		1	6.3	18	F	EG		3	6.3	22	DK	CM	
6KU8	1	6.3	38	C	AE		3	6.3	19	BCJ	AE		3	6.3	22	FH	CM	
	1	6.3	38	B	AE	6LU6	3	6.3	20	AEFG	BD	6MK8	2	6.3	20	BGHJ	AE	
	3	6.3	17	GHJ	EF	6LU8*	3	6.3	18	D(FG)H	JM		2	6.3	20	BCFG	AE	
6KV6*	3	6.3	18	(AG)BFJ	CE		1	6.3	18	BK	LM	6ML4*	2	6.3	21	(AG)(BF)	DE	
6KV8	3	6.3	18	GHJ	EF	6LV6*	3	6.3	18	•	BM	6ML8	2	6.3	20	CF	EG	
	2	6.3	19	BC	EA		•(CL)(DK)(EJ)N						2	6.3	20	BH	EG	
6KY6*	3	6.3	17	B(CJ)GH	AE	6LW6*	3	6.3	17	(AE)CN	BFG		2	6.3	20	AJ	EG	
6KY8	1	6.3	19	HJ	AE	Tube damaged if B or F is moved.							6MN8	3	6.3	22	BL	CM
	3	6.3	20	BFG	CE	6LX6*	3	6.3	18	(CL)(EJ)N	BDKM		3	6.3	22	DK	CM	
6KZ8	3	6.3	20	BG	CEF	Tube damaged if D or K is moved.								3	6.3	22	FH	CM
	3	6.3	19	AJ	EH	6LX8	2	6.3	21	AJ	EH	6MP17	3	6.3	22	AEF	BD	
6L5	2	6.3	26	CE	GH		2	6.3	20	BCF	EG	6MP18*	3	6.3	20	(AG)EF	BC	
6L6	3	6.3	27	CDE	GH	6LY8	1	6.3	18	BC	AE	6MP20	3	6.3	20	AEF	BD	
6L7	2	6.3	56	D	GH		3	6.3	18	GHJ	EF	6MQ8	2	6.3	21	AJ	EH	
	2	6.3	26	CEN	GH	6LZ6*	3	6.3	19	(AG)(BF)N	CE		2	6.3	20	BCF	EG	
6LB6*	3	6.3	18	•	BM	6M8	2	6.3	26	CDN	AG	6MU8	2	6.3	22	AJ	EH	
	•(CL)(DK)(EJ)						2	6.3	26	EF	AG		2	6.3	21	BCF	EG	
6LB8	3	6.3	18	GH	EFJ		1	6.3	34	H	AG	6MV8	3	6.3	19	GH	EFJ	
	2	6.3	25	BC	AE	6M11	2	6.3	19	GH	JM		1	6.3	20	BC	AE	
6LC8	2	6.3	20	AB	CE		2	6.3	19	EF	DM	6MX8	3	6.3	20	BFG	CE	
C should show short when tube is heated, Sec. 1.							3	6.3	18	BC	KLM		1	6.3	28	HJ	AE	
	2	6.3	20	FHJ	CEG	6MA6	2	6.3	38	FN	GH	6MY8*	3	6.3	19	D(FG)H	JM	
6LD6*	2	6.3	21	B(CJ)(FH)G	AD	6MB6*	3	6.3	18	(CL)(EJ)N	BDKM		1	6.3	19	BK	LM	
6LE8	2	6.3	19	AHJ	BCE	Tube damaged if D or K is moved.					6N3	3	6.3	21	J	CD		
	2	6.3	19	FHJ	CEG	6MB8	3	6.3	19	GJ	EFH	6N4*	2	6.3	24	(AG)E	(BF)D	
6LF6*	3	6.3	18	•	BM		3	6.3	21	AB	CE	6N5	1	6.3	37	BC	EF	
	•(CL)(DK)(EJ)N					6MC6*	3	6.3	18	•	CD	Eye CL	4	6.3	0	BD	CEF	
6LF8	1	6.3	20	BC	AE		•(AG)(BF)HN					Eye OP	4	6.3	0	D	BCEF	
	3	6.3	20	GHJ	EF	6MD8	2	6.3	20	AJ	EG	6N6	3	6.3	61	DE	CGH	
6LG6*	3	6.3	20	(CL)(EJ)N	DKM		2	6.3	20	BH	EG		3	6.3	41	CE	DGH	
Tube damaged if D or K is moved.							2	6.3	20	CF	EG	6N7	3	6.3	29	EF	GH	
6LH6	1	6.3	26	EN	FG	6ME5	2	6.3	29	AB	DG		3	6.3	29	CD	GH	
6LJ6	1	6.3	28	EN	FG	Eye CL	4	6.3	0	BE	ADG	6N8	1	6.3	22	ABF	CD	
6LJ8*	3	6.3	19	GJ	(CH)EF	Eye OP	4	6.3	0	E	ABDG		1	6.3	45	G	CD	
	3	6.3	21	AB	(CH)E	6ME6*	3	6.3	20	•	CE		1	6.3	45	H	CD	
6LM8	3	6.3	18	BCF	EG		•(AG)(BF)HN					6P5	2	6.3	30	CE	GH	
	3	6.3	18	AJ	EH	6ME8	3	6.3	21	CFHJ	ABEG	6P7	2	6.3	32	DEN	BH	
6LN8	3	6.3	21	AJ	EH	6MF8*	3	6.3	19	D(FG)H	JM		3	6.3	70	FG	BH	
	3	6.3	20	BCF	EG		1	6.3	19	BK	LM	6PL12	1	6.3	20	AJ	EH	
6LQ6*	3	6.3	17	•	CE	6MG8	3	6.3	20	BCF	EG		1	6.3	20	CFG	BE	
	•(AG)(BF)HN						3	6.3	20	AJ	EH	6Q4	2	6.3	21	ABGHJ	CD	
6LQ8	3	6.3	18	BC	AE	6MH1*	2	6.3	20	(AE)G	BD	6Q5	4	6.3	20	CE	GH	
	3	6.3	18	GHJ	EF	6HM6*	3	6.3	18	•	BM	6Q6	1	6.3	20	CN	GH	
6LR6*	3	6.3	17	(CL)(EJ)N	BDKM		•(CL)(DK)(EJ)						1	6.3	90	E	GH	
Tube damaged if D or K is moved.						6MHH3	2	6.3	22	BE	CG	6Q7	1	6.3	21	CN	GH	
6LR8	3	6.3	19	BFG	CE		2	6.3	22	AF	CG		1	6.3	47	D	GH	
	1	6.3	19	HJ	AE	6MJ6*	3	6.3	19	•	CE		1	6.3	47	E	GH	
							•(AG)(BF)HN					6Q8	2	6.3	31	EF	GH	
													2	6.3	40	CDN	GH	

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
7AD7	3	6.3	17	BCDF	EGH	7G7	2	6.3	22	BCDF	GH	8AL9	3	7.5	20	EG	FM
7AF7	2	6.3	25	CD	BGH	7G8	2	6.3	24	BCD	EFGH	8AR11	2	7.5	20	BDKL	JM
	2	6.3	25	EF	BGH		2	6.3	24	CEG	BDFH	8AR11	3	7.5	18	JK	GHLM
7AG7	2	6.3	22	BCF	DEGH	7GS7	3	7.5	19	FGJ	CEH	8AU8	3	7.5	18	CE	BDFM
7AH7	2	6.3	21	BCDF	GH		3	7.5	21	AB	CEH	8AU8	2	7.5	22	GHJ	DF
7AJ7	2	6.3	23	BCF	DGH	Tube damaged if C or H is moved.						8AV11	2	7.5	22	BC	AD
7AK7	2	6.3	22	BCDF	GH	7GV7	3	7.5	17	BCG	EFH	8AV11	2	7.5	23	BL	CM
7AN7	3	7.5	21	FJ	DGH		3	7.5	22	AJ	EFH		2	7.5	23	EG	FM
	2	7.5	20	BC	AD	Tube damaged if F or H is moved.							2	7.5	23	JK	DM
Tube damaged if G or H is moved.						7H7	2	6.3	24	BCF	DGH	8AW8	3	7.5	22	GHJ	DF
7AU7	2	3.15	25	FG	DEH	7HG8*	3	7.5	18	BJ	(AC)EH	8AW8	3	7.5	24	BC	AD
	2	3.15	25	AB	CDE		3	7.5	20	FG	(AC)E	8B8	2	7.5	22	AJ	EH
7B4	1	6.3	22	BF	GH	7J7	2	6.3	30	CDE	GH	8B10	3	7.5	20	CFG	BE
7B5	3	6.3	29	BCF	GH		2	6.3	30	BEF	GH	8B10	2	9.45	21	EF	GM
7B6*	2	6.3	25	BC	(DG)H	7K7	1	6.3	20	CD	BH		2	9.45	21	CD	BM
	1	6.3	58	E	(DG)H		1	6.3	39	E	GH		1	9.45	20	K	JM
	1	6.3	58	F	(DG)H		1	6.3	39	F	GH		1	9.45	20	H	JM
7B7	2	6.3	28	BCF	DGH	7KY6*	3	7.5	17	B(CJ)GH	AE	8BA8	2	7.5	20	GHJ	EF
7B8	2	6.3	28	CD	GH	7KZ6*	3	7.5	18	B(CJ)GH	AE		1	7.5	18	BC	AE
	2	6.3	34	BEF	GH	7L7	2	6.3	26	BCF	DGH	8BA11	2	7.5	22	JL	KM
7C4	2	6.3	33	D	GH	7MP18*	3	7.5	20	(AG)EF	BC		2	7.5	22	DFG	HM
7C5	3	6.3	29	BCF	GH	7N7	2	6.3	26	CD	BH		2	7.5	23	BCE	HM
7C6*	3	6.3	33	BC	(DG)H		2	6.3	26	EF	GH	8BH8	2	7.5	20	GHJ	EF
	1	6.3	40	E	(DG)H	7Q7	2	6.3	25	CD	GH		1	7.5	20	BC	AE
	1	6.3	40	F	(DG)H	7R7	2	6.3	41	BEF	GH	8BM11	3	7.5	21	BCDF	EM
7C7	1	6.3	22	BCF	DGH		1	6.3	50	C	GH		3	7.5	22	GHJL	KM
7CL8	2	7.5	22	AB	CD		1	6.3	50	D	GH	8BN8	2	7.5	21	A	BD
	2	7.5	22	FGJ	DH	7S7	2	6.3	33	CD	GH		1	7.5	18	GH	DJ
7D10	4	6.3	19	BGHJ	CE		1	6.3	50	D	GH	8BN11	3	7.5	18	CDEF	BM
7D11	3	6.3	21	CDE	GH	7SC7	2	6.3	23	BEF	GH		3	7.5	18	GJKL	HM
7DJ8	2	7.5	21	AB	CE		3	7.5	33	BC	FG	8BQ5	3	7.5	20	ABGJ	CD
	2	7.5	21	FG	EH		3	7.5	38	DE	FG	8BQ11	3	7.5	18	BCDE	FM
7DZ7	3	7.5	22	ACD	GH	7V7	3	6.3	18	BCF	DGH		3	7.5	19	GHJK	LM
	3	7.5	22	DEF	GH	7W7*	2	6.3	24	BCF	(DG)EH	8BU11	3	7.5	18	CD	BM
No open element test on C & F.						7X6	3	6.3	20	C	BH		3	7.5	18	FG	EM
7E5*	2	6.3	34	(AE)(CG)	(DF)H		3	6.3	20	F	GH		3	7.5	18	HJK	LM
7E6*	2	6.3	27	BC	(DG)H	7X7	1	6.3	21	BC	DGH	8CB11	3	7.5	19	JK	GHLM
	1	6.3	45	E	(DG)H		1	6.3	20	E	DGH		3	7.5	19	CE	BDFM
	1	6.3	45	F	(DG)H		1	6.3	21	F	DGH	8CG7	2	7.5	24	FG	DH
7E7	3	6.3	36	BEF	GH	7Y4	3	6.3	33	C	GH		2	7.5	24	AB	CD
	1	6.3	40	C	GH		3	6.3	33	F	GH	8CM7	2	7.5	24	FG	CE
	1	6.3	46	D	GH	7Z4	3	6.3	34	C	GH		2	7.5	22	AH	EJ
7ED7	2	7.5	20	BGHJ	ACE		3	6.3	34	F	GH	8CN7	3	7.5	20	B	CDE
7ES8	2	7.5	20	AB	CD	8A8	3	7.5	22	AJ	EH		3	7.5	20	A	CDE
	2	7.5	20	FG	DH		3	7.5	20	BCF	EG		1	7.5	20	GH	DEF
7EY6	3	7.5	25	CDE	BH	8AC9	3	9.45	19	GJK	HLM	8CS7	3	7.5	24	AC	DJ
7F7	1	6.3	20	CD	BH		1	9.45	19	BC	DM		2	7.5	26	FG	DH
	1	6.3	20	EF	GH		1	9.45	19	B	CM	8CW5*	3	7.5	20	(AB)(FGH)J	CE
7F8	2	6.3	22	AC	DG	8AC10	3	7.5	20	BL	CM	A, F or H is not used in some tubes.					
