

knight® "600 SERIES" TUBE CHECKER

A L L I E D R A D I O C H I C A G O

OPERATING INSTRUCTIONS

Plug the line cord into a 117-volt, 50/60-cycle AC outlet. (Export models require 230-volt, 50/60 cycle power.)

Roll the chart to the tube type to be tested. If tube type is not listed on the roll chart look in the Supplementary Tube Chart.

Set controls as shown on chart:

A-CIRCUIT switch as in column A

B-FILAMENT switch as in column B

C-LOAD control as in column C

TUBE ELEMENTS push up the numbered lever switches listed in column U. Push down the numbered lever switches listed in column D. "0" in these columns stands for lever switch 10. Place all remaining lever switches in the center position.

Turn ON/OFF switch ON.

Insert tube in proper socket.

Let tube warm up for 30 seconds, then set the LINE ADJUST control so the meter needle points to 50.

SHORT TEST

Perform the short test as follows: Push the lever switches that are in the center position up, one at a time. If the SHORT TEST lamp glows steadily when any lever switch is pushed up the tube should be replaced (except those numbers indicated in parenthesis () to the right of the tube type number). A brief flash of the SHORT TEST lamp does not indicate a short. Tap the tube gently while making this test. CAUTION: Do not move the SHORT LINE/VALUE switch while making these short tests.

EMISSION TEST

Hold the SHORT LINE/VALUE switch in the VALUE position. Read the tube condition on the REPLACE-GOOD scale of the meter. If the meter pointer goes to the green section of the scale, cathode emission is acceptable. If the meter pointer is in the red section check the tube chart for special emission notes as: Good=26. If no such notes appear for the tube you are testing, the tube should be replaced.

GAS TEST

Hold the SHORT LINE/VALUE switch in the VALUE position. At the same time pull the lever switch, shown in parenthesis () to the right of column D, down one position. Read the lower GOOD BAD scale on the meter. NOTE: The lever switch indicated for the gas test may initially be up or in the center position; in either case pull this switch down one position only.

MULTI SECTION TUBES

Many tubes incorporate more than one set of electrodes. Such tubes have separate tests, with a separate line on the tube chart, for each tube section. Follow the testing procedure given above for each tube section.

NOTE: It is unnecessary to remove the tube from the socket when resetting the controls for additional section testing.

SPECIAL NOTES ON THE TUBE CHARTS

For testing certain tube types special information is given in addition to the setup columns. Numbers appearing in parenthesis () just to the right of the tube type number indicate those lever switches which normally light the SHORT TEST lamp. Another note which frequently appears is the one concerning the emission or value test. Some tubes are good when the pointer reads only 25. This condition will be indicated in the last column on the chart.

Tuning indicator (magic eye) tubes are often tested for eye closure and opening without regard to a meter reading. Thus a good eye tube is indicated by an eye closure when the chart says "eye closed" and an open eye when the chart says "eye open".

Certain tubes have more than one external cap. A note will give special instructions for the test. Usually the note will read "Tie both top caps together". This means a wire jumper should be used to connect the two caps together.

Some tubes call for "Gas Test" under column D. This means: Make your reading on the GAS TEST SCALE as you hold the SHORT LINE/VALUE switch in the VALUE position.

TUBE TEST EXAMPLE #1—TYPE 5GH8

Plug the line cord into an 117-volt, 60 cycle AC outlet.

Turn ON/OFF switch ON.

Adjust roll chart until 5GH8 information appears in the window. This tube has two sections. Check section one first.

TUBE		A	B	C	U	D
1-5GH8	(5-8)	4	5	52	3-6	4 (3)
2-5GH8	(5-7)	4	5	60	1	4 (9)

Set A-CIRCUIT switch to 4.

Set B-FILAMENT switch to 5.

Set C-LOAD control to 52.

Set lever switches: 3 & 6 up
4 down

Insert the 5GH8 in the 9 and 10-pin miniature socket.

After 30 seconds, set the LINE ADJUST control so the meter needle points to 50.

Short test. Number 5 & 8 appears in parenthesis () next to the tube type. Pushing these lever switches up one at a time produces a glow from the SHORT TEST lamp.

Push switches 1, 2, 7, 9 & 10 up, and then back to the center position, one at a time. If the SHORT TEST lamp does not glow steadily when any of these switches is up there are no abnormal shorts in the tube.

Emission test. Slide the SHORT LINE/VALUE switch to the VALUE position and read the meter. A reading in the upper GOOD area indicates the tube has acceptable cathode emission.

Gas test. Hold the SHORT LINE/VALUE switch in the VALUE position. Pull lever switch 3 (which is now in the upper position) down one position to the center. Read the lower GOOD BAD scale on the meter.

Set the ON/OFF switch to OFF.

Reset all lever switches to the normal center position.

Test the second section by:

Set C-LOAD switch to 60.

Set lever switches: 1 up

4 down

Set ON/OFF switch to ON again.

On the short test 5 & 7 light the SHORT TEST lamp. Switches 2, 3, 6, 8, 9 & 10 are moved up one at a time. If the SHORT TEST lamp lights for any of these the tube is shorted.

Emission is tested as before. Gas test is made by bringing switch 9 down from center to the down position.

TUBE		A	B	C	U	D
00A	(4)	4	5	56	2	1
01A	(4)	4	5	65	2	1
0A2	(2-4-7)	4	Off	48	1-5	Gas Test
0A3	(3-7)	4	0.63	50	5	Gas Test
1-0A4	(2-7)	4	Off	40	5	
2-0A4	—	4	Off	40	5-7	Gas Test
0A5	(1-3)	4	0.63	32	4-7	Gas Test
0B2	(2-4-7)	4	0.63	50	1-5	Gas Test
0B3	(3-7)	4	Off	40	5	Gas Test
0C2	(2-4-7)	4	Off	40	1-5	Gas Test
0C3	(3-7)	4	0.63	40	5	Gas Test
0D3	(3-7)	4	Off	30	5	Gas Test
0E3	(4-8)	4	Off	50	2	Gas Test
0G3	(2-4-7)	4	Off	34	1-3-5	Gas Test
0Y4		4	Off	24	5	3-7-8
1A3	(1-5)	1	1.4	90	2-6	7
1A4P	(4)	2	2	68	2-3	1 (3)
1A5	(7)	4	1.4	60	3-4	2 (4)
1-1A6	(6)	4	2	52	2-5	1 (5)
2-1A6	(6)	1	2	48	3-4	1 (4)
1-1A7	(7)	4	1.4	50	3-4-0	2 (4)
2-1A7	(7)	4	1.4	54	4-0	2
1AB5	(7-8)	4	1.4	70	2-3	1 (3)
1AB6	(7)	4	1.4	54	2-3	1 (3)
1AC6	(7)	1	1.4	38	2-4	1 (4)
1AE4	(1-5)	4	1.4	82	2-3	7 (3)
1AF4	(1-5)	1	1.4	42	2-6	7 (6)
1-1AF5	(7)	4	1.4	90	4-5	1
						Good=25
2-1AF5	(7)	4	1.4	34	3	1
1-1AH5	(7)	4	1.4	30	5-6	1 (6)
2-1AH5	(7)	1	1.4	100	3	1
1AJ4	(1-5)	2	1.4	50	2-6	7 (6)
1AN5	(1-5)	4	1.4	100	2-3	7 (3)
1AU3	(7-8)	4	1.4	100	0	2
						Good=20
1B4P	(4)	4	2	54	2-0	1 (0)
1B4T	(4)	4	2	70	2-3	1 (3)
1-1B5	(6)	2	2	54	2-5	1 (5)
2-1B5	(6)	1	2	100	3	1
3-1B5	(6)	1	2	100	4	1
1-1B7	(7)	4	1.4	46	3-4	2 (4)
2-1B7	(7)	2	1.4	50	5-6	2 (5)
1-1C1	(1-5)	4	1.4	50	2-3	7 (3)
2-1C1	(1-5)	4	1.4	50	3	7
1C2	(7)	1	1.4	38	2-4	1 (4)
1C5	(7)	4	1.4	38	3-4	2 (4)
1-1C6	(6)	4	2	48	5	1
2-1C6	(6)	4	2	46	2-5	1 (5)
1-1C7	(7)	4	2	48	3-4	2 (4)
2-1C7	(7)	1	2	44	5-6	2 (5)

TUBE		A	B	C	U	D
1C21	(2-7)	4	0.63	56	5	
1D5P	(7)	2	2	54	3-0	2 (0)
1D5T	(7)	4	2	76	3-4	2 (4)
1-1D7	(7)	4	2	62	4	2
2-1D7	(7)	4	2	58	3-4	2 (4)
1-1D8	(7)	2	1.4	52	3-5	2 (5)
2-1D8	(7)	2	1.4	54	6-0	2 (0)
3-1D8	(7)	1	1.4	96	8	2
1D13	(1)	1	1.4	90	2-6	7
1-1DN5	(7)	2	1.4	78	2-6	1 (6)
2-1DN5	(7)	1	1.4	100	4	1 (6)
1E4	(7)	2	1.4	44	3-5	2 (5)
1E5P	(7)	2	2	62	3-0	2 (0)
1-1E7	(7)	4	2	46	3-8	2 (8)
2-1E7	(7)	4	2	46	6-8	2 (8)
1F1	(1-5)	2	1.4	50	2-6	7 (6)
1F2	(1-5)	4	1.4	76	2-3	7 (3)
1F3	(1-5)	4	1.4	76	2-3	7 (3)
1F4	(5)	4	2	50	2-4	1 (4)
1F5	(7)	4	2	54	3-4	2 (4)
1-1F6	(6)	1	2	48	2-0	1 (0)
2-1F6	(6)	1	2	40	4	1
						Good=10
3-1F6	(6)	1	2	40	5	1
						Good=10
1-1F7	(7)	4	2	80	3-6	2 (6)
2-1F7	(7)	1	2	100	4	2
						Good=40
3-1F7	(7)	1	2	100	5	2
						Good=40
1-1FD1	(7)	4	1.4	30	5-6	1 (6)
2-1FD1	(7)	1	1.4	100	3	1
1-1FD9	(7)	4	1.4	30	5-6	1 (6)
2-1FD9	(7)	1	1.4	92	3	1
1G4	(7)	2	1.4	46	3-5	2 (5)
1G5	(7)	2	2	52	3-5	2 (5)
1-1G6	(7)	2	1.4	46	3-4	2 (4)
2-1G6	(7)	2	1.4	46	5-6	2 (5)
1H2	(2-5-8)	4	1.4	92	0	1-4-6-9
1H4	(7)	2	2	46	3-5	2 (5)
1-1H5	(7)	1	1.4	40	3-0	2 (0)
2-1H5	(7)	1	1.4	100	5	2
1-1H6	(7)	2	2	48	3-6	2 (6)
2-1H6	(7)	1	2	78	4	2
3-1H6	(7)	1	2	78	5	2
1J5	(7)	4	2	44	3-4	2 (4)
1-1J6	(7)	2	2	46	3-4	2 (4)
2-1J6	(7)	2	2	46	5-6	2 (5)
1L4	(1-5)	4	1.4	76	2-3	7 (3)
1LA4	(8)	2	1.4	52	2-6	1 (6)
1LB4	(8)	4	1.4	42	2-3	1 (3)
1LC5	(5-8)	1	1.4	42	2-6	1 (6)