	2	6.3	22	FH	EG		3	7.5	20	EG	FM	8CX8	1	7.5	19	GHJ	DF
							3	7.5	20	JK	DM		1	7.5	19	BC	AD

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
8CY7	1	7.5	20	FG	DH	8LE8	2	7.5	19	FHJ	CGE	9GV7	3	9.45	17	BCG	EFH
	3	7.5	20	ABC	DJ		2	7.5	19	FHJ	BCE		3	9.45	22	AJ	EFH
8D8	1	6.3	21	AFHJ	CE	8LS6*	3	7.5	19	B(CJ)GH	AE	9GV8	3	9.45	20	FGJ	EH
No open element test on F.						8LT8	1	7.5	18	H	EG	9JW8	2	9.45	21	AB	CE
8DX8	2	7.5	20	AB	CE		1	7.5	18	F	EG		2	9.45	20	BCF	EG
	3	7.5	20	HJ	EFG		3	7.5	19	BCJ	AE	9KC8	3	9.45	23	FGJ	AE
8EB8	2	7.5	22	GHJ	EF	8MD8	2	7.5	20	AJ	EG	9KG6*	4	9.45	21	•	EJ
	1	7.5	20	BC	AE		2	7.5	20	BH	EG	•(AH)(BG)(CF)K					
8EM5	3	9.45	18	ACFG	EG		2	7.5	20	CF	EG	9KX6*	3	9.45	18	B(CJ)GH	AE
8ET7	1	7.5	56	C	AE	8MU8	2	7.5	22	AJ	EH	9KZ8	3	9.45	20	BGF	CE
	1	7.5	56	B	AE		2	7.5	21	BCF	EG		3	9.45	19	AJ	EH
	3	7.5	20	GHJ	EF	8MV8	3	7.5	19	GH	EFJ	9LA6*	3	9.45	19	B(CJ)GH	AE
No open element test on J.							1	7.5	20	BC	AE	9MD8	2	9.45	20	AJ	EG
8FE5	3	7.5	22	CDE	BH	8RHP1	2	7.5	22	AJ	EH		2	9.45	20	BH	EG
8FQ7	2	7.5	23	FG	EH		3	7.5	20	CFG	BE	9MHH3	2	9.45	22	CF	EG
	2	7.5	23	AB	CE	8SN7	2	7.5	26	AB	CG		2	9.45	22	BE	CG
8FY7	3	7.5	19	CE	GM		2	7.5	26	DE	FG		2	9.45	22	AF	CG
	1	7.5	21	KL	JM	9A8	3	9.45	18	AJ	EH	9ML8	2	9.45	20	CF	EG
8GJ7*	3	9.45	21	HJ	(AC)E		2	9.45	20	BCF	EG		2	9.45	20	BH	EG
	3	9.45	19	BG	(AC)EF	9AH9*	3	9.45	28	BC	DM		2	9.45	20	AJ	EG
8GN8	3	7.5	19	GH	EFJ		3	9.45	19	(EF)HJL	GM	9MN8	3	9.45	22	BL	CM
	1	7.5	19	BC	AE	9AK10	3	9.45	20	BL	CM		3	9.45	22	DK	CM
8GU7	3	7.5	22	FG	EH		3	9.45	20	EG	FM		3	9.45	22	FH	CM
	3	7.5	22	AB	CE	9AM10	3	9.45	20	JK	DM	9MP12	3	9.45	22	AEF	BD
8HA6*	3	7.5	19	BG(FH)	ACEJ		3	9.45	20	EG	FM	9RA6*	3	9.45	22	(BG)J	AE
Tube damaged if C or J is moved.							3	9.45	20	BL	CM	9RAL1*	2	9.45	20	(BC)	EJ
8JE8	2	7.5	20	BC	AE	9AQ8	1	9.45	18	AB	CD		2	9.45	24	FG	EH
	3	7.5	19	GHJ	EF		1	9.45	18	FG	DH	9U8	2	9.45	22	BCF	EG
8JT8	3	7.5	18	GH	EFJ	9AU7	2	4.7	25	FG	DEH		2	9.45	22	AJ	EH
	1	7.5	19	BC	AE		2	4.7	25	AB	CDE	9X8	2	9.45	20	GHJ	AEF
8JU8	3	7.5	22	GH	EJ	9BJ11	3	9.45	18	BCDF	EM		2	9.45	21	BC	EF
	3	7.5	22	G	EH		3	9.45	18	GHJL	KM	No open element test on J.					
	3	7.5	22	AB	CE	9BR7	2	5	21	G	DEH	10	3	7.5	56	BC	D
	3	7.5	22	A	BE		2	5	21	F	DEH	10AF11	3	9.45	20	KL	BJM
8JV8	3	9.45	18	GH	EFJ		2	5	18	AB	CDE		2	9.45	21	FH	EM
	1	9.45	19	BC	AE	9CL8	2	9.45	22	AB	CD		2	9.45	21	CD	GM
8K11	2	7.5	23	JK	DM		2	9.45	22	FGJ	DH	10AL11	3	9.45	20	HKL	JM
	1	7.5	20	BL	CM	9DK3*	3	9.45	18	(BG)	DN		1	9.45	19	CDFG	BM
	1	7.5	20	EG	FM	9DZ8	1	9.45	20	AJ	EH	10BQ5	3	9.45	22	ABGJ	CD
8KA8	3	9.45	19	FGHJ	CE		3	9.45	20	CFG	BE	10C8	2	9.45	24	FGH	EJ
	2	9.45	21	AB	CE	9EA8	2	9.45	20	BCF	EG		1	9.45	22	AB	CE
8KR8	3	7.5	18	GHJ	EF		2	9.45	20	AJ	EH	10CW5*	3	9.45	20	(AB)(FGH)J	CE
	3	7.5	18	BC	AE	9ED4	1	7.5	26	HN	ABCEFGJ	A, F or H is not used in some tubes.					