TUBE		A	B	C	U	D
1-1LC6	(8)	4	1.4	50	2-5	1 (5)
2-1LC6	(8)	2	1.4	74	3-4	1 (4)
1-1LD5	(8)	2	1.4	56	2-6	1 (6)
2-1LD5	(8)	1	1.4	100	4	1
1LE3	(8)	2	1.4	46	2-6	1 (6)
1LG5	(5-8)	2	1.4	48	2-6	1 (6)
1-1LH4	(8)	1	1.4	44	2-6	1 (6)
2-1LH4	(8)	1	1.4	100	4	1
1LN5	(5-8)	2	1.4	48	2-6	1 (6)
1N2	(7-8)	4	1.4	70	0	2
1N5	(7)	1	1.4	42	3-0	2 (0)
1-1N6	(7)	4	1.4	64	3-4	2 (4)
2-1N6	(7)	1	1.4	100	6	2
1P1	(1-7)	4	1.4	44	2-3	5 (3)
1P5	(7)	2	1.4	54	3-0	2 (0)
1P10	(1-7)	2	1.4	46	2-3-6	5 (3)
1P11	(1-7)	2	1.4	43	2-6	5 (6)
1P13	(1)	1	1.4	90	2-6	7
1Q5	(7)	2	1.4	44	3-5	2 (5)
1R4	(8)	2	1.4	86	4	1
1S2	(1-4-6-9)	4	2	66	0	2-5-8
1S4	(1-5)	1	1.4	70	2-4-6	7 (4)
1-1S5	(7)	4	1.4	30	5-6	1 (6)
2-1S5	(7)	1	1.4	92	3	1
1-1SB6	(7)	2	1.4	48	3-8	2 (8)
2-1SB6	(7)	1	1.4	100	5	2
						Good=50
1T5	(7)	2	1.4	52	3-5	2 (5)
1-1U6	(7)	4	1.4	60	2-5	1 (5)
2-1U6	(7)	1	1.4	50	3-4	1 (4)
1V	(4)	3	6.3	40	2	1
1W4	(7)	4	1.4	50	2-3	1 (3)
1Z2	(1-3-4-6)	3	1.4	80	0	2-5-7
						Gas Test
2A3	(4)	4	2.5	30	2	1
2A4	(7)	4	2.5	26	3	2
2A5	(6)	4	2.5	44	2-3	1 (3)
1-2A6	(6)	2	2.5	42	2-0	1
2-2A6	(6)	1	2.5	94	3	1
3-2A6	(6)	1	2.5	94	4	1
1-2A7	(7)	4	2.5	48	2-3	1 (3)
2-2A7	(7)	1	2.5	40	4-5	1 (5)
2AH2	(3-9)	4	2	88	0	1-2-5-6-7-8
2AS2		4	2.5	78	0	2-5-6-9
2B3	(7-8)	4	2	56	0	2
1-2B6	(5-7)	4	2.5	85	2	1
2-2B6	(6-7)	2	2.5	48	3-4	1-5 (4)
1-2B7	(7)	4	2.5	70	2-3	1 (3)
2-2B7	(7)	1	2.5	80	4	1
2B22	(1-3-5-7-8)	3	6.3	32	0	2

00A-2B22

2C21-6A6

TUBE		A	B	C	U	D	
1-2C21	(6-7)	2	6.3	50	3-0	1	(0)
2-2C21	(2-7)	2	6.3	50	4-5	1	(4)
2C22	(7)	4	6.3	26	0	2	
Tie Both Top Caps Together							
2C26	(7)	4	6.3	28	0	2	
Tie Both Top Caps Together							
2C33	(7)	3	2.5	36	0	2	
1-2C34	(7)	4	6.3	64	0	1	Right Top Cap
2-2C34	(7)	4	6.3	64	0	1	Left Top Cap
2C42	(3-5-7-8)	4	6.3	26	0	2	
Tie Top Cap and Middle Ring Together							
2C44	(3-4-7-8)	4	6.3	28	0	2	
Tie Top Cap and Middle Ring Together							
2C46	(3-5-7-8)	4	6.3	28	0	2	
Tie Top Cap and Middle Ring Together							
1-2C50	(6-8)	4	12.6	45	2	7	(1)
2-2C50	(3-8)	4	12.6	45	5	7	(4)
1-2C51	(8-9)	4	6.3	64	4	1	(3)
2-2C51	(2-9)	4	6.3	64	6	1	(7)
1-2C52	(6-8)	2	12.6	55	1-2	7	(1)
2-2C52	(3-8)	2	12.6	55	4-5	7	(4)
2C53	(7)	2	6.3	58	5-0	2	(5)
2D21	(4-5-7)	4	6.3	26	6	3	
1-2E5	(6)	4	2.5	50	2-4	1	Eye Closed
2-2E5	(6)	4	2.5	50	4	1	Eye Open
2E22	(5)	4	6.3	72	4-0	1	(4)
2E24	(1-4-6)	4	3	36	3-0	2-7	(3)
2E25	(7)	4	6.3	46	4-0	2	(4)
2E26	(1-4-6-7)	4	6.3	34	3-0	2	(3)
2E30	(4-7)	1	6.3	56	5	3	(1)
2EA5	(2-4-7)	4	2	84	5-6	3	(6)
1-2EN5	(4)	2	2	38	2	3	
2-2EN5	(4)	2	2	38	7	3	
2ES5	(1-4-7)	4	2	96	5	3	(2)
2F4	(4)	4	2	70	1-5	3	
2FQ5	(1-4-7)	4	2.5	46	5	3	
2FY5	(1-4-7)	4	2	90	5	3	(2)
2HA5	(2-4-7)	1	2.5	54	5	3	(1)
2V2	(2-4-6-7-8)	4	1.4	100	0	5	
2V3	(7)	4	2.5	84	0	2	
2X2	(4)	4	2.5	56	0	1	
2Z2	(4)	3	2.5	56	2	1	
3A2	(1-4-6-9)	4	3	64	0	2-5-8	
3A4	(1-7)	4	1.4	38	2-3-6	5	(3)
1-3A5	(1-7)	4	1.4	64	2	4	
2-3A5	(1-7)	4	1.4	64	6	4	
1-3A8	(2-7)	1	1.4	42	3-0	1	(0)
2-3A8	(2-7)	1	1.4	44	5-6	1	(5)
3-3A8	(2-7)	1	1.4	78	8	1	

TUBE		A	B	C	U	D	
3AW3	(1-7-8)	4	3	66	0	2	
3B2	(1-3-5-7)	4	3	100	0	2-6-8	
3B4	(4-5)	4	1.4	36	1-7	2-6	(1)
3B5	(2-7)	4	1.4	40	3-4	9	(4)
1-3B7	(1-8)	2	1.4	40	2-3	4	(3)
2-3B7	(1-8)	2	1.4	40	6-7	4	(6)
1-3B22	(4)	3	2.5	30	2	1	
2-3B22	(4)	3	2.5	30	3	1	
3B24	(2-4)	1	2	100	0	1	Good=50
3B25	(4)	4	2.5	26	0	1	
3B26	(7)	4	2.5	38	0	2	
3B27	(4)	3	2.5	38	0	1	
3B28	(4)	4	4.2	28	0	1	
3B29	(1)	4	2.5	90	0	4	
3BN4	(1-2-4-6-7)	4	3	68	5	3	
3C2	(2-4-6-7-8)	1	1.4	76	0	5	Good=30
3C4	(1-7)	4	1.4	44	2-3	5	(3)
1-3C6	(1-8)	1	1.4	40	3-4	7	(4)
2-3C6	(1-8)	1	1.4	40	5-6	7	(5)
3C23	(4)	4	4.2	25	0	1	
3C31	(4)	4	3	26	0	1	
3CF6	(4)	4	3	52	5-6	3	(6)
3D6	(1-8)	4	1.4	40	2-3	7	(3)
3DX4	(2-4-6)	4	3	34	1-7	3	
3DZ4	(2-4-6)	1	3	80	1-7	3	
3E6	(1-8)	4	1.4	80	2-3	5	(3)
3FH5	(1-4-7)	4	3	72	5	3	(2)
1-3GS8	(5)	4	3	80	2-3	4	(2)
2-3GS8	(5)	4	3	80	2-8	4	(2)
3LF4	(1-8)	4	1.4	42	2-3	7	(3)
3Q4	(1-7)	4	1.4	40	2-4-6	5	(4)
3Q5	(2-7)	4	1.4	44	3-4	8	(4)
3S4	(1-7)	2	1.4	46	2-3-6	5	(3)
3V4	(1-7)	2	1.4	43	2-6	5	(6)
1-4A6	(2-7)	2	2	47	3-4	8	(4)
2-4A6	(2-7)	2	2	47	5-6	8	(5)
1-4AV6	(4)	4	4.2	28	1-7	3	(1)
2-4AV6	(4)	1	4.2	82	5	3	
3-4AV6	(4)	1	4.2	100	6	3	
4BA6	(4)	4	4.2	70	5-6	3	(6)
4BN4	(1-2-4-6-7)	4	4.2	66	5	3	
1-4BS8	(5-8)	2	4.2	36	1-2	4	(2)
2-4BS8	(3-5)	2	4.2	36	6-7	4	(7)
1-4BX8	(5-8)	2	4.2	38	1-2	4	(2)
2-4BX8	(3-5)	2	4.2	38	6-7	4	(7)
1-4BZ8	(5-8)	4	4.2	60	1	4	(2)
2-4BZ8	(3-5)	4	4.2	60	6	4	(7)
4CY5	(2-4-7)	2	4.2	36	1-5	3	(1)

TUBE		A	B	C	U	D	
4DK6	(4)	4	4.2	58	5-6	3	(1)
4GZ5	(2-4-5)	4	4.2	40	6-7	3	(6)
4HA5	(2-4-7)	4	4.2	51	5	3	(1)
4HT6	(1-3-5)	4	4.2	44	7-8	4	(2)
4X150A	(2-4-6-7-8)	4	6.3	30	1-5-0	3	
5A/170K	(1-3-5)	4	6.3	40	7-9	4	(9)
5A6	(3-4-5-8)	4	2.5	36	1-6	9	(6)
1-5AQ4	(8)	3	6.3	30	4	2	
2-5AQ4	(8)	3	6.3	30	6	2	
1-5AS8	(5-8)	4	5	52	1-7	4	(1)
2-5AS8	(3-5)	4	5	26	6	4	
1-5AW4	(8)	3	5	34	4	2	
2-5AW4	(8)	3	5	34	6	2	
1-5AX4	(8)	3	5	54	4	2	
2-5AX4	(8)	3	5	54	6	2	
1-5AZ4	(8)	3	5	58	4	2	
2-5AZ4	(8)	3	5	58	6	2	
1-5BC3	(3-8-9)	3	5	40	5-6	1	
2-5BC3	(3-5-9)	3	5	40	8-9	1	
1-5BC8	(5-8)	4	5	66	1	4	(2)
2-5BC8	(3-5)	4	5	66	6	4	(7)
1-5BZ7	(5-8)	4	5	55	1	4	(2)
2-5BZ7	(3-5)	4	5	55	6	4	(7)
1-5CL8	(5-8)	4	5	58	2	4	(1)
2-5CL8	(3-5)	4	5	50	6-7	4	(7)
1-5EG8	(5-6)	4	5	52	1-9	4	(9)
2-5EG8	(5-8)	2	5	36	2-3	4	(2)
1-5KDB	(5-7)	4	5	48	1	4	(9)
2-5KDB	(5-8)	4	5	56	3-6	4	(2)
1-5R4	(8)	3	5	42	4	2	
2-5R4	(8)	3	5	42	6	2	
1-5T4	(8)	3	5	34	4	2	
2-5T4	(8)	3	5	34	6	2	
1-5V4	(8)	3	5	30	4	2	
2-5V4	(8)	3	5	30	6	2	
5V6	(7)	4	5	42	3-4	2	(4)
1-5W4	(8)	3	5	58	4	2	
2-5W4	(8)	3	5	58	6	2	
1-5X3	(4)	3	5	54	2	1	
2-5X3	(4)	3	5	54	3	1	
1-5X4	(8)	3	5	40	3	7	
2-5X4	(8)	3	5	40	5	7	
1-5Y4	(8)	3	5	52	3	7	
2-5Y4	(8)	3	5	52	5	7	
1-5Z3	(4)	3	5	34	2	1	
2-5Z3	(4)	3	5	34	3	1	
1-5Z4	(8)	3	5	34	4	2	
2-5Z4	(8)	3	5	34	6	2	
6A3	(4)	4	6.3	30	2	1	
6A4	(5)	4	6.3	40	2-4	1	(4)
6A5	(2-7)	4	3	30	3	8	
1-6A6	(7)	2	6.3	48	2-3	1	(3)
2-6A6	(7)	2	6.3	48	5-6	1	(5)

TUBE	A	B	C	U	D
1-6AB5 (6)	4	6.3	24	2-4	1 Eye Closed
2-6AB5 (6)	4	6.3	24	4	1 Eye Open
6AB7 (7)	4	6.3	74	6-8	2 (6)
1-6AB8 (5)	4	6.3	50	6-8	4 (8)
2-6AB8 (5)	2	6.3	45	1-2	4 (2)
1-6A7 (7)	4	6.3	48	2-3	1 (3)
2-6A7 (7)	1	6.3	48	4-5	1 (5)
1-6A8 (7)	4	6.3	50	1-3-4-0	2
2-6A8 (7)	1	6.3	50	5-6	2 (5)
1-6AC6 (7)	2	6.3	75	3	2-8
2-6AC6 (7)	1	6.3	100	4	2-8 (5)
1-6AD6 (7)	4	6.3	0	5	2
2-6AD6 (7)	4	6.3	0	3-4-5	2 Eyes Open
1-6AD7 (7)	4	6.3	46	3-4	2 (4)
2-6AD7 (7)	1	6.3	70	1-6	2-8 (1)
6AE5 (7)	2	6.3	46	3-5	2 (5)
1-6AE6 (7)	2	6.3	53	3-5	2 (5)
2-6AE6 (7)	2	6.3	53	4-5	2 (5)
1-6AE7 (7-8)	2	6.3	48	3-4	2 (4)
2-6AE7 (5-7)	2	6.3	48	3-6	2 (6)
6AF5 (7)	4	6.3	44	3	2
1-6AF6 (7)	4	6.3	0	3-4-5	2
2-6AF6 (7)	4	6.3	0	4-5	2 Eyes Closed
3-6AF6 (7)	4	6.3	0	3-5	2 Right Eye Open
6AG6 (7)	4	6.3	34	3-4	2 (4) Left Eye Open
1-6AG11 (1-4-9)	3	6.3	32	3	—
2-6AG11 (2-4-9)	3	6.3	32	0	—
3-6AG11 (1-2-9)	4	6.3	66	6	— (8)
4-6AG11 (1-2-4)	4	6.3	66	7	— (8)
6AJ4 (1-3-4-6-8-9)	4	6.3	56	5	7
6AJ5 (2-4-7)	2	6.3	42	1-5	3 (1)
6AJ6 (7)	4	6.3	40	3-4	2 (4)
6AJ7 (7)	4	6.3	56	6-8	2 (6)
1-6AJ8 (5)	4	6.3	66	1-6	4 (1)
2-6AJ8 (5)	2	6.3	44	8-9	4 (9)
6AK6 (4)	4	6.3	50	5-6	3 (6)
6AK7 (7)	4	6.3	40	6-8	2 (6)
1-6AK8 (3-5)	1	6.3	42	1	4
2-6AK8 (5-7)	1	6.3	42	2	4
3-6AK8 (3-5)	2	6.3	46	8-9	4 (8)
4-6AK8 (3-5)	1	6.3	64	6	4-7
1-6AL7 (7)	4	6.3	0	3	2-8 Eye Closed
2-6AL7 (7)	4	6.3	0	3	2-4-8 Right Eye Open
3-6AL7 (7)	4	6.3	0	3	2-6-8 Left Eye Open
4-6AL7 (7)	4	6.3	40	1-3	2 (1)

TUBE	A	B	C	U	D
6AM5 (4)	4	6.3	48	5-7	3 (7)
6AM6 (4)	4	6.3	90	5-7	3 (7)
6AN4 (4)	1	6.3	42	1-2-6-7	3
6AN5 (2-4-7)	4	6.3	32	5-6	3 (6)
6AQ4 (1-2-4-5-6)	4	6.3	80	7	3
6AR6 (8)	4	6.3	34	3-5	6 (5)
1-6AR8 (5)	4	6.3	82	3-9	4 (3)
2-6AR8 (5)	4	6.3	82	3-8	4 (3)
6AS6 (4)	4	6.3	58	5-6	3 (6)
1-6AS7 (6-8)	4	6.3	28	2	7
2-6AS7 (3-8)	4	6.3	28	5	7
1-6AS11 (5-7)	4	6.3	34	2-0	— (0)
2-6AS11 (5-9)	2	6.3	40	3-4	— (3)
3-6AS11 (7-9)	2	6.3	36	6-8	— (6)
1-6AU7 (4-5-8)	4	3	70	1	9
2-6AU7 (3-4-5)	4	3	70	6	9
1-6AV11 (4-6)	4	6.3	71	2	— (1)
2-6AV11 (3-4)	4	6.3	71	5	— (7)
3-6AV11 (3-6)	4	6.3	71	0	— (9)
1-6AX6 (7-8)	3	6.3	28	3	2
2-6AX6 (4-7)	3	6.3	28	5	2
1-6AX7 (4-5-8)	2	3	40	1-2	9 (2)
2-6AX7 (3-4-5)	2	3	40	6-7	9 (7)
1-6AX8 (5-8)	4	6.3	46	3-6	4 (3)
2-6AX8 (5-7)	4	6.3	58	1	4 (9)
6B4 (7)	4	6.3	30	3	2
1-6B6 (7)	2	6.3	50	3-0	2 (0)
2-6B6 (7)	2	6.3	72	4	2-8
3-6B6 (7)	2	6.3	72	4	2-8
1-6B7 (7)	4	6.3	70	2-3	1 (3)
2-6B7 (7)	1	6.3	68	4	1-6
3-6B7 (7)	1	6.3	68	5	1-6
1-6B8 (7)	1	6.3	50	5	2-8
2-6B8 (7)	1	6.3	50	4	2-8 Good=40
3-6B8 (7)	4	6.3	84	3-6	2 (6) Good=40
1-6BC7 (5-7-9)	1	6.3	40	2	4
2-6BC7 (1-5-9)	1	6.3	40	6	4
3-6BC7 (1-5-7)	1	6.3	40	8	4
6BD4 (7)	2	6.3	90	5-0	2 (5)
6BD5 (7)	4	6.3	36	5-8	2 (8)
1-6BD7 (5-7-9)	2	6.3	45	1-2	4 (2)
2-6BD7 (5-7-9)	1	6.3	66	6	3-4
3-6BD7 (5-7-9)	1	6.3	100	8	3-4
1-6BE7 (3-5-8)	4	6.3	64	1-6	4 (1)
2-6BE7 (3-5-8)	4	6.3	66	1	4 (7)
1-6BF8 (5)	1	6.3	45	1	4
2-6BF8 (5)	1	6.3	45	2	4
3-6BF8 (5)	1	6.3	45	3	4
4-6BF8 (5)	1	6.3	45	7	4
5-6BF8 (5)	1	6.3	45	8	4
6-6BF8 (5)	1	6.3	45	9	4
6BL4 (8)	3	6.3	26	5	7