8KS8	3	7.5	19	GH	EFJ	Tube damaged if ABCEFG or J is moved.						10DE7	3	9.45	22	ABC	DJ
	1	7.5	20	BC	AE	9EF6	1	9.45	17	CDE	BH		2	9.45	26	FG	DH
8LC8	2	7.5	20	AB	CE	9GB8	2	9.45	22	FGH	EJ	10DR7	3	9.45	16	ABC	EJ
	2	7.5	20	FHJ	CEG		2	9.45	23	AB	CE		1	9.45	19	FG	EH
	2	7.5	20	FHJ	CEG	9GH8	2	9.45	17	AJ	EH	10DX8	3	9.45	20	HJ	EFG
C should show short when tube is heated, Sec. 2.							2	9.45	17	BCF	EG		2	9.45	20	AB	CE

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	
10EB8	2	9.45	22	GHJ	EF	10LZ8	3	9.45	19	GH	EFJ	12A7	2	12.6	29	BCN	FG	
	1	9.45	20	BC	AE		2	9.45	20	Bc	AE		1	12.8	20	E	DG	
10EG7	2	9.45	21	AB	CG	10P18*	3	50	19	(AB)(GH)J	CE	12A8	2	12.6	28	CDN	GH	
	1	9.45	21	DE	FG	10T10	3	9.45	19	HK	JLM		2	12.6	36	EF	GH	
10EM7	1	9.45	20	DE	FH		1	9.45	21	CEFG	BM	12AB5*	3	12.6	30	(AH)(CF)J	EG	
	3	9.45	19	AB	CH	10Y	3	7.5	42	BC	D	12AC6	1	12.6	21	ABEF	DG	
10EW7	3	9.45	30	FG	EH	10Z10	3	9.45	20	BJL	CM	12AC10	3	12.6	20	BL	CM	
	3	9.45	19	ABC	EJ		4	9.45	56	DEFG	HM		3	12.6	20	EG	FM	
10FD7*	1	9.45	21	FG	EH	11AR11	3	12.6	18	JK	GHLM		3	12.6	20	JK	DM	
	3	9.45	18	A(BC)	EJ		3	12.6	18	CE	BDFM	12AD6	1	12.6	20	AEFG	BC	
10FR7*	3	7.5	19	A(BC)	EJ	11BM8	1	9.45	20	CFG	BE		1	6.3	22	AB	CDE	
	3	7.5	30	FG	EH		1	9.45	20	AJ	EH		1	6.3	22	FG	DEH	
10GF7	1	9.45	20	HJ	AE	11BN11	3	12.6	18	CDEF	BM	12AE6	1	12.6	40	F	BC	
	3	9.45	18	BF	CE		3	12.6	18	GHKL	HM		1	12.6	40	E	BC	
10GK6*	3	7.5	20	BGH	A(CJ)E	11BQ11	3	12.6	18	BCDE	FM		1	12.6	22	AG	BC	
10GN8	3	9.45	19	GH	EFJ		3	12.6	19	GHJK	LM	12AE7	1	6.3	19	AB	CDE	
	1	9.45	19	BC	AE	11BT11	2	12.6	20	CJ	DM		1	6.3	19	FG	DEH	
10GV8	2	9.45	21	AB	CE		2	12.6	20	EG	FM	12AE10	1	12.6	20	HKL	JM	
	3	9.45	20	FGJ	EH		3	12.6	20	BKL	FHM		3	12.6	21	CEFG	BM	
10HA6*	3	9.45	19	BG(FH)	ACEJ	11CA11	3	12.6	20	HKL	AJ	12AF3	4	12.6	18	BJ	EN	
							3	12.6	20	DF	AE	12AF6	1	12.6	20	ABEF	DG	
							3	12.6	22	BC	AG	12AF11	3	12.6	20	KL	BJM	
							3	12.6	19	CDE	FM		2	12.6	21	FH	EM	
10HF8	3	9.45	19	GH	EFJ		3	12.6	19	BL	GM		2	12.6	21	CD	GM	
	1	9.45	19	BC	AE	11CH11	3	12.6	17	BKL	FHM	12AH7	3	12.6	30	AC	BG	
10JA5*	3	9.45	21	(BJ)(CK)F	DLM		2	12.6	20	EG	FM		3	12.6	30	EF	DG	
							2	12.6	20	CJ	EM	12AH8	2	6.3	20	ABFG	CDE	
							3	12.6	23	JK	HM		2	6.3	23	GH	CDE	
10JA8	3	9.45	19	GH	EFJ	11CY7	3	9.45	20	ABC	DJ	12AJ6	1	12.6	38	F	BC	
	2	9.45	20	BC	AE		1	9.45	21	FG	DH		1	12.6	38	E	BC	
10JT8	3	9.45	18	GH	EFJ	11DS5*	1	12.6	19	(AG)EF	BD	12AJ7	3	12.6	22	ABFG	CE	
	1	9.45	19	BC	AE	11FY7	1	12.6	21	KL	JM		2	12.6	24	HJ	CE	
10JY8	3	12.6	18	GH	EFJ		3	12.6	19	CE	GM	12AL5	1	12.6	22	G	AD	
	3	12.6	18	BC	AE	11HM7*	3	5	17	B(CJ)GH	ADE		1	12.6	22	B	DE	
10KR8	3	9.45	20	BC	AE	11JE8	3	12.6	19	GHJ	EF	12AL8	1	12.6	38	BF	CEG	
	3	9.45	20	GHJ	EF		2	12.6	20	BC	AE		1	12.6	22	A	EJ	
10KU8	1	7.5	38	C	AE	11KV8	3	12.6	18	GHJ	EF	12AL11	3	12.6	20	HKL	JM	
	1	7.5	38	B	AE		2	12.6	20	BC	AE		1	12.6	21	CDFG	BM	
	3	7.5	17	GHJ	EF	11LQ8	3	9.45	18	BC	AE	12AQ5*	3	12.6	32	(AG)EF	BD	
10L14	2	25	21	FG	EH		3	9.45	18	GHJ	EF	12AS5	3	12.6	19	BEFG	AD	
	2	25	21	AB	CE	11LT8	1	12.6	18	H	GE	12AT6	3	12.6	26	AG	BC	
10LB8	3	9.45	18	GH	EFJ		1	12.6	18	F	GE		1	12.6	35	F	BC	
	2	9.45	25	BC	AE		3	12.6	19	BCJ	AE	12AT7	2	6.3	24	FG	HJ	
10LD6*	2	9.45	21	•	AD	11LY6*	3	9.45	19	B(CJ)GH	AE		2	6.3	24	AB	CJ	
												12AU6	2	12.6	22	ABEF	DG	
												12AU7	2	6.3	25	FG	DEH	
10LE8	2	7.5	19	AHJ	BCE	11MS8	3	9.45	20	FGJ	EH		2	6.3	25	AB	CDE	
	2	7.5	19	FHJ	CEG		2	9.45	21	AB	CE	12AV5	3	12.6	18	AEH	BC	
10LM8	3	9.45	20	BCF	EG	11R3*	2	9.45	22	(BJ)	DN							
	3	9.45	21	AJ	EH	12A	2	5	26	BC	D							
10LW8	1	9.45	19	BC	AE	12A4	2	6.3	20	BGJ	ADE							
	3	9.45	20	GHJ	EF	12A5	3	6.3	32	BCD	EF							
10LY8	3	9.45	18	GHJ	EF	12A6	3	12.6	32	CDE	GH							
	1	9.45	18	BC	AE													

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
12AV6	1	12.6	43	F	BD	12BR7	2	6.3	23	G	DEH	12DL8	1	12.6	40	J	BE
	1	12.6	43	E	BD		2	6.3	23	F	DEH		1	12.6	20	CFG	BE
	1	12.6	21	AG	BD		2	6.3	21	AB	CDE		1	12.6	40	A	EH
12AV7	2	6.3	21	FG	DEH	12BS3*	2	12.6	20	(BG)	EJ		1	12.6	40	J	EH
	2	6.3	22	AB	CDE	12BT3	3	12.6	21	DK	GM	12DM4	3	12.6	22	E	CH
12AW6	2	12.6	22	AEFG	BD	12BT6	1	12.6	22	AG	BC	12DQ6	3	12.6	23	DEN	GH
No open element test on E.							1	12.6	29	E	BC	12DQ7	3	12.6	22	BCGHJ	AE
12AX3	3	12.6	23	DK	GM		1	12.6	29	F	BC	12DS7	1	12.6	40	J	EH
12AX4	3	12.6	22	E	CG	12BV7*	3	6.3	20	BGH	A(CJ)DE		1	12.6	40	A	EH
12AX7	1	6.3	20	FG	DEH	12BV11	2	12.6	20	BCDF	EM		1	12.6	20	CFG	EH
	1	6.3	20	AB	CDE		2	12.6	20	GJKL	HM	12DT5	3	12.6	24	ACFJ	EG
12AY3	3	12.6	22	BG	EJ	12BW4	4	12.6	20	G	EJ	12DT6	1	12.6	20	AEFG	BD
J may show leakage.							4	12.6	20	A	EJ	12DT7	1	6.3	20	AB	CDE
12AY7	1	6.3	22	FG	DEH	12BY7*	3	6.3	22	BGH	A(CJ)DE		1	6.3	20	FG	DEH
	1	6.3	22	AB	CDE	No open element test on G.						12DT8	2	12.6	21	FG	EH
12AZ7	1	6.3	20	FG	DEH	12BZ6	1	12.6	18	AEFG	BC		2	12.6	21	AB	CE
	1	6.3	20	AB	CDE	No open element test on E & G.						12DV7	1	6.3	22	FG	DEH
12B4	2	6.3	21	BGJ	ADE	12BZ7	1	6.3	19	FG	DEH		1	6.3	67	B	ADE
12B6	3	12.6	31	CN	GH		1	6.3	19	AB	CDE		1	6.3	67	C	ADE
	1	12.6	58	D	GH	12C5	3	12.6	17	BEFG	AC	12DV8	1	12.6	20	CFG	BE
	1	12.6	58	E	GH	12C8	1	12.6	38	D	GH		1	12.6	35	A	EH
12B7	2	12.6	30	BCF	AH		1	12.6	38	E	GH		1	12.6	35	J	EH
12B8	2	12.6	26	CDN	AG		3	12.6	41	CFN	GH	12DW4*	3	12.6	20	(BG)	EJ
	3	12.6	26	EH	FG	12CA4	2	12.6	22	A	CD	12DW5	1	12.6	21	ACFJ	EG
12BA6	2	12.6	22	ABEF	DG		2	12.6	22	G	CD	12DW7	1	6.3	20	FG	DEH
12BA7	3	12.6	18	AB	CEFGJ	12CA5	3	12.6	22	BEFG	AC		2	6.3	24	AB	CDE
	1	12.6	36	AFGJ	BCE	12CK3*	3	12.6	18	(BG)	EJ	12DY8	2	12.6	21	HJ	EG
12BB14*	3	12.6	18	(AB)(FG)N	CEH	12CL3*	3	12.6	18	(BG)	EJ		2	12.6	20	ACF	BE
Tube damaged if C or H is moved.						12CM6*	3	12.6	26	A(CF)J	EG	12DZ6	1	12.6	20	AF	BDG
12BD6	2	12.6	27	ABEF	DG	12CN5*	2	12.6	42	FG	A(BE)C	12DZ7	3	12.6	22	ACD	GH
12BE3	3	12.6	20	DK	GM	12CR6	3	12.6	30	EFG	AC		3	12.6	22	DEF	GH
12BE6	2	12.6	24	EFG	BD		1	12.6	32	B	AC	No open element test on C & F.					
	2	12.6	24	A	BD	12CS6	1	12.6	20	AF	BC	12E5	3	12.6	30	CE	GH
12BF6	2	12.6	34	AG	BD		1	12.6	25	EG	BC	12E13	3	6.3	21	CDE	GH
	1	12.6	38	F	BD	12CT3*	3	12.6	18	(BF)	EJ	12EA6	1	12.6	20	AF	BDG
	1	12.6	38	E	BD	12CT8	2	12.6	22	AB	CD	12EC8	1	12.6	40	B	ACE
12BF11	3	12.6	20	HKL	JM		2	12.6	22	FGH	DJ		1	12.6	57	FG	EHJ
	1	12.6	20	CEFG	BM	12CU5	3	12.6	18	BEFG	AD	12ED5	3	12.6	20	BEFG	AD
12BH7	2	6.3	21	FG	DEH	12CU6	3	12.6	23	DEN	GH	12EF6	4	12.6	18	CDE	GH
	2	6.3	21	AB	CDE	12CX6	2	12.6	22	AE $\frac{1}{2}$ BCG		12EG6	1	12.6	20	AEG	BD
12BK5	2	12.6	22	ACGH	DF	12CX8	1	12.6	23	BEF	ACG		1	12.6	21	F	BD
12BK6	1	12.6	24	AG	BC	12D4	3	12.6	21	E	CG	12EH5	3	12.6	20	BEFG	AD
	1	12.6	32	E	BC	12DB5*	2	12.6	24	A(CF)J	(BG)D	12EK6	1	12.6	21	EF	DG
	1	12.6	36	F	BC	12DF5	1	6.3	31	A	CJ		1	12.6	20	AB	DG
12BL6	1	12.6	20	AEF	BDG		1	6.3	31	F	HJ	12EL6	1	12.6	20	AB	DG
Good tube reads above 30.						12DJ8	2	12.6	20	AB	CE		1	12.6	45	E	DG
12BN6	1	12.6	36	BEFG	AC		2	12.6	20	FG	EH		1	12.6	45	F	DG
Good tube reads above 30.						12DK6	3	12.6	22	AEF	BCG	12EM6	1	12.6	19	ACF	BE
12BQ6	3	12.6	22	DEN	GH	12DK7	1	12.6	20	CG	BE		1	12.6	38	J	BE
12BR3*	4	12.6	18	(BJ)	EN		1	12.6	30	F	BE	12EN6	1	12.6	19	CDE	GH

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
12EQ7	2	12.6	22	ABFG	CE	12HL5*	3	12.6	18	(AB)GJ	CE	12RLL5	2	12.6	23	FG	EH
	1	12.6	34	H	CE	12HL7*	3	6.3	18	BGH(CJ)	ADE		2	12.6	23	AB	CE
Good tube reads above 25.						12HU8	3	12.6	21	FHJ	EG	12S8	1	12.6	27	FN	BH
12EZ6	1	12.6	18	AF	BDEG		3	12.6	21	ABC	EG		1	12.6	34	D	BH
	1	12.6	24	BE	DG	12J5	2	12.6	24	CE	GH		1	12.6	37	A	BH
12F5	1	12.6	22	DN	GH	12J7	1	12.6	20	CDN	EGH		1	12.6	39	C	EH
12F8	1	12.6	37	F	DG	12J8	1	12.6	20	J	DG	12SA7	2	12.6	35	CH	FG
	1	12.6	37	A	DG		1	12.6	20	H	DG		2	12.6	25	DE	FG
	1	12.6	21	BCH	DGJ		1	12.6	20	ACF	BD	12SC7	1	12.6	20	BC	FG
12FK6	1	12.6	40	F	BD	12JB6*	3	12.6	19	(AG)(BF)HNCE			1	12.6	20	DE	FG
	1	12.6	40	E	BD	12JF5*	3	12.8	20	B(CL)N	DKM	12SF5	1	12.6	20	CE	BG
	1	12.6	20	AG	BD	Tube damaged if D or K is moved.						12SF7	1	12.6	40	E	CG
12FM6	1	12.6	55	G	ABD	12JM6	3	12.6	20	CGL	BDKM		3	12.6	30	BDF	CG
	1	12.6	38	F	BD	Tube damaged if D or K is moved.						12SG7*	3	12.6	19	DFH	(CE)G
	1	12.6	38	E	BD	12JN6	3	12.6	20	CGL	BDKM	12SH7*	3	12.6	19	DFH	(CE)G
12FQ7	2	12.6	23	FG	EH	Tube damaged if D or K is moved.						12SJ7	1	12.6	20	DFH	CEG
	2	12.6	23	AB	CE	12JN8	3	12.6	20	GJ	EFH	12SK7	3	12.6	28	CDFH	EG
12FQ8	1	12.6	20	BC	AEFGHJ		3	12.6	19	AB	CE	12SL7	3	12.6	28	DE	FG
	1	12.6	20	AB	CEFGHJ	12JQ6*	1	12.6	23	F	DJ		3	12.6	28	AB	CG
	1	12.6	20	FG	ABCEHJ		3	12.6	20	A(BC)(GH)	DJ	12SN7	2	12.6	29	DE	FG
	1	12.6	20	GH	ABCEJ	12SJ6*	3	12.6	18	(CL)(EJ)N	BDKM		2	12.6	29	AB	CG
12FR8	1	12.6	18	CFG	E	Tube damaged if D or K is moved.						12SQ7	1	12.6	50	E	CG
	1	12.6	20	AJ	BE	12JT6*	3	12.6	20	(AG)BFJ	CE		1	12.6	50	D	CG
	1	12.6	44	H	BE	12K5	1	12.6	20	BEFG	AD	12SR7	1	12.6	22	BF	CG
12FV7	3	6.3	19	FG	HJ	12K7	3	12.6	34	CDN	EGH		3	12.6	27	BF	CG
	3	6.3	19	AB	CJ	12K8	1	12.6	22	EF	GH		1	12.6	36	E	CG
12FX5*	2	12.6	20	(BE)FG	AD		3	12.6	52	CDN	GH	12SW7	1	12.6	48	D	CG
12FX8	1	12.6	25	CJ	EG	12KG6*	4	12.6	21	•	EJ		2	12.6	26	BF	CG
	1	12.6	19	FH	E	•(AH)(BG)(CF)N							1	12.6	43	D	CG
	1	12.6	19	AB	EG	12KL8	1	12.6	48	H	CE	12SX7	1	12.6	43	E	CG
12G11	1	12.6	20	CDFG	BM		2	12.6	20	ABFG	CE		2	12.6	25	DE	FH
	3	12.6	20	HKL	JM	12L6	3	12.6	22	CDE	GH	12SY7	2	12.6	25	AB	CH
12GB3	3	12.6	19	DE	GH	12LG8	3	12.6	20	CDE	BG		2	12.6	32	ACH	FG
12GB7	3	12.6	18	DEN	GH		3	12.6	22	AEH	BG	12T10	2	12.6	26	DE	FG
12GC6	3	12.6	20	DEHN	CG	12MD8	2	12.6	20	AJ	EG		3	12.6	19	HK	JLM
12GE5*	3	12.6	19	B(CL)G	(DK)M		2	12.6	20	BH	EG		1	12.6	20	CEFG	BM
12GJ5*	3	12.6	20	(AG)(BF)N	CE		2	12.6	20	CF	EG	12U7	1	6.3	25	AB	CDE
12GK17	3	12.6	22	E	CG		2	12.6	20	CF	EG		1	6.3	25	FG	DEH
12GN7*	3	6.3	17	BH(CJ)	ADEG	12ML8	2	12.6	20	CF	EG	12V6	3	12.6	27	CDE	GH
12GT5*	3	12.6	19	(AG)(BF)J	CE		2	12.6	20	BH	EG	12W6	3	12.6	21	CDE	GH
12GV5*	3	12.6	19	(CLG)(EJ)N	DKM		2	12.6	20	AJ	EG	12X4	1	12.6	21	F	DG
Tube damaged if D or K is moved.						12MX8	3	12.6	20	BFG	CE		1	12.6	21	A	DG
12GW6	3	12.6	20	DEN	GH		1	12.6	28	HJ	AE	12Z3	3	12.6	25	B	CD
12H6	1	12.6	25	C	DG	12Q7	1	12.6	20	CN	GH	13CM5*	3	12.6	19	(AD)EN	CHG
	1	12.6	25	E	GH		1	12.6	40	D	GH	Tube damaged if C or H is moved.					
12HB25*	3	12.6	19	•	EJ		1	12.6	40	E	GH	13CW4	1	12.6	18	BD	HM
	•(AB)(CH)(FG)N					12R5	3	12.6	28	BEFG	AC	13DE7	1	12.6	20	FG	EH
12HE7	3	6.3	18	EJL	HK	12RK19*	3	12.6	20	(BJ)	EN		1	12.6	18	ABC	EJ
	1	6.3	19	B	DK	12RLL3	2	6.3	22	AB	CDE	13DR7	3	12.6	16	ABC	EJ
12HG7*	3	6.3	18	B(CJ)GH	AE		2	6.3	21	FG	DEH		1	12.6	19	FG	EH

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	
13EM7	1	12.6	22	DE	FH	14GT8	1	12.6	20	HJ	EG			3	12.6	19	CE	GM
	3	12.6	19	AB	CH		1	12.6	20	F	AE	15HA6*	3	12.6	19	BG(FH)	ACEJ	
13FD7*	3	12.6	18	A(BC)	EJ		1	12.6	20	B	CE	Tube damaged if C or J is moved.						