TUBE	A	B	C	U	D
6BN5 (1-2-5-6-8)	4	6.3	48	7-9	4 (8)
1-6BR5 (3-4-8-9)	1	6.3	50	1-7	5 (1)
2-6BR5 (4)	4	6.3	0	3-7-8-8	5 Eye Open
3-6BR5 (4)	4	6.3	0	3-8-9	5 Eye Closed
6BS3 (5)	3	6.3	30	2-7	4
1-6BV8 (5-7-8)	4	6.3	62	3	4 (2)
2-6BV8 (1-5-7)	1	6.3	42	6	4
3-6BV8 (1-5-8)	1	6.3	42	8	4
6BX6 (1-3-5)	4	6.3	50	7-8	4 (8)
6BY7 (1-3-5)	4	6.3	46	7-8	4 (8)
6C6 (6)	4	6.3	90	2-3	1 (3)
1-6C7 (7)	4	6.3	100	2	1 (0)
2-6C7 (7)	1	6.3	60	4	1-6
3-6C7 (7)	1	6.3	60	5	1-6
1-6C8 (7-8)	2	6.3	54	3-0	2 (0)
2-6C8 (4-7)	2	6.3	50	5-6	2 (5)
1-6C10 (4-6)	2	6.3	44	1-2	(1)
2-6C10 (3-4)	2	6.3	44	5-7	(7)
3-6C10 (3-6)	2	6.3	44	9-0	(9)
1-6CD7 (7)	4	6.3	0	3-5-6	2 Eyes Closed
2-6CD7 (7)	4	6.3	0	5-6	2 Left Eye Open
3-6CD7 (7)	4	6.3	0	3-5	2 Right Eye Open
6CH6 (5)	4	6.3	42	7-8	4 (8)
6CJ6 (1-5-6-9)	4	6.3	30	7-8-0	4
6CK6 (5)	4	6.3	42	1-7	4 (1)
6CL5 (1-3-6-7-8)	4	6.3	24	4-5-0	2
6CM5 (1-3-4-7-8)	4	6.3	26	5-0	2 (5)
6CN6 (7)	4	6.3	34	4-0	2 (4)
6CQ6 (4)	4	6.3	100	5-7	3 (7)
1-6CR6 (4)	1	6.3	90	2	3
2-6CR6 (4)	4	6.3	56	5-6	3 (6)
1-6CW7 (5-7-8)	4	6.3	50	3	4 (2)
2-6CW7 (1-5-7)	4	6.3	50	9	4 (6)
6D1 (1-2-5)	4	6.3	30	7-8-9	4 (9)
1-6D2 (1-4)	1	6.3	40	2	3
2-6D2 (4-5)	1	6.3	40	7	3
6D4 (4)	4	6.3	26	7	3
6D5 (7)	2	6.3	52	3-5	2 (5)
6D6 (6)	4	6.3	60	2-3	1 (3)
6D7 (7)	4	6.3	90	2-3	1 (3)
1-6D8 (7)	4	6.3	52	3-4	2 (4)
2-6D8 (7)	2	6.3	55	5-6	2 (5)
1-6D10 (4-6)	2	6.3	38	1-2	(1)
2-6D10 (3-4)	2	6.3	38	5-7	(7)
3-6D10 (3-6)	2	6.3	36	9-0	(9)
6DA5 (3-5-8-9)	2	6.3	70	1-6	4 (1)
6DA6 (1-5-6)	4	6.3	48	7-8	4 (8)
6DB6 (4)	1	6.3	40	1-5	3 (1)

6AB5-6DB6

6DC8-6Q4

TUBE	A	B	C	U	D
1-6DC8 (5)	4	6.3	56	1-6	4 (1)
2-6DC8 (5)	1	6.3	100	7	4
3-6DC8 (5)	1	6.3	100	3	4
1-6DJ8 (5-8)	4	6.3	40	1	4 (2)
2-6DJ8 (3-5)	4	6.3	40	6	4 (7)
6DL5 (1-4-7)	4	6.3	44	5-6	3 (6)
6DM4 (8)	4	6.3	25	5	7
6DN6 (7)	4	6.3	28	8-0	2 (8)
6DR4 (4)	2	6.3	46	1-5-6	3 (6)
1-6DR8 (5)	4	6.3	24	2-6	4 (2)
2-6DR8 (5)	1	6.3	74	8	3-4
3-6DR8 (5)	1	6.3	56	7	3-4
1-6DS8 (5)	4	6.3	48	1-6	4 (1)
2-6DS8 (5)	4	6.3	60	8	4
6DX4 (2-4-6)	4	6.3	37	1-7	3
6DY6 (5)	2	6.3	92	7-9	4 (2)
1-6DZ8 (5-8)	4	6.3	32	6-7	4 (7)
2-6DZ8 (2-5)	2	6.3	80	1-9	4 (1)
1-6E5 (6)	4	6.3	30	2-4	1
2-6E5 (6)	4	6.3	30	4	Eye Closed 1 Eye Open
1-6E6 (7)	4	6.3	50	2	1
2-6E6 (7)	4	6.3	50	6	1
6E7 (7)	4	6.3	58	2-3	1 (3)
6EA5 (2-4-7)	4	6.3	66	5-6	3 (6)
1-6EB5 (1-4)	2	6.3	64	2	3
2-6EB5 (4-5)	2	6.3	64	7	3
6ET6 (4)	2	6.3	65	5-6	3 (6)
1-6EZ8 (1-5)	4	6.3	92	3	4 (2)
2-6EZ8 (1-5)	4	6.3	36	6	4 (7)
3-6EZ8 (1-5)	4	6.3	36	8	4 (9)
6F5 (7)	2	6.3	40	4-0	2 (0)
6F6 (7)	4	6.3	46	3-4	2 (4)
1-6F7 (7)	2	6.3	78	2-0	1 (0)
2-6F7 (7)	1	6.3	90	4-5	1 (5)
1-6F8 (7-8)	4	6.3	72	3	2 (0)
2-6F8 (4-7)	4	6.3	72	6	2 (5)
6F12 (4)	4	6.3	90	5-7	3 (7)
6F19 (1-3-5)	4	6.3	46	7-8	4 (8)
6F21 (4)	4	6.3	100	5-7	3 (7)
1-6FA7 (5)	4	6.3	90	1-8	4 (8)
2-6FA7 (5)	4	6.3	90	8-9	4 (8)
3-6FA7 (5)	1	6.3	80	3	4-6
6FD6 (4)	2	6.3	40	1-5	3 (1)
6FE5 (7)	4	6.3	30	3-4	2 (4)
1-6FG6 (2-5-6-8)	2	6.3	70	1-9	4 (1)
2-6FG6 (5)	4	6.3	0	2-6-7-8-9	4
3-6FG6 (5)	4	6.3	0	2-6-7-8-9	Eye Closed 4
6FW5 (7)	2	6.3	75	5-8	2 (1)

TUBE	A	B	C	U	D
1-6FW8 (5-8)	4	6.3	48	1	4 (2)
2-6FW8 (3-5)	4	6.3	40	6	4 (7)
1-6G5 (6)	4	6.3	50	2-4	1
2-6G5 (6)	4	6.3	50	4	Eye Closed 1 Eye Open
6G6 (7)	4	6.3	50	3-4	2 (4)
1-6GA7 (8)	2	6.3	78	2-3-7	— (4)
2-6GA7 (2-3-5)	1	6.3	44	1	—
6GB5 (1-2-3-5-8)	4	6.3	28	6-7-0	4
6GC5 (3-5-6)	4	6.3	30	1-8-9	4
1-6GE8 (5-7)	4	6.3	30	6	4
2-6GE8 (2-5)	4	6.3	82	1-9	4 (1)
6GF5 (1-3-4-0)	4	6.3	30	2-7	—
6GK7 (1-3-5)	4	6.3	70	7-8-9	4 (2)
1-6GM8 (3-5)	2	6.3	100	6	4 (7)
2-6GM8 (5-8)	2	6.3	100	1	4 (2)
1-6GV8 (5-8)	4	6.3	78	1	4 (2)
2-6GV8 (3-5)	2	6.3	84	6-7	4 (9)
1-6GY8 (4-7-8)	4	6.3	100	2	5 (1)
2-6GY8 (4-7)	4	6.3	100	9	5 (3)
3-6GY8 (4-8)	4	6.3	100	6	5
6GZ5 (2-4-5)	1	6.3	83	6-7	3 (6)
6H4 (7)	2	6.3	52	4	2
1-6H5 (6)	4	6.3	50	2-4	1
2-6H5 (6)	4	6.3	50	4	Eye Closed 1 Eye Open
1-6H8 (7)	1	6.3	50	5	2-8 Good=40
2-6H8 (7)	1	6.3	50	4	2-8 Good=40
3-6H8 (7)	4	6.3	84	3-6	2 (6)
1-6HC8 (5-8)	4	6.3	36	6-7	4 (7)
2-6HC8 (2-5)	2	6.3	42	1-9	4 (1)
6HM6 (1-3-5)	4	6.3	40	7-8	4 (2)
6HR6 (4)	4	6.3	42	5-6	3 (1)
6HS6 (4)	4	6.3	40	5-6	3 (6)
6HT6 (1-3-5)	4	6.3	40	7-8	4 (2)
1-6HU6 (2-5-6-8)	2	6.3	44	1-9	4 (1)
2-6HU6 (5)	4	6.3	0	2-6-7-8	4
3-6HU6 (5)	4	6.3	0	2-6-7-8	Eye Closed 4
1-6HW8 (5)	4	6.3	73	2-3	4 (6)
2-6HW8 (5)	4	6.3	73	2-8	4 (6)
1-6HZ8 (5-6)	4	6.3	100	3	4 (2)
2-6HZ8 (1-5)	4	6.3	36	8-9	4 (7)
6J4 (1-4-5-6)	4	6.3	64	7	3
6J5 (7)	4	6.3	76	3	2 (5)
1-6J8 (7)	2	6.3	52	3-0	2 (0)
2-6J8 (7)	2	6.3	56	5-6	2 (5)