	1	12.6	21	FG	EH	14GW8	3	12.6	20	CFH	EG	15HB6*	3	12.6	18	B(FH)	AE	
13FM7*	1	12.6	20	KL	JM		1	12.6	20	AJ	BE		1	12.6	24	(CJ)G	AE	
	3	12.6	19	(CH)E	GM	14H7	2	12.6	22	BCF	DGH	15KY8	1	12.6	28	HJ	AE	
13FR7	3	12.6	19	ABC	EJ	14J7	2	12.6	32	CDE	FGH		3	12.6	20	BFG	CE	
	3	12.6	30	FG	EH		3	12.6	33	BEF	GH	15LE8	2	12.6	19	AHJ	BCE	
13GB5*	3	12.6	19	(AB)(FG)N	CEH	14JG8	2	12.6	23	HJ	EG		2	12.6	19	FHJ	CEG	
Tube damaged if C or H is moved.							1	12.6	19	F	AE	15MF8*	3	12.6	19	D(FG)H	JM	
13GC8	2	12.6	21	AB	CE		1	12.6	19	B	CE		1	12.6	19	BK	LM	
	2	12.6	21	FHJ	EG	14N7	2	12.6	26	CD	BH	15MX8	1	12.6	28	HJ	AE	
13GF7	3	12.6	18	BF	CE		2	12.6	26	EF	GH		3	12.6	20	BFG	CE	
	1	12.6	20	HJ	AE	14Q7	2	12.6	25	CD	GH	16A	1	6.3	22	AEG	BD	
13J10	3	12.6	20	BJL	CM		2	12.6	30	BEF	GH	16A5	3	12.6	18	BGJ	CD	
	4	12.6	68	DEFG	HM	14R7	1	12.6	18	BEF	GH	16A8	2	12.6	20	CFG	BE	
13JZ8*	3	12.6	20	D(FG)H	JM		1	12.6	50	C	GH		3	12.6	26	AJ	EH	
	1	12.6	21	BK	LM	14S7	2	12.6	28	CD	GH	16AK9	3	7.5	21	EHJ	FG	
13V10	2	12.6	24	CFG	BEM		2	12.6	24	BEF	GH		3	7.5	22	KL	FG	
	3	12.6	23	HKL	JM	14V7	3	12.6	18	BCF	DGH		3	7.5	30	BC	FG	
13Z10	3	12.6	20	BJL	CM		2	12.6	22	BCF	(DG)EH	16AQ3	3	19.6	20	ABCFGHJ	EN	
	4	12.6	68	DEFG	HM	14W7*	2	12.6	22	BCF	(DG)EH	No element test on top levers.						
14	2	12.6	30	BCN	DE	14X7	1	12.6	20	BC	DGH	16BQ11	3	12.6	18	BCDE	FM	
14A4	2	12.6	26	BF	GH		1	12.6	20	E	DGH		3	12.6	19	GHJK	LM	
14A5	3	12.6	33	BCF	GH		2	12.6	24	F	DGH	16BX11	2	12.6	21	GH	JM	
14A7	2	12.6	30	BCDF	GH	Good tube reads above 30.							2	12.6	20	EF	DM	
14AF7	3	12.6	25	EF	BCDGH	14Y4	3	12.6	28	C	GH		2	12.6	20	BC	KLM	
	3	12.6	25	CD	BEFGH		3	12.6	28	F	GH	16CB20*	3	12.6	18	•	AB	
14B6*	1	12.6	20	BC	(DG)H	14Z3	3	12.6	25	B	CD	•(CL)(DK)(EJ)N						
	1	12.6	40	E	(DG)H	15	2	2	36	BCN	DE	16GK6*	2	19.6	20	BGH	A(CJ)E	
	1	12.6	40	F	(DG)H	15A6	1	12.6	20	ABFG	CE	16GY5*	3	12.6	18	C(EJ)GLN	(DK)M	
14B8	2	12.6	34	CD	GH	15A8	2	12.6	24	DEN	BF	16HB5*	3	12.6	18	B(CL)G	DKM	
	2	12.6	30	BEF	GH		2	12.6	27	CH	AB	Tube damaged if D or K is moved.						
14BL11	2	12.6	20	CJ	DM	15AF11	3	12.6	20	KL	BJM	16KA6*	3	12.6	19	C(DL)EN	KM	
	2	12.6	20	EG	FM		2	12.6	21	FH	EM	16KH8	3	12.6	24	AB	DG	
	2	12.6	20	BKL	HM		2	12.6	21	CD	GM		3	12.6	20	BCJ	DG	
14BR11	2	12.6	20	BCL	DM	15BD11	3	12.6	20	KL	BJM		3	12.6	20	FHJ	DG	
	2	12.6	20	FH	EM		2	12.6	20	FH	EM	16LD6*	2	12.6	21	B(CJ)(FH)G	AD	
	2	12.6	20	JK	GM		2	12.6	21	CD	GM	16LU8*	1	12.6	19	BK	LM	
14C5	3	12.6	25	BCF	GH	15CW5*	3	12.6	20	(AB)(FGH)J	CE		3	12.6	19	D(FG)H	JM	
14C7	2	12.6	28	BCF	DGH	A, F or H is not used in some tubes.						16MY8*	3	12.6	19	D(FG)H	JM	
14E6*	3	12.6	31	BC	(DG)H	15DQ8	2	12.6	20	AB	CE		1	12.6	19	BK	LM	
	1	12.6	65	E	(DG)H		3	12.6	20	FHJ	EG	17	3	12.6	40	BC	DE	
	1	12.6	65	F	(DG)H	15EA7	1	12.6	20	DE	FH	17A8	2	12.6	20	BCF	EG	
14E7	2	12.6	28	BEF	GH		3	12.6	19	AB	CH		2	12.6	18	AJ	EH	
	1	12.6	58	C	GH	15EW6	2	12.6	20	AEFG	BD	17AB10	4	19.6	55	DEFG	HM	
	1	12.6	58	D	GH	15EW7	3	12.6	19	A(BC)	EJ		3	19.6	19	BJL	CM	
14F7	1	12.6	20	CD	BH		3	12.6	30	FG	EH	17AV5	3	12.6	24	AEH	BC	
	1	12.6	20	EF	GH	15FM7*	3	12.6	19	(CH)E	GM	17AX3	3	19.6	23	DK	GM	
14F8	3	12.6	22	AC	DG		1	12.6	20	KL	JM	17AX4	3	12.6	28	E	CH	
	3	12.6	22	FH	EG	15FY7	1	12.6	21	KL	JM							

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
17AY3	3	19.6	21	BG	EJ	17JZ8*	3	19.6	19	D(FG)H	JM	19CG3*	3	19.6	18	(DK)	GM
J may show leakage.						17KV6*	3	12.6	18	(AG)BFJ	CE	19CL8	2	19.6	21	FGJ	DH
17BB14*	3	12.6	18	(AB)(FG)N	CEH	17L6	3	12.6	24	CDE	GH	19DC8	1	19.6	36	H	CE
Tube damaged if C or H is moved.						17LD8	1	12.6	28	HJ	AE	19DE3*	1	19.6	36	G	CE
17BE3	3	19.6	20	DK	GM	17R5	3	12.6	24	BFG	CE	19DE7	2	19.6	22	ABFJ	CE
17BF11	3	19.6	20	HKL	JM	17RH2	2	19.6	20	BEFG	AC	19DE3*	3	19.6	18	(DK)	MN
17BH3*	1	19.6	20	CEFG	BM	17RK19*	2	19.6	20	AB	CD	19DE7	2	19.6	26	FG	DH
17BH3*	3	12.6	22	(BG)	EJ	17X10	2	19.6	20	FG	DH	19DK3*	3	19.6	22	A(BC)	DJ
17BQ6	3	12.6	21	DEN	GH	17X10	4	19.6	18	(BJ)	EN	19DQ3*	3	19.6	18	(BG)	DN
17BR3*	4	19.6	18	(BJ)	EN	17Z3	4	19.6	55	DEFG	HM	19EA8	2	19.6	18	(DK)	GM
17BS3*	2	12.6	20	(BG)	EJ	18	3	19.6	19	BJL	CM	19EZ8	2	19.6	20	BCF	EG
17BW3*	4	12.6	21	(DK)	GM	18	3	12.6	31	BJ	DN	19EZ8	1	19.6	20	AJ	EH
17BZ3*	3	12.6	20	(DK)	GM	18A5	2	12.6	24	BCD	EF	19EZ8	1	19.6	20	HJ	D
17C5*	3	12.6	24	(BE)FG	AC	18AJ10	3	12.6	24	AEH	CG	19EZ8	1	19.6	20	FG	D
17C9	2	19.6	20	GHJ	EF	18DZ8	1	19.6	22	HKL	JM	19FL8	1	19.6	20	BC	AD
17C9	2	19.6	20	ABC	EK	18DZ8	1	19.6	20	CEFG	BM	19FL8	2	19.6	22	ABFJ	CE
17CA5	3	12.6	22	BEFG	AD	18DZ8	3	19.6	20	AJ	EH	19FL8	1	19.6	42	G	CE
17CK3*	3	12.6	18	(BG)	EJ	18FW6	2	19.6	20	CFG	BE	19FL8	1	19.6	42	H	CE
17CL3*	3	12.6	18	(BG)	EJ	18FX6	2	19.6	21	ABEF	DG	19FX5*	2	19.6	42	(BE)FG	AD
17CT3*	3	19.6	18	(BF)	EJ	18FX6	2	19.6	25	EFG	BD	19GQ7	1	19.6	20	B	AE
17CU5	3	12.6	19	BEFG	AD	18FY6	2	19.6	22	AFG	BD	19GQ7	1	19.6	20	H	EJ
17D4	3	12.6	21	E	CG	18FY6	1	19.6	50	F	BD	19GQ7	1	19.6	20	F	EG
17DE4	3	19.6	22	E	CH	18FY6	1	19.6	50	E	BD	19HR6	3	19.6	18	ABEF	DG
17DM4	3	19.6	21	E	CH	18FY6	1	19.6	20	AG	BD	19HS6	1	19.6	18	BEF	DG
17DQ6	3	12.6	24	DEN	GH	18GB5*	3	19.6	19	(AB)(FG)N	CEH	19HS6	1	19.6	21	A	DG
17DW4*	3	12.6	20	(BG)	EJ	Tube damaged if C or H is moved.						19HV8	2	19.6	19	GJ	EFH
17EW8	2	19.6	20	FG	DH	18GD6	2	19.6	20	ABEF	DG	19HV8	1	19.6	21	AB	CE
17EW8	2	19.6	20	AB	CD	18GV5*	3	19.6	19	(CGL)(EJ)N	DKM	19J6	2	19.6	24	BE	CG
17GE5*	3	19.6	19	B(CL)G	(DK)M	Tube damaged if D or K is moved.						19J6	2	19.6	24	AF	CG
17GJ5*	3	19.6	20	(AG)(BF)N	CE	18GV8	3	19.6	20	FGJ	EH	19JC6	2	19.6	19	BGHJ	ACE
17GT5*	3	19.6	19	(AG)(BF)J	CE	18GV8	2	19.6	21	AB	CE	Tube damaged if A or C is moved.					
17GV5*	3	19.6	19	CGL(EJ)N	(DK)M	18HB8	1	19.6	20	AC	BE	19JN8	3	19.6	19	FGJ	EH
17GW6	3	19.6	20	DEN	GH	18J6	3	19.6	22	FGJ	EH	No open element test on F.					
17H3	3	12.6	28	CH	AE	18J6	1	19.6	23	AF	BDEG	19KF6*	2	19.6	20	AB	CE
17HB25*	3	19.6	19	•	EJ	18J6	1	19.6	23	BE	ADFG	19KF6*	3	19.6	19	(AG)BFJ	CE
17HC8	3	19.6	23	•(AB)(CH)(FG)N		18RAL1*	2	19.6	20	(BC)	EJ	19KG8	3	19.6	19	GJ	EFH
17HC8	3	19.6	26	CFG	BE	19	2	19.6	24	FG	EH	19MR9	3	19.6	19	BA	CE
17JB6*	3	19.6	19	(AG)(BF)HNCE		19	3	2	37	BC	F	19MR9	2	19.6	20	ABEF	DG
17JF6*	3	12.6	18	(AG)(BF)HNCE		19A3	3	2	39	DE	F	19Q9	3	19.6	19	AB	CEK
17JG6*	3	12.6	18	(AG)BJ	CEF	19A3	3	7.5	21	E	FG	19Q9	3	19.6	19	HJ	EG
17JM6	3	12.6	20	CEN	BDKM	19AJ8	2	19.6	22	ABFG	CE	19T8	1	19.6	19	HJ	CEG
Tube damaged if D or K is moved.						19AQ5*	2	19.6	23	HJ	CE	19T8	1	19.6	20	F	CEG
17JN6	3	12.6	20	CGL	BDKM	19AU4	3	19.6	27	(AG)EF	BD	19T8	1	19.6	20	B	CEG
Tube damaged if D or K is moved.						19BG6	4	19.6	22	E	CH	19U3	1	19.6	20	A	CEG
17JQ6*	1	12.6	23	F	DJ	19C8	3	19.6	26	EHN	CG	19U3	3	19.6	21	J	CD
17JQ6*	3	12.6	20	A(BC)(GH)	DJ	19C8	1	19.6	19	A	EG	19V8	1	19.6	19	B	CE
17JR6*	3	19.6	18	(AG)BJ	CEF	19C8	1	19.6	19	F	EG	19V8	1	19.6	19	G	EH
17JT6*	3	12.6	20	(AG)BFJ	CE	19C8	1	19.6	20	HJ	EG	19V8	1	19.6	22	AF	CE
17JT6*	3	12.6	20	(AG)BFJ	CE	19C8	1	19.6	20	B	CE	19V8	1	19.6	36	J	CE

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
19W3	3	19.6	21	J	CD	22BW3*	4	19.6	21	(DK)	GM	25CM3*	3	25	17	(BG)	EJ
19X3	3	19.6	18	J	CD	22DE4	3	25	22	E	CH	25CT3*	3	25	18	(VF)	EJ
19X8	2	19.6	22	BC	DF	22JF6*	3	19.6	18	(AG)(BF)HNCE		25CU6	3	25	23	DEN	GH
	2	19.6	21	AGHJ	DF	22JG6*	3	25	18	(AG)BJ	CEF	25D8	2	25	26	EF	AG
19Y3*	3	19.6	20	(AGJ)	CE	22JR6*	3	25	18	(AG)BJ	CEF		2	25	26	CDN	AG
20	2	6.3	48	BC	D	22JU8*	3	19.6	17	(AG)(BF)HNCE			1	25	22	H	AG
20AQ3	3	19.6	20	ABCFGHJ	EN	22KM6*	3	25	18	(AG)(BF)HNCE		25DK3*	3	25	18	(BG)	DN
No element test on top levers.						22KV6*	3	19.6	18	(AG)BFJ	CE	25DK4	4	25	26	E	CG
20D4	2	6.3	22	ABFG	CE	22JS6*	3	25	18	(CL)(EJ)N	BDKM	25DL3*	3	25	18	(BG)	DN
	2	6.3	23	HJ	CE	Tube damaged if D or K is moved.						25DN6	3	25	17	EHN	CG
20EQ7	1	19.6	34	H	CE	23MB6	3	25	18	(CL)(EJ)N	BDKM	25DQ6	3	25	24	DEN	GH
Good tube reads above 25.						23Z9 IMPORTANT = Due to several different filament center tap arrangements, data for this tube has been discontinued. Attempts at testing may cause filament burnout on some tubes. Therefore, we recommend direct substitution as the only safe test.						25DT5	3	25	22	ACFJ	EG
	2	19.6	22	ABFG	CE							25E5*	3	25	18	(AD)EN	CGH
20EW7*	3	19.6	30	FG	EH							Tube damaged if C or H is moved.					
	3	19.6	19	A(BC)	EJ	24A	2	2.5	32	BCN	DE	25EC6	3	25	20	EHN	BC
20EZ7	1	9.45	20	GH	CJ	24AX4	3	25	20	E	CH	25EH5	3	25	20	BEFG	AD
	1	9.45	20	EF	CD	24BF11	3	25	20	HKL	JM	25F5	2	25	22	BEFG	AD
20J8	1	19.6	19	CDEN	GH		1	25	20	CEFG	BM	25GB6	3	25	21	DEK	GH
	1	19.6	20	EF	GH	24GA7*	3	25	20	(BC)DG	EM	25GF6	3	25	16	DEN	GH
20LF6*	3	19.6	18	•	BM		3	25	24	L	HM	25HX5*	3	25	18	(AG)FJ	BCE
				•(CL)(DK)(EJ)N		24JE6*	3	25	19	(AG)(BF)HNCE		Tube damaged if B or C is moved.					
21A6	3	19.6	16	ABFGHJN	CE	24JZ8*	3	25	19	D(FG)H	JM	25JQ6*	3	25	20	A(BC)(GH)	DJ
No open element test on N.							1	25	20	BK	LM		1	25	23	F	DJ
21EX6	3	19.6	16	EHN	CG	24LQ6*	3	25	17	(AG)(BF)HNCE		25JZ8*	3	25	19	D(FG)H	JM
21GY5*	3	19.6	18	(CGL)(EJ)N	(DK)M	24LZ6*	3	25	19	(AG)(BF)N	CE		1	25	20	BK	LM
21HA6*	3	25	19	BG(FH)	ACEJ	25A6	3	25	27	CDE	GH	25KA6*	3	25	19	C(DL)EN	KM
Tube damaged if C or J is moved.						25A7	3	25	27	CDE	GH	25L6	3	25	22	CDE	GH
21HB5*	3	19.6	18	B(CL)G	(DK)M		3	25	23	F	AG	25MP20	3	25	20	AEF	BD
21HD5*	3	19.6	19	(CL)(EJ)G	DKM	25AC5	3	25	31	CE	GH	25N6	2	25	30	CDE	GH
Tube damaged if D or K is moved.						25AV5	3	25	18	AEH	BC	25RK19*	4	25	18	(BJ)	EN
21HJ5*	3	19.6	18	(CL)(EJ)G	BDKM	25AX4	3	25	20	E	CH	25W4	3	25	18	E	CG
Tube damaged if D or K is moved.						25B5	3	25	37	BD	EF	25W6	3	25	17	CDE	BH
21JS6*	3	25	19	(CL)(EJ)N	BDKM		3	25	46	CD	BEF	25X6	3	25	27	C	DG
Tube damaged if D or K is moved.						25B6	3	25	23	CDE	GH		3	25	27	E	GH
21JV6*	3	19.6	18	(DK)CGL	BM	25B8	2	25	25	CDN	AG	25Y4	3	25	25	E	GH
21JZ6*	3	19.6	18	(DK)CEN	BM		2	25	25	EH	FG	25Y5	3	25	30	B	CF
21KA6*	3	19.6	19	C(DL)EN	KM	25BB14*	3	25	18	(AB)(FG)N	CEH		3	25	30	E	DF
21KQ6*	3	19.6	19	•	EJ	Tube damaged if C or H is moved.						25Z5	3	25	25	B	CF
				•(AH)(BG)(CF)N		25BK5	2	25	21	ACGH	DF		3	25	25	E	DF
21LG6*	3	19.6	20	(CL)(EJ)N	DKM	25BQ6	2	25	21	DEN	GH	25Z6	3	25	24	C	DG
Tube damaged if D or K is moved.													2	25	24	E	GH
21LR8	3	19.6	19	BFG	CE	25C5	2	25	20	BEFG	AD	26	2	1.4	38	BC	D
	1	19.6	19	HJ	AE	25C6	3	25	25	CDE	GH	26A6	2	2.5	22	ABEF	DG
21LU8*	3	19.6	19	D(FG)H	JM	25CA5	3	25	17	BEFG	AD	26A7	2	25	20	CDE	BG
	1	19.6	19	BK	LM	25CD6	3	25	20	EHN	BC		2	25	20	AEH	BG
21MY8*	3	19.6	19	D(FG)H	JM	25CG3*	3	25	18	(DK)	GM	26AQ8	2	25	21	FG	EH
	1	19.6	19	BK	LM	25CK3*	3	25	18	(BG)	EJ		2	25	21	AB	CE
22	1	2.5	56	BCN	D							26C6	3	25	30	AG	BDEF
22BH3	3	25	22	BG	EJ								1	25	36	E	ABDFG
													1	25	36	F	ABDEG

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
40Z5	3	32	20	E	BCH	53HK7	3	25	18	EJL	HK	88M	3	6.3	31	CDN	EGH
(45Z5)						1	25	18	B	B	DK	88S	3	6.3	32	BCN	DEF
41	3	6.3	32	BCD	EF	55	2	2.5	32	BN	EF	89	3	6.3	32	BCN	EF
42	3	6.3	29	BCD	EF	1	2.5	49	C	C	EF	89RS	3	6.3	36	BN	CEG
42EC4*	3	32	19	(BGH)	EN	1	2.5	40	D	D	EF	1	6.3	24	D	CG	
42KN6*	3	19.6	17	•	BG	56	2	2.5	30	BC	DE	1	6.3	24	F	CG	
		•(CL)(DK)(EJ)N				57	2	2.5	30	BCN	DEF	95	3	2.5	36	BCD	EF
43	3	25	31	BCD	EF	57A(AS)	3	6.3	34	BCN	DEF	98	3	6.3	26	B	DE
45	3	2.5	32	BC	D	58	3	2.5	35	BCN	DEF	3	6.3	26	C	DE	
45B5*	3	50	19	(AB)(GH)J	CE	58AS	3	6.3	35	BCN	DEF	99	2	2.5	65	BC	D
45Z3	3	50	24	BF	DG	58HE7	1	50	19	B	DM	(99XX99)					
46	3	2.5	35	BCD	E	3	50	18	EJL	HM	99V	2	2.5	65	AC	D	
47	3	2.5	41	BCD	E	59	3	2.5	29	BCDE	FG	(V99)					
48	3	32	25	BCD	EF	60FX5	2	50	22	BEFG	AD	113HY	1	1.4	45	BC	E
49	2	2	38	BCD	E	64	1	6.3	22	BCN	DE	(123HY)					
50	3	7.5	42	BC	D	65	2	6.3	28	BCN	DE	114HY	3	1.4	55	N	G
50A5	3	50	20	BCF	GH	67	3	6.3	37	BC	DE	115HY	1	1.4	45	BCD	E
50B5	3	50	20	AEFG	BD	68	3	6.3	37	BCN	DE	(145HY)					
50BK5	2	50	21	ACGH	DF	70A7	3	70	23	CDE	FGH	117L7/	3	110	20	F	AG
50BM8	1	50	20	CFG	BE	A shows short.						M7	3	110	25	CDE	GH
1	50	20	AJ	EH			3	70	20		AFG	117N7	3	110	20	CDE	FGH
50C5	3	50	22	BEFG	AC							3	110	15		GH	
50C6	3	50	22	CDE	GH	Allow tube to heat up. Move levers F & G to top position.											