TUBE	A	B	C	U	D
1-6J9 (3-5)	4	6.3	82	8	4 (7)
2-6J9 (3-5)	4	6.3	82	6	4 (9)
3-6J9 (5-0)	4	6.3	76	1	4 (2)
1-6J10 (8)	4	6.3	32	2-9	— (2)
2-6J10 (3)	4	6.3	80	4-5-6	— (6)
1-6J11 (8)	4	6.3	46	2-3	— (5)
2-6J11 (6)	4	6.3	36	7-9	— (1)
1-6JA8 (5-6)	4	6.3	100	3	4 (2)
2-6JA8 (1-5)	4	6.3	45	8-9	4 (7)
1-6JB8 (5-8)	4	6.3	55	3-6	4 (2)
2-6JB8 (5-7)	4	6.3	60	5	4 (9)
6K5 (7)	2	6.3	44	3-0	2 (0)
6K7 (7)	2	6.3	60	3-0	2 (0)
1-6K8 (7)	4	6.3	46	1-3-4-0	2 (4)
2-6K8 (7)	4	6.3	86	6	2 (5)
1-6KD8 (5-7)	4	6.3	54	1	4 (9)
2-6KD8 (5-8)	4	6.3	51	3-6	4 (2)
1-6KL8 (5)	4	6.3	75	6-7	4 (2)
2-6KL8 (5)	1	6.3	100	8	4
1-6KZ8 (3-5)	4	6.3	44	1	4 (9)
2-6KZ8 (5-8)	4	6.3	53	6-7	4 (2)
6L5 (7)	4	6.3	78	3	2 (5)
1-6L7 (7)	4	6.3	26	0-4	2 (0)
2-6L7 (7)	4	6.3	28	3-0	2 (0)
1-6L12 (5-8)	4	6.3	84	1	4 (2)
2-6L12 (3-5)	4	6.3	84	6	4 (7)
1-6LD12 (3-5)	1	6.3	42	1	4
2-6LD12 (5-7)	1	6.3	42	2	4
3-6LD12 (3-5)	2	6.3	46	8-9	4 (8)
4-6LD12 (3-5)	1	6.3	64	6	4-7
1-6M2 (7)	4	6.3	0	3-5-6	2
2-6M2 (7)	4	6.3	0	5-6	Eyes Closed 2
3-6M2 (7)	4	6.3	0	3-5	Left Eye Open 2 Right Eye Open
6M6 (7)	4	6.3	34	3-4	2 (4)
1-6M11 (4-9)	4	6.3	46	1-3	— (2)
2-6M11 (9-0)	4	6.3	72	6	— (5)
3-6M11 (4-0)	4	6.3	68	7	— (8)
1-6N5 (6)	4	6.3	40	2-4	1
2-6N5 (6)	4	6.3	40	4	Eye Closed 1 Eye Open
1-6N6 (7)	2	6.3	68	4-5	2 (5)
2-6N6 (7)	2	6.3	46	3-5	2-8
1-6N8 (5)	4	6.3	56	1-6	4 (1)
2-6N8 (5)	1	6.3	64	7	3-4
3-6N8 (5)	1	6.3	52	8	3-4
6P5 (7)	4	6.3	76	3	2 (5)
6P15 (1-2-5)	4	6.3	35	7-9	4 (9)
6P17 (4)	4	6.3	48	5-7	3 (7)
6Q4 (1-2-5-7-8)	4	6.3	64	9	4

TUBE		A	B	C	U	D	
1-6Q6	(7)	2	6.3	46	3-0	2	(0)
2-6Q6	(7)	2	6.3	74	4	2-8	
1-6Q7	(7)	2	6.3	48	3-0	2	(0)
2-6Q7	(7)	1	6.3	66	5	2-8	
3-6Q7	(7)	1	6.3	68	4	2-8	
1-6Q11	(3-6)	4	6.3	68	0		(9)
2-6Q11	(3-4)	2	6.3	44	5-7		(7)
3-6Q11	(4-6)	2	6.3	44	1-2		(1)
6R3	(5)	3	6.3	25	2-9	4-0	
6R4	(5)	4	6.3	48	8	4	
6R6	(7)	4	6.3	74	3-5	2	(3)
1-6R7	(7)	2	6.3	46	3-0	2	(0)
2-6R7	(7)	1	6.3	68	4	2-8	
3-6R7	(7)	1	6.3	68	5	2-8	
1-6R8	(5-7)	2	6.3	46	2	4	
2-6R8	(3-5)	1	6.3	44	1	4	
3-6R8	(3-5)	1	6.3	44	6	4	
4-6R8	(3-5)	4	6.3	75	9	4	(8)
6S2	(1-4-6-9)	4	6.3	64	0	2-5-8	
6S7	(7)	2	6.3	54	3-0	2	(0)
1-6S8	(5-8)	2	6.3	46	6-0	7	(0)
2-6S8	(5-8)	1	6.3	66	1	2-7	
3-6S8	(5-8)	1	6.3	70	4	7	
4-6S8	(2-8)	1	6.3	62	3	5-7	
1-6SB7	(7)	4	6.3	40	4	2	
2-6SB7	(7)	4	6.3	38	3-4	2	(4)
6SD7	(7)	4	6.3	50	6-8	2	(6)
6SF5	(8)	4	6.3	44	3-5	7	(3)
1-6SF7	(8)	4	6.3	50	4-6	7	(4)
2-6SF7	(8)	1	6.3	100	5	7	
6SG7	(3-5-7)	4	6.3	58	6-8	2	(6)
6SH7	(3-5-7)	4	6.3	70	6-8	2	(6)
1-6SR7	(8)	4	6.3	26	2-6	7	(2)
2-6SR7	(8)	1	6.3	80	4	3-7	
3-6SR7	(8)	1	6.3	80	5	3-7	
6SS7	(7)	4	6.3	56	6-8	2	(6)
1-6ST7	(8)	4	6.3	73	6	7	(2)
2-6ST7	(8)	1	6.3	74	4	3-7	
3-6ST7	(8)	1	6.3	74	5	3-7	
1-6SU7	(3-8)	2	6.3	48	4-5	7	(4)
2-6SU7	(6-8)	2	6.3	48	1-2	7	(1)
1-6SV7	(8)	4	6.3	88	4-6	7	(4)
2-6SV7	(8)	1	6.3	48	5	7	
1-6SZ7	(8)	2	6.3	48	2-6	7	(2)
2-6SZ7	(8)	1	6.3	96	4	3-7	
3-6SZ7	(8)	1	6.3	96	5	3-7	
6T4	(2-4-6)	4	6.3	42	1-7	3	
6T5	(6)	4	6.3	0	2-4	1	
						Eye Closed	
1-6T9	(9)	3	6.3	30	2-4		(4)
2-6T9	(5)	4	6.3	40	1-0		(8)
1-6T7	(7)	2	6.3	46	3-0	2	(0)
2-6T7	(7)	2	6.3	74	4	2-8	
3-6T7	(7)	2	6.3	74	5	2-8	