50CA5	3	50	22	BEFG	AC	Good tube will kick to 70.											
50CD4	3	50	23	E	CG	70L7	3	70	18	CDE	FG	117P7	3	110	22	CDE	FGH
50EH5	3	50	20	BEFG	AD	3	70	17	H	H	AG	3	110	15		GH	
50FA5	3	50	22	BEFG	AD	71A	3	5	47	BC	D						
A normally shows leakage.						72	4	2.5	35	N	D	117Z3	3	110	24	AE	DF
50FE5	3	50	22	CDE	BH	75	1	6.3	20	BN	EF	117Z4	3	110	19	E	GH
50FK5	3	50	24	BEG	AC	1	6.3	38	C	C	EF	117Z6	3	110	20	C	DG
50GY7*	3	25	19	E(JK)L	AHM	1	6.3	38	D	D	EF	3	110	20	E	GH	
25	21	B	ADM			76	2	6.3	33	BC	DE	128A/	4	2.5	20	BC	DE
50HC6	3	50	19	BEG	AC	77	3	6.3	30	BCN	DEF	2523N1					
50HK6	3	50	20	BEG	AC	78	3	6.3	31	BCN	DEF	163PEN	3	12.6	18	BGJ	CD
50JY6*	3	50	19	(AD)CEN	GH	79	3	6.3	30	BC	DF	182B	3	5	37	BC	D
50L6	3	50	21	CDE	GH	80	3	5	55	B	D	(482B)					
50X6	3	50	19	C	BH	81	3	7.5	75	B	D	183	3	5	40	BC	D
3	50	19	F	GH		82(82V)	3	2.5	24	B	D	(483)					
50Y6	3	50	23	C	DG	3	2.5	24	C	C	D	201B	2	5	45	BC	D
3	50	23	E	GH		83(83V)	3	5	26	B	D	201C	2	5	45	BC	D
50Y7	3	50	20	C	BD	3	5	26	C	C	D	210T	3	7.5	56	BC	D
3	50	20	E	BH		84	3	6.3	26	B	DE	230S	2	2	35	BC	D
50Z6	3	50	21	C	DG	3	6.3	26	C	C	DE	232	2	2	42	BCN	D
3	50	21	E	GH		85	3	6.3	45	BN	EF	233S	3	2	39	BCD	E
50Z7	3	50	25	C	DFG	1	6.3	47	C	C	EF	234S	2	2	40	BCN	D
3	50	25	E	FGH		86M	3	6.3	37	CE	GH	257A	2	2.5	41	BN	D
52	3	6.3	30	BCD	E	87S	2	6.3	33	BCN	DEF	262B	3	7.5	42	BN	CD
53	3	2.5	32	BC	DG	88	3	5	26	B	D						
3	2.5	32	EF	DG		3	5	26	C	C	D						

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
274A	3	5	36	B	D	866(A)	3	2.5	25	N	D	1608	3	2.5	24	BC	D
	3	5	36	C	D	GL874	4	.63	30	C	ABD	1609	2	1.4	32	BCD	E
300B	3	5	21	BC	D	Good tube reads above 10.						1610	3	2.5	28	BCD	E
310B	2	7.5	28	BCD	AE	TJ880*	2	6.3	21	B(CJ)GH	AE	1612	3	6.3	25	DN	GH
313C	4	Off	45	B	A	884	4	6.3	20	CE	GH	1614	3	6.3	24	CDE	GH
313CB	4	Off	53	B	AD	885	4	2.5	20	BC	DE	1616	3	2.5	57	N	D
313CD	4	Off	44	B	AD	950	3	2	46	BCD	E	1619	3	2.5	29	CDE	GH
348A	1	6.3	24	CDEN	BH	951	2	2	35	BCN	D	1620	1	6.3	22	CDN	GH
376B	4	Off	37	E	BG	986	3	5	26	B	D	1621	3	6.3	40	CDE	GH
393A	4	2.5	20	DN	AB		3	5	26	C	D	1622	3	6.3	27	CDE	GH
396A	2	6.3	23	CD	BFGHJ	1003	4	Off	22	E	CH	1624	3	2.5	26	BCN	E
	2	6.3	23	FG	BCDHJ		4	Off	32	C	EH	1625	3	12.6	25	CDN	FG
403B	2	6.3	22	AEF	BCG	1005/ CK1005	4	6.3	26	E	F	1626	3	12.6	32	CE	GH
Tube damaged if B or G is moved.							4	6.3	26	C	F	1629	2	12.6	36	CE	GH
407A	1	19.6	20	CD	ABJ	1006/ CK1006	4	1.4	22	C	A	Eye OP	4	12.6	0	D	CEGH
	1	19.6	20	FG	AHJ		4	1.4	25	B	A	Eye CL	4	12.6	0	CD	EGH
408A*	1	19.6	20	AEF	(BG)D	CK1007	4	.63	21	C	G	1631	3	12.6	27	CDE	GH
417A	2	6.3	20	ADEGH	FJ		4	.63	21	E	G	1632	3	12.6	22	CDE	GH
427	3	2.5	44	BC	DE	CK1027	4	Off	27	DN	ABFG	1633	2	25	28	AB	CG
428A	3	5	47	BC	D	1201*	2	6.3	34	(AE)(CG)	(DF)H	1634	1	12.6	20	BC	FG
484(485)	3	2.5	32	BC	DE	1203	1	6.3	33	D	GH	1635	2	6.3	26	CD	EF
486	2	2.5	48	BC	DE	1204	2	6.3	26	ACE	DFGH		2	6.3	26	EF	CDGH
502A	3	6.3	19	CEF	GH	1221	1	6.3	22	BCN	DEF	1642	2	6.3	29	CN	BG
(GL502A)						1222	3	6.3	20	BCD	FG		2	6.3	29	DE	FG
567	3	5	24	D	H	1223	1	6.3	22	CDN	EGH	1654	1	1.4	41	N	A
	3	5	24	F	H	1229	1	2	25	BCN	D	1680	1	6.3	24	AF	BDEG
585	3	7.5	42	BC	D	1231	2	6.3	23	BCF	DGH		1	6.3	56	EF	ABD
586	3	7.5	42	BC	D	1232	2	6.3	22	BCDF	GH	1851	3	6.3	20	CDN	EGH
615HY	3	6.3	33	N	G	1237	2	2.5	26	C	G	1852	3	6.3	21	DFH	CEG
Short top caps together.						1266	4	Off	95	E	BCG	No open element test on C & H.					
713A	2	6.3	25	DFH	CEG	Good tube reads above 10. No open element test on levers C & G. Tube normally shows short in short position.						1853	3	6.3	23	DFH	CEG
717A	1	6.3	23	DFH	CEG	1267	4	Off	31	E	BG	2050/ 2051	3	6.3	17	CEF	GH
Z729	1	6.3	20	AFHJ	BCEG	1273	3	6.3	26	BCF	DGH	5516	3	2.5	25	CEN	BG
800	3	7.5	54	N	D	1274	4	6.3	19	C	GH	5591	2	6.3	22	AEF	BCG
Short top caps together.						1275	3	5	30	B	CD	Tube damaged if B or G is moved.					
801	3	7.5	42	BD	D		3	5	30	C	BD	CK5608A2	2.5	26	BC	DG	
802	3	6.3	29	CDN	EF	1280	3	12.6	26	BCF	DGH		2	2.5	26	EF	DG
807	3	6.3	25	BCN	DE	1284	3	12.6	25	BCF	DGH	GL5610	2	6.3	22	AEF	BD
809	3	6.3	27	CN	D	1291	1	1.4	33	BC	AH	5618	3	2.5	21	BCDF	AG
811A	3	6.3	34	CE	D		1	1.4	33	FG	AH	5642	1	1.4	100	N	E
Requires jumper from plate cap to pin 5 of any other tube socket.						1299	2	1.4	32	BF	H	Insert bottom leads into pins 4 & 5 respectively. Use plate cap top lead.					
812	3	6.3	29	CN	D	1294	1	1.4	57	D	GH	5651	4	Off	95	AE	BDG
816	4	2.5	19	N	A	Good tube reads above 10.						Good tube reads above 30.					
837	3	12.6	25	CDN	EF	1299	2	1.4	30	BCF	AH	5654*	2	6.3	22	AEF	(BG)C
840	2	2	33	BCN	DE	1603	1	6.3	23	BCN	DEF	5659	3	12.6	32	CDE	GH
841	3	7.5	45	BC	D							5660	3	12.6	41	CFN	GH
842	3	7.5	54	BC	D								1	12.6	38	D	GH
864	1	1.4	55	BC	DE								1	12.6	38	E	GH
865	3	7.5	80	BCN	D												

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
6680	2	6.3	25	AB	CDE	7199	1	6.3	19	BCG	EF	Good tube reads above 26.					
	2	6.3	25	FG	DEH		2	6.3	21	AJ	EH	8032	3	12.6	23	CEN	ADFG
6681	1	6.3	20	AB	CDE	7233	3	6.3	19	(ACFJ)(BG)	DH	Tube damaged if AD or F is moved.					
	1	6.3	20	FG	DEH	7247	1	6.3	22	FG	DEH	8068	3	6.3	22	EHN	CG
6686	3	6.3	19	BGHJ	CE		2	6.3	24	AB	CDE	8077*	2	12.6	21	B(CJ)GH	AE
6688*	2	6.3	21	BGHJ	(AC)E	7258	2	12.6	22	AB	CE	8102	3	12.6	19	FGJ	EH
6689	2	6.3	20	ABFJ	CE		2	12.6	21	FGH	EJ		3	12.6	19	AC	BE
6829	3	6.3	20	AB	CDE	No open element test on F.						8106	3	12.6	19	A(CH)G	(BF)E
	3	6.3	20	FG	DEH	7308	1	6.3	20	AB	CE	8113	3	6.3	20	AEF	BDG
6883*	3	12.6	19	CEN	(ADF)G		1	6.3	20	FG	EH	Tube damaged if B or G is moved.					
6887	1	6.3	20	B	DE	7316	2	6.3	24	AB	CJ	8136	3	6.3	19	AEF	BCG
	1	6.3	21	G	AD		2	6.3	24	FG	HJ	8156	3	12.6	22	•	BFHJM
6888	1	6.3	20	CDFH	EG	7355	3	6.3	19	CFH	EG	•(CDE)(GL)K					
6893*	3	12.6	21	CEN	(ADF)B	7360	2	6.3	20	BCFG	AEHJ	Tube damaged if BFH or J is moved.					
6919	1	6.3	23	B	DE	7408	3	6.3	24	CDE	AGH	8233*	3	6.3	19	A(BF)CH	DGJ
	1	6.3	23	G	AD	7543	1	6.3	20	ABEF	CG	Tube damaged if G or J is moved.					
6922	3	6.3	20	AB	CEJ	7551*	3	12.6	19	B(CH)FG	(A)E	8278*	3	6.3	19	(AH)(CG)J	BEF
	3	6.3	20	FG	EHJ	7558*	3	6.3	19	B(CH)FG	(A)E	Tube damaged if B or F is moved.					
6939	3	6.3	22	AFG	BDE	7581	3	6.3	20	CDE	BH	8417	3	6.3	19	CDE	GH
	3	6.3	22	CGH	BDE	7586	2	6.3	19	BD	HM	8425	2	6.3	22	ABEF	DG
6954	1	6.3	20	AEFG	BD	7587	2	6.3	19	BDN	HM	8552	3	12.6	23	CEN	ADFG
6973*	4	6.3	19	(AH)(CF)J	EG	No open element test on N.						Tube damaged if A, D or F is moved.					
7000	2	6.3	29	CDN	AEGH	7591	3	6.3	20	CDFH	EG	8908*	3	6.3	18	(AE)(BF)C	DH
7025	1	6.3	20	AB	CDE	7643	2	6.3	21	AJ	EH	8950	3	12.6	18	•	BFM
	1	6.3	20	FG	DEH		2	6.3	20	BCF	EG	•(CL)(DK)(EJ)N					
7027*	4	6.3	18	(AD)C(EF)	GH	7687	1	6.3	19	BCF	EG	Tube damaged if B or F is moved.					
7036	1	6.3	20	AF	BD	No open element test on F.						9001*	1	6.3	20	AEF	(BG)D
	1	6.3	28	EG	BD		2	6.3	23	AJ	EH	9002*	2	6.3	27	(AE)F	(BG)D
7044	2	6.3	19	AB	CDE	7695	3	50	21	AFJ	EG	9003*	2	6.3	27	AEF	(BG)D
	2	6.3	19	GJ	FDE	7700	1	6.3	20	BCN	DEF	9004	1	6.3	20	D	EG
7054	2	12.6	21	BCGHJ	AE	7701*	3	12.6	30	BF(GJ)	(ACH)E	9005	1	2.5	34	E	DGH
7055	2	12.6	23	G	AD	7716	1	12.6	19	BC	AE	9006*	1	6.3	25	AE	(BG)D
	2	12.6	23	B	DE		3	12.6	19	GHJ	EF	FOREIGN					
7056	2	12.6	21	AEFG	BD	7719	1	6.3	21	(AF)(BG)	(CH)DE	A1834	3	6.3	16	AB	CH
7057	2	12.6	22	FG	EH	7751*	3	6.3	20	(AD)CE	BH		3	6.3	16	DE	FH
	2	12.6	22	AB	CE	7754	3	6.3	20	AFJ	EG	AA91E	1	6.3	22	B	DE
7059	2	12.6	23	BCF	EG	7788*	3	6.3	17	B(FJ)GH	ACE		1	6.3	22	G	AD
	2	12.6	21	AJ	EH	Tube damaged if A or C is moved.						ABC91	3	12.6	32	CDE	GH
7060	2	12.6	28	FGH	EJ	7798	2	6.3	20	AB	CJ	AF	3	2.5	24	B	D
	2	12.6	23	AB	CE		2	6.3	20	FG	HJ		3	2.5	24	C	D
7061*	3	12.6	22	(AH)(CF)J	EG	7868*	3	6.3	20	(AG)(BF)J	CE	AG	3	5	26	B	D
7062	2	16.3	21	AB	CJ	7895	2	6.3	19	BD	HM		3	5	26	C	D
	2	6.3	21	FG	HJ	7898	3	6.3	20	FG	HJ	B36	2	12.6	29	AB	CG
7105	3	12.6	15	AB	CH		3	6.3	20	AB	CJ		2	12.6	29	DE	FG
	3	12.6	15	DE	FH	7905*	2	3.15	24	B(CH)	AGJ	B309	2	6.3	24	AB	CJ
7119	4	6.3	19	GJ	DEF	Tube damaged if A or J is moved.							2	6.3	24	FG	HJ
	4	6.3	19	AB	CDE	7984*	3	12.6	19	•	BFHJM	B339	1	6.3	20	AB	CDE
7137	2	6.3	22	AEFG	BD	•(CDE)(GL)K						1	6.3	20	FG	CDE	
7167*	3	12.6	22	AEF	(BG)C	8016	1	1.4	98	N	ACDEFGH	Tube damaged if D or E is moved.					
7189*	4	6.3	17	(AB)(FJ)G	CE	Use G & N only for element test.											
7193	2	6.3	24	N	GH												

Tube	Type	Fil.	Plate	Top (T)	Bottom (B)	Tube	Type	Fil.	Plate	Top (T)	Bottom (B)
D2M9	1	6.3	22	B	DE	RK33	3	6.3	27	DE	FG
	1	6.3	22	G	AD		3	6.3	27	CN	BG
E82CC	2	6.3	25	FG	DEH	RK34	3	6.3	27	EN	DG
	2	6.3	25	AB	CDE	Top cap lead on left top cap.					
E83CC	1	6.3	20	FG	DEH		3	6.3	27	CN	DG
	1	6.3	20	AB	CDE	Top cap lead on right top cap.					
E-90Z	3	6.3	30	F	DG	UF89	2	12.6	23	BGH	CEJ
	3	6.3	30	A	DG	VR75	4	Off	30	E	BCG
E92CC	1	6.3	20	BE	ADFG	Good tube reads above 10.					
	1	6.3	20	AF	BDEG	VR90	4	Off	30	E	BCG
E188CC	1	6.3	20	AB	CE	Good tube reads above 10.					
	1	6.3	20	FG	EH	VR105	4	Off	30	E	BCG
E810F*	3	6.3	17	B(FJ)GH	ACE	Good tube reads above 10.					
Tube damaged if A or C is moved.											
E-902	3	6.3	30	F	DG	VR150	4	Off	30	E	BCG
	3	6.3	30	A	DG	Good tube reads above 10.					
EAF801	3	6.3	23	ABF	CDJ	WL481	4	2.5	59	N	D
	1	6.3	34	H	CD	WNSA	3	6.3	35	BC	DEF
ECC808	2	6.3	23	AC	BD	WNDC	3	2.5	35	BC	DEF
	2	6.3	23	GJ	DH	WX12	1	1.4	55	BC	D
ECLL800	3	6.3	24	AB	DG	XXB	2	1.4	40	CD	AH
	3	6.3	20	BCJ	DG		2	1.4	40	EF	AH
	3	6.3	20	FHJ	DG	XXD	3	12.6	25	EF	BCDGH
ED500	1	6.3	26	HK	ABCEFGJ		3	12.6	25	CD	BEFGH
Tube damaged if ABCFG or J is moved.											
EF37A	3	6.3	28	CDEN	GH	XXFM	1	6.3	27	BC	DGH
EF804S	3	6.3	25	AGHJ	CD		1	6.3	27	E	DH
EL32	3	6.3	29	CDE	AGH		1	6.3	27	F	GH
EL-504*	3	6.3	19	(AB)(FG)N	CEH	XXL	2	6.3	24	BF	GH
Tube damaged if C or H is moved.											
EL-505*	4	6.3	21	•	EJ	Z2000	1	6.3	22	BE	CG
							1	6.3	22	AF	CG
•(AH)(BG)(CF)N											
EL-508	3	6.3	20	DEN	GH						
FM1000	1	6.3	20	BE	ACG						
	1	6.3	35	DF	ACG						
G4	1	2.5	45	B	DE						
	1	2.5	45	C	DE						
GA	3	5	32	BCD	E						
HY69	4	6.3	20	BCD	E						
HY1269	4	6.3	19	BCN	AE						
KR1	3	6.3	24	B	CD						
KR5	3	6.3	36	BCD	E						
KR25	3	2.5	36	BCD	EF						
KR98	3	6.3	26	B	DE						
	3	6.3	26	C	DE						
PZ	3	2.5	41	BCD	E						
PZH	3	2.5	36	BCD	EF						
R30	2	2	35	BC	D						
R100	3	7.5	43	N	D						
Short top caps together.											