TUBE		A	B	C	U	D	
1-6T10	(2)	4	6.3	40	1-0		(8)
2-6T10	(9)	4	6.3	74	5-6-7		(3)
6U3	(5)	3	6.3	28	9	4	
6U4	(8)	3	6.3	28	5	7	
1-6U5	(6)	4	6.3	50	2-4	1	
2-6U5	(6)	4	6.3	50	4	1	
						Eye Closed	
						Eye Open	
6U6	(7)	4	6.3	30	3-4	2	(4)
6U7	(7)	4	6.3	54	3-4	2	(4)
1-6V4	(5)	3	6.3	46	1	4	
2-6V4	(5)	3	6.3	46	7	4	
6V5	(8)	4	6.3	40	3-4	7	(4)
1-6V7	(7)	4	6.3	25	3-0	2	(0)
2-6V7	(7)	1	6.3	86	4	2	
3-6V7	(7)	1	6.3	86	5	2	
1-6V8	(5-8)	1	6.3	40	2	4	
2-6V8	(5-8)	1	6.3	100	9	4	
3-6V8	(5-8)	2	6.3	45	1-6	4	(6)
4-6V8	(3-5)	1	6.3	40	7	4	
6W7	(7)	4	6.3	80	3-4	2	(4)
1-6Y5	(6)	3	6.3	40	3	1	
2-6Y5	(6)	3	6.3	40	5	1	
6Y6	(7)	4	6.3	30	3-4	2	(4)
1-6Y7	(7)	4	6.3	26	3-4	2	(4)
2-6Y7	(7)	4	6.3	26	5-6	2	(5)
6Z3	(4)	3	6.3	40	2	1	
1-6Z4	(5)	3	6.3	43	2	1	
2-6Z4	(5)	3	6.3	43	3	1	
1-6Z5	(2-6)	3	6.3	40	3	1	
2-6Z5	(2-6)	3	6.3	40	5	1	
1-6Z6	(7-8)	3	6.3	38	3	2	
2-6Z6	(4-7)	3	6.3	38	5	2	
1-6Z7	(7)	2	6.3	46	3-4	2	(4)
2-6Z7	(7)	2	6.3	46	5-6	2	(5)
1-6ZY5	(7)	3	6.3	46	3	2	
2-6ZY5	(7)	3	6.3	46	5	2	
7A4	(8)	4	6.3	70	2	1	(6)
7A5	(8)	4	6.3	32	2-3	1	(3)
1-7A6	(7-8)	2	6.3	54	3	1	
2-7A6	(2-8)	2	6.3	54	6	1	
7A7	(8)	4	7.5	54	2-3	1	(3)
1-7A8	(8)	4	7.5	45	2-5	1	(5)
2-7A8	(8)	2	7.5	50	3-4	1	(4)
7AD7	(8)	4	7.5	40	2-3	1	(3)
1-7AF7	(7-8)	4	7.5	68	3	1	(4)
2-7AF7	(2-8)	4	7.5	68	6	1	(5)
7AG7	(8)	4	6.3	100	2-3	1	(3)
7AH7	(8)	4	6.3	92	2-3	1	(3)
7AK7	(8)	4	6.3	38	2-3	1	(3)
1-7AN7	(1-5-7-8)	4	7.5	44	9	4	(6)
2-7AN7	(5-7-8)	4	7.5	40	3	4	(2)

TUBE		A	B	C	U	D	
1-7AU7	(4-5-8)	4	3	28	1-2	9	(2)
2-7AU7	(3-4-5)	4	3	28	6-7	9	(7)
7B4	(8)	2	6.3	74	2-8	1	(6)
7B5	(8)	4	6.3	42	2-3	1	(3)
1-7B6	(4-7-8)	2	6.3	46	2-3	1	(3)
2-7B6	(4-7-8)	1	6.3	100	5	1	
3-7B6	(4-7-8)	1	6.3	100	6	1	
7B7	(8)	4	6.3	62	2-3	1	(3)
1-7B8	(8)	4	6.3	46	2-5	1	(5)
2-7B8	(8)	2	6.3	44	3-4	1	(4)
7C4	(8)	3	6.3	72	4	1	
1-7C6	(4-7-8)	2	6.3	52	2-3	1	(3)
2-7C6	(8)	1	6.3	60	5	1-4-7	
3-7C6	(8)	1	6.3	80	6	1-4-7	
7C7	(8)	4	6.3	78	2-3	1	(3)
7D9	(4)	4	6.3	48	5-7	3	(7)
1-7DJ8	(5-8)	4	7.5	40	1	4	(2)
2-7DJ8	(3-5)	4	7.5	40	6	4	(7)
7E5	(1-4-5-6-8)	4	6.3	94	3-7	2	
1-7E6	(4-7-8)	2	6.3	50	2-3	1	(3)
2-7E6	(4-7-8)	1	6.3	100	5	1	
3-7E6	(4-7-8)	1	6.3	100	6	1	
1-7E7	(8)	2	6.3	52	3	1-7	
2-7E7	(8)	2	6.3	52	4	1-7	
3-7E7	(8)	4	6.3	60	2-5	1	(5)
7EY6	(7)	4	7.5	34	3-4	2	(4)
1-7F8	(5-7)	2	6.3	42	1-3	2	(1)
2-7F8	(4-7)	2	6.3	42	6-8	2	(8)
1-7FC7	(1-5-7-8)	4	7.5	36	9	4	(6)
2-7FC7	(5-7-8)	4	7.5	30	3	4	(2)
7G7	(8)	4	7.5	50	2-3	1	(3)
7H7	(8)	4	6.3	58	2-3	1	(3)
1-7HG8	(1-3-5)	4	7.5	38	7	4	
2-7HG8	(1-3-5)	4	7.5	48	8-9	4	(2)
1-7J7	(8)	2	6.3	52	3-4	1	(4)
2-7J7	(8)	4	6.3	64	2-5	1	(5)
3-7J7	(8)	2	6.3	42	5-6	1	(6)
1-7K7	(7-8)	2	6.3	48	3-4	1	(4)
2-7K7	(2-8)	1	6.3	75	5	1-7	
3-7K7	(2-8)	1	6.3	75	6	1-7	
7L7	(8)	4	6.3	70	2-3	1	(3)
1-7Q7	(8)	4	7.5	44	2-3	1	(3)
2-7Q7	(8)	2	7.5	42	3-4	1	(4)
1-7R7	(8)	1	6.3	82	3	1-7	
2-7R7	(8)	1	6.3	82	4	1-7	
3-7R7	(8)	4	6.3	72	2-5	1	(5)
1-7S7	(8)	2	6.3	62	3-4	1	(4)
2-7S7	(8)	4	6.3	82	2-5	1	(5)
3-7S7	(8)	2	6.3	46	5-6	1	(6)
7T7	(8)	4	6.3	62	2-3	1	(3)
7V7	(8)	4	6.3	52	2-3	1	(3)
7W7	(4-7-8)	4	7.5	50	2-3	1	(3)

6Q6-7W7

7X6-12J7

TUBE		A	B	C	U	D
1-7X6 (7-8)	3	6.3	30	3	1	
2-7X6 (2-8)	3	6.3	30	6	1	
1-7X7 (7-8)	2	6.3	56	2-3	1	(3)
2-7X7 (7-8)	1	6.3	100	5	1	
3-7X7 (4-8)	1	6.3	100	6	1	
1-7Y4 (8)	3	6.3	43	3	1	
2-7Y4 (8)	3	6.3	43	6	1	
1-7Z4 (8)	3	6.3	58	3	1	
2-7Z4 (8)	3	6.3	58	6	1	
1-8A8 (5-8)	4	7.5	68	3-6	4	(3)
2-8A8 (5-7)	4	7.5	46	1	4	(9)
8BQ5 (1-2-5)	4	7.5	36	7-9	4	(9)
1-8CN7 (4-5-6)	1	4.2	38	2	9	
2-8CN7 (4-5-6)	1	4.2	38	1	9	
3-8CN7 (3-4-5)	2	4.2	42	7-8	9	(7)
8D3 (4)	4	6.3	90	5-7	3	(7)
1-8SN7 (6-8)	4	7.5	28	1-2	7	(1)
2-8SN7 (3-8)	4	7.5	28	4-5	7	(4)
9AB4 (4)	2	7.5	44	1-6	3	(6)
1-9AK8 (3-5)	2	7.5	46	8-9	4	(8)
2-9AK8 (3-5)	1	7.5	100	6	4	
3-9AK8 (3-5)	1	7.5	46	1	4	
4-9AK8 (5-7)	1	7.5	46	2	4	
1-9AQ8 (3-5)	4	7.5	88	6	4	(7)
2-9AQ8 (5-8)	4	7.5	100	1	4	(2)
1-9CG8 (3-5-8)	1	7.5	46	1-2	4	(1)
2-9CG8 (3-5-8)	2	7.5	42	6-9	4	(9)
9D6 (4)	4	6.3	100	5-7	3	(7)
1-9DZ8 (5-8)	4	7.5	32	6-7	4	(7)
2-9DZ8 (2-5)	2	7.5	80	1-9	4	(1)
1-9U8 (5-8)	4	7.5	60	3-6	4	(3)
2-9U8 (5-7)	4	7.5	62	1	4	(9)
10 (4)	4	7.5	50	2	1	
1-10C8 (5-9)	4	12.6	90	1	4	(2)
2-10C8 (3-5)	4	12.6	48	6-7	4	(7)
1-10EW7 (2-3-5-8)	4	7.5	28	1	4	
2-10EW7 (2-3-5-9)	4	7.5	64	6	4	
1-10GF7 (1-5)	2	7.5	90	6	4	(2)
2-10GF7 (3-5)	2	7.5	48	8-9	4	(9)
1-10L14 (3-5)	4	2.5	88	6	4	(7)
2-10L14 (5-8)	4	2.5	88	1	4	(2)
1-10LD12 (3-5)	1	3.2	30	1	4-7	
2-10LD12 (5-7)	1	3.2	30	2	3-4	
3-10LD12 (3-5)	4	3.2	28	8-9	4	(8)
4-10LD12 (3-5)	1	3.2	72	6	4-7	
12A (4)	4	5	42	2	1	
12A4 (2-4-5-7)	4	6.3	40	9	3	
12A5 (1-7)	4	6.3	36	2-3	6	(3)
12A6 (7)	4	12.6	52	3-4	2	(4)
1-12A7 (4-7)	2	12.6	86	2-0	1	(0)
2-12A7 (6-7)	3	12.6	46	5	1	
1-12A8 (7)	4	12.6	54	3-4	2	(4)
2-12A8 (7)	2	12.6	68	5-6	2	(5)

TUBE		A	B	C	U	D
12AS5 (2-4-5)	4	12.6	32	6-7	3	(6)
1-12AV6 (4)	2	12.6	56	1-7	3	(1)
2-12AV6 (4)	1	12.6	56	5	2-3	
3-12AV6 (4)	1	12.6	56	6	2-3	
12AW6 (4)	4	12.6	76	5-6	3	(6)
12B7 (8)	4	12.6	54	2-3	1	(3)
1-12B8 (6-7)	2	12.6	62	3-0	2	(0)
2-12B8 (1-7)	2	12.6	52	5-8	2	(8)
1-12BF6 (4)	4	12.6	82	7	3	(1)
2-12BF6 (4)	1	12.6	50	5	2-3	
3-12BF6 (4)	1	12.6	70	6	2-3	
12BN6 (4)	4	12.6	68	5-7	3	(5)
12BS3 (5)	3	12.6	34	2-7	4	
12BV7 (3-4-5-9)	4	6.3	44	7-8	6	(8)
1-12BW4 (5)	3	12.6	74	7	4	
2-12BW4 (5)	3	12.6	74	1	4	
12BZ6 (4)	4	12.6	48	5-6	3	(6)
1-12C8 (7)	4	12.6	74	3-6	2	(6)
2-12C8 (7)	1	12.6	100	4	2-8	
3-12C8 (7)	1	12.6	100	5	2-8	
12CN5 (2-4-5)	2	12.6	100	6-7	3	(6)
1-12CR6 (4)	4	12.6	52	5-6	3	(6)
2-12CR6 (4)	1	12.6	46	2	1-3	
12CS6 (4)	2	12.6	60	1-5-6	3	(1)
1-12CT8 (5-9)	4	12.6	84	1	4	(2)
2-12CT8 (3-5)	4	12.6	40	6-7	4	(7)
12CU6 (7)	4	12.6	31	4-0	2	(4)
12CX6 (4)	2	12.6	50	1-5	3	(1)
1-12DE8 (5-9)	1	12.6	68	3	4	
2-12DE8 (2-5)	2	12.6	52	1-6	4	(1)
1-12DF7 (4-5-8)	2	6.3	44	1-2	9	(2)
2-12DF7 (3-4-5)	2	6.3	44	6-7	9	(7)
1-12DJ8 (5-8)	4	12.6	40	1	4	(2)
2-12DJ8 (3-5)	4	12.6	40	6	4	(7)
12DK6 (4)	4	12.6	54	5-6	3	(6)
1-12DK7 (1-5-8)	2	12.6	68	3-7	4	(3)
2-12DK7 (1-5-8)	1	12.6	66	6	2-4	
3-12DK7 (1-5-8)	1	12.6	100	9	2-4	
12DM4 (8)	4	12.6	25	5	7	
1-12DM7 (4-5-8)	2	6.3	46	1-2	9	(2)
2-12DM7 (3-4-5)	2	6.3	46	6-7	9	(7)
12DQ4 (8)	4	12.6	26	5	7	
1-12DT7 (4-5-8)	2	6.3	46	1-2	9	(2)
2-12DT7 (3-4-5)	2	6.3	46	6-7	9	(7)
1-12DU7 (5)	2	12.6	62	3-6	4	(3)
2-12DU7 (5)	1	12.6	100	7	2-4	
3-12DU7 (5)	1	12.6	100	9	2-4	
1-12DV7 (4-5-8)	1	6.3	100	2	1-9	
2-12DV7 (4-5-8)	1	6.3	100	3	1-9	
3-12DV7 (1-4-5)	2	6.3	48	6-7	9	(7)
1-12DV8 (5-8)	4	12.6	78	6-7	4	(7)
2-12DV8 (2-5)	1	12.6	50	1	4-8	

TUBE		A	B	C	U	D
1-12DW7 (4-5-8)	4	6.3	68	1	9	(2)
2-12DW7 (3-4-5)	2	6.3	40	6-7	9	(7)
1-12DW8 (5-8)	2	12.6	66	1	4	(2)
2-12DW8 (3-5)	1	12.6	100	6	4	(7)
3-12DW8 (3-5)	1	12.6	72	9	4	
1-12DY8 (5-7)	2	12.6	70	3-6	4	(3)
2-12DY8 (2-5)	2	12.6	54	8-9	4	(9)
12E5 (7)	4	12.6	76	3	2	(5)
1-12EC6 (4)	2	12.6	54	1-6	3	(1)
2-12EC6 (4)	2	12.6	54	1-5-6	3	(1)
1-12EC8 (5-8)	2	12.6	48	1-2	4	(1)
2-12EC8 (3-5)	2	12.6	46	6-9	4	(9)
12EH5 (2-4-5)	4	12.6	32	6-7	3	(6)
1-12EL6 (4)	2	12.6	56	1-2	3	(1)
2-12EL6 (4)	1	12.6	60	5	3-7	
3-12EL6 (4)	1	12.6	76	6	3-7	
1-12EM6 (5)	2	12.6	80	3-6	4	(3)
2-12EM6 (5)	1	12.6	78	9	2-4	
12EZ6 (4)	2	12.6	48	1-5	3	(1)
12F5 (7)	2	12.6	56	4-0	2	(0)
12FA6 (4)	2	12.6	50	1-5-6	3	(1)
1-12FK6 (4)	2	12.6	52	1-7	3	(1)
2-12FK6 (4)	1	12.6	66	5	2-3	
3-12FK6 (4)	1	12.6	53	6	2-3	
1-12FM6 (4)	2	12.6	52	1-7	3	(1)
2-12FM6 (4)	1	12.6	66	5	2-3	
3-12FM6 (4)	1	12.6	86	6	2-3	
1-12FQ8 (5)	2	12.6	56	1-2	4	(2)
2-12FQ8 (5)	2	12.6	56	2-3	4	(2)
3-12FQ8 (5)	2	12.6	56	6-7	4	(7)
4-12FQ8 (5)	2	12.6	56	7-8	4	(7)
1-12FR8 (2-5)	2	12.6	92	6-7	4	(6)
2-12FR8 (5)	2	12.6	52	1-9	4	(1)
3-12FR8 (5)	1	12.6	74	8	2-4	
12FU6 (4)	4	12.6	36	5-6	3	(6)
1-12FV7 (5-8-9)	4	12.6	31	1	4	(2)
2-12FV7 (3-4-9)	4	12.6	31	6	5	(7)
12FX5 (2-4-5)	4	12.6	31	6-7	3	
1-12FX8 (5)	4	12.6	28	1-3	4	(1)
2-12FX8 (5-7)	4	12.6	43	8	4	(6)
1-12G8 (4-5-7)	2	6.3	36	1-3	9	(3)
2-12G8 (2-4-5)	2	6.3	36	6-8	9	(8)
1-12GA6 (4)	2	12.6	52	1-5	3	(1)
2-12GA6 (4)	1	12.6	100	5-6	3	(6)
12GW6 (7)	4	12.6	30	4-0	2	(4)
1-12H6 (7-8)	3	12.6	86	3	2	
2-12H6 (4-7)	3	12.6	86	5	2	
1-12HK6 (4)	2	12.6	56	1-7	3	(1)
2-12HK6 (4)	1	12.6	56	5	2-3	
3-12HK6 (4)	1	12.6	56	6	2-3	
12J5 (7)	4	12.6	66	3	2	(5)

TUBE	A	B	C	U	D
1-12J8 (5-7)	2	12.6	60	3-6	4 (3)
2-12J8 (2-5)	1	12.6	64	8	4
3-12J8 (2-5))	1	12.6	64	9	4
1-12K8 (7)	4	12.6	56	3-4	2 (4)
2-12K8 (7)	4	12.6	70	6	2 (5)
1-12KLB (5)	4	12.6	76	6-7	4 (2)
2-12KLB (5)	1	12.6	50	8	4
				Good=35	
1-12L8 (7)	4	12.6	44	4-5	6 (5)
2-12L8 (7)	4	12.6	44	5-8	6 (5)
1-12Q7 (7)	2	12.6	60	3-0	2 (0)
2-12Q7 (7)	1	12.6	54	4	2-8
3-12Q7 (7)	1	12.6	54	5	2-8
12R5 (2-4-5)	4	12.6	30	6-7	3 (6)
1-12S8 (5-8)	2	12.6	62	6-0	7 (0)
2-12S8 (5-8)	1	12.6	62	1	2-7
3-12S8 (5-8)	1	12.6	62	4	2-7
4-12S8 (2-8)	1	12.6	64	3	5-7
1-12SC7 (8)	2	12.6	68	2-3	7 (3)
2-12SC7 (8)	2	12.6	68	4-5	7 (4)
12SF5 (8)	2	12.6	60	3-5	7 (3)
1-12SF7 (8)	4	12.6	53	4-6	7 (4)
2-12SF7 (8)	1	12.6	74	5	3-7
12SG7 (3-5-7)	4	12.6	54	6-8	2 (6)
12SH7 (3-5-7)	4	12.6	70	6-8	2 (6)
1-12SQ7 (8)	2	12.6	62	2-6	7 (2)
2-12SQ7 (8)	1	12.6	56	4	3-7
3-12SQ7 (8)	1	12.6	48	5	3-7
1-12SR7 (8)	4	12.6	82	6	7 (2)
2-12SR7 (8)	1	12.6	100	4	3-7
3-12SR7 (8)	1	12.6	70	5	3-7
1-12SW7 (8)	2	12.6	68	2-6	7 (2)
2-12SW7 (8)	1	12.6	66	4	3-7
3-12SW7 (8)	1	12.6	66	5	3-7
1-12SX7 (6-8)	4	12.6	80	2	7 (1)
2-12SX7 (3-8)	4	12.6	74	5	7 (4)
1-12SY7 (7)	4	12.6	48	3-4	2 (4)
2-12SY7 (7)	2	12.6	58	5-8	2 (5)
12X3 (4)	4	12.6	40	0	1
12Z3 (4)	3	12.6	42	2	1
1-12Z5 (2-6)	3	6.3	40	3	1
2-12Z5 (2-6)	3	6.3	40	5	1
1-13 (4)	3	5	48	2	1
2-13 (4)	3	5	54	3	1
1-13D2 (6-8)	4	6.3	72	2	7 (1)
2-13D2 (3-8)	4	6.3	72	5	7 (4)
1-13J10 (8)	4	12.6	34	2-9	— (2)
2-13J10 (3)	4	12.6	80	4-5-6	— (6)
14A4 (8)	4	12.6	76	2	1 (6)
14A5 (8)	4	12.6	48	2-3	1 (3)
14A7 (8)	4	12.6	52	2-3	1 (3)
1-14AF7 (7-8)	4	12.6	70	3	1 (4)
2-14AF7 (2-8)	4	12.6	70	6	1 (5)

TUBE	A	B	C	U	D
1-14B6 (4-7-8)	2	12.6	60	2-3	1 (3)
2-14B6 (8)	1	12.6	88	5	1-4-7
3-14B6 (8)	1	12.6	88	6	1-4-7
1-14B8 (8)	4	12.6	46	2-5	1 (5)
2-14B8 (8)	2	12.6	56	3-4	1 (4)
14C5 (8)	4	12.6	44	2-3	1 (3)
14C7 (8)	4	12.6	78	2-3	1 (3)
1-14E6 (8)	4	12.6	40	2	1-4-7 (3)
2-14E6 (8)	1	12.6	68	5	1-4-7
3-14E6 (8)	1	12.6	68	6	1-4-7
1-14E7 (8)	1	12.6	100	3	1-7
2-14E7 (8)	1	12.6	100	4	1-7
3-14E7 (8)	4	12.8	65	2-5	1 (5)
1-14F7 (7-8)	4	12.6	65	3-4	1 (4)
2-14F7 (2-8)	4	12.6	65	5-6	1 (5)
1-14F8 (5-7)	4	12.6	26	1-3	2 (1)
2-14F8 (4-7)	4	12.6	26	6-8	2 (8)
1-14GT8 (1-5-7)	1	12.6	66	2	4
2-14GT8 (3-5-7)	1	12.6	66	6	4
3-14GT8 (1-3-5)	2	12.6	62	8-9	4 (8)
14H7 (8)	4	12.6	54	2-3	1 (3)
1-14J7 (8)	2	12.6	72	3-4	1 (4)
2-14J7 (8)	2	12.6	54	2-6	1 (6)
1-14JG8 (1-5-7)	1	12.6	72	2	4
2-14JG8 (3-5-7)	1	12.6	72	6	4
3-14JG8 (1-3-5)	2	12.6	60	8-9	4 (8)
1-14N7 (7-8)	4	12.6	76	3	1 (4)
2-14N7 (2-8)	4	12.6	76	6	1 (5)
1-14Q7 (8)	4	12.6	42	2-3	1 (3)
2-14Q7 (8)	2	12.6	50	3-4	1 (4)
1-14R7 (8)	2	12.6	54	2-6	1 (6)
2-14R7 (8)	1	12.6	56	4	1-7
3-14R7 (8)	1	12.6	56	3	1-7
1-14S7 (8)	2	12.6	82	3-4	1 (4)
2-14S7 (8)	2	12.6	54	2-6	1 (6)
14W7 (4-7-8)	4	12.6	54	2-3	1 (3)
1-14X7 (7-8)	2	12.6	68	2-3	1 (3)
2-14X7 (7-8)	1	12.6	70	5	1
3-14X7 (4-8)	1	12.6	70	6	1
1-14Y4 (8)	3	12.6	58	3	1
2-14Y4 (8)	3	12.6	58	6	1
15 (5)	2	2	60	2-0	1 (0)
15A6 (5)	4	12.6	44	1-7	4 (1)
1-15DQ8 (3-5)	4	12.6	56	6-9	4 (9)
2-15DQ8 (5-7)	4	12.6	24	1-2	4 (1)
15EW6 (4)	4	12.6	50	5-6	3 (6)
16A5 (5)	4	19.6	32	7-9	4 (9)
1-16A8 (5-8)	4	19.6	32	6-7	4 (7)
2-16A8 (2-5)	3	19.6	24	1-9	4 (1)
16BK6 (3-5-9)	4	12.6	38	7-8	4 (8)
16GY5 (4-5-9-0)	4	12.6	29	1-3-7	—
17 (5)	4	12.6	82	2	1 (3)
17AV5 (7)	4	19.6	30	5-8	2 (8)

TUBE	A	B	C	U	D
17C5 (2-4-5)	4	19.6	34	6-7	3 (6)
1-17C8 (5)	4	19.6	52	1-6	4 (1)
2-17C8 (5)	1	19.6	50	7	3-4
3-17C8 (5)	1	19.6	62	8	3-4
1-17EW8 (5-8)	4	19.6	74	1	4 (2)
2-17EW8 (3-5)	4	19.6	74	6	4 (7)
1-17HC8 (5-8)	4	19.6	34	6-7	4 (7)
2-17HC8 (2-5)	2	19.6	68	1-9	4 (1)
17L6 (7)	4	19.6	30	3-4	2 (4)
17R5 (2-4-5)	4	19.6	30	6-7	3 (6)
17W6 (7)	4	19.6	32	3-4	2 (4)
17Z3 (5)	3	19.6	50	2-9	4
18 (6)	2	12.6	58	2-4	1 (4)
18A5 (7)	4	19.6	32	5-8	2 (8)
18AQ5 (1-4-7)	4	19.6	42	5-6	3 (6)
1-18C51 (8-9)	4	19.6	68	4	1 (3)
2-18C51 (2-9)	4	19.6	68	6	1 (7)
1-18DZ8 (5-8)	4	19.6	32	6-7	4 (7)
2-18DZ8 (2-5)	2	19.6	80	1-9	4 (1)
1-18HB8 (5-8)	4	19.6	100	3	4 (1)
2-18HB8 (2-5)	4	19.6	33	6-7	4 (9)
1-19 (6)	4	2	28	2-3	1 (3)
2-19 (6)	4	2	28	4-5	1 (4)
1-19BR5 (3-5-8-9)	2	19.6	100	1-7	4 (1)
2-19BR5 (5)	4	19.6	0	3-7-8-9	4
				Eye Open	4
3-19BR5 (5)	4	19.6	0	3-8-9	Eye Closed
					4
1-19C8 (5-7)	2	19.6	90	2	4
2-19C8 (3-5)	2	19.6	94	8-9	4 (8)
3-19C8 (3-5)	2	19.6	86	6	4
4-19C8 (3-5)	2	19.6	86	1	4
1-19D8 (5)	4	19.6	58	1	4
2-19D8 (5)	4	19.6	54	1-6	4 (1)
3-19D8 (5)	4	19.6	68	8	4 (9)
1-19HV8 (5-8)	2	19.6	100	1-2	4 (1)
2-19HV8 (3-5)	4	19.6	50	6-7	4 (7)
1-19J6 (4)	4	19.6	80	1	3 (6)
2-19J6 (4)	4	19.6	68	2	3 (5)
1-19KG8 (5-8)	4	19.6	57	1	4 (2)
2-19KG8 (3-5)	4	19.6	78	6	4-8 (9)
1-19V8 (5-8)	1	19.6	62	9	3-4
2-19V8 (5-8)	1	19.6	30	2	3-4
3-19V8 (5-8)	2	19.6	94	1-6	4 (6)
4-19V8 (3-5)	2	19.6	76	7	4
19X3 (5)	3	19.6	46	9	4
20 (4)	1	3	52	2-3	1
1-20EQ7 (5)	4	19.6	60	6-7	4 (6)
2-20EQ7 (5)	1	19.6	100	8	3-4
21A6 (1-5-6-9)	4	19.6	30	7-8-0	4
21EX6 (7)	4	25	28	8-0	2 (8)
22 (4)	4	3	80	2-3	1 (3)
24A (5)	4	2.5	78	2-3	1 (3)
25A6 (7)	4	25	34	3-4	2 (4)

12J8-25A6

25A7-85A2

TUBE		A	B	C	U	D	
1-25A7	(1-7)	4	25	36	3-4	2	(4)
2-25A7	(7-8)	2	25	32	6	1-2	
25AC5	(7)	4	25	28	3-5	2	(5)
1-25B5	(6)	2	25	65	3-4	1-5	(4)
2-25B5	(6)	2	25	34	2	1-5	
25B6	(7)	4	25	30	3-4	2	(4)
1-25B8	(6-7)	4	25	60	3-4	2	(4)
2-25B8	(1-7)	4	25	28	5-8	2	(8)
25C6	(7)	4	25	30	3-4	2	(4)
25DK4	(4-6)	3	25	94	5	3	
25DQ6	(7)	4	25	30	4-0	2	(4)
25E5	(3-7-8)	4	25	30	1-4-0	2	(5)
25F5	(2-3-5)	4	25	38	6-7	4	(6)
25N6	(7)	2	25	34	3	2-8	
1-25S	(6)	2	2	54	2-5	1	(5)
2-25S	(6)	1	2	100	3	1	
3-25S	(6)	1	2	100	4	1	
25W4	(8)	3	25	90	5	7	
25W6	(7)	4	25	32	3-4	2	(4)
1-25Y5	(4-6)	4	25	27	2	1	
2-25Y5	(3-6)	4	25	27	5	1	
1-25Z5	(4-6)	3	25	84	2	1	
2-25Z5	(3-6)	3	25	85	5	1	
1-25Z6	(7-8)	3	25	90	3	2	
2-25Z6	(4-7)	3	25	90	5	2	
26	(4)	4	1.4	48	2-3	1	(3)
26A6	(4)	4	25	48	5-6	3	(6)
1-26A7	(7)	4	32	100	4	6	(3)
2-26A7	(7)	4	32	100	8	6	(1)
1-26C6	(4)	4	25	88	7	3	(1)
2-26C6	(4)	1	25	100	5	2-3	
3-26C6	(4)	1	25	100	6	2-3	
1-26D6	(4)	4	25	62	5-6	3	(6)
2-26D6	(4)	4	25	64	6	3	
1-26Z5	(4-5-8)	3	12.6	46	1	9	
2-26Z5	(3-4-5)	3	12.6	46	6	9	
27	(5)	2	2.5	52	2-3	1	(3)
1-28AK8	(3-5)	1	32	30	1	4-7	
2-28AK8	(5-7)	1	32	30	2	3-4	
3-28AK8	(3-5)	4	32	28	8-9	4	(8)
4-28AK8	(3-5)	1	32	72	6	4-7	
1-28D7	(8)	4	25	30	3-4	1	(3)
2-28D7	(8)	4	25	30	3-5	1	(3)
1-29	(6)	2	2.5	52	2-3	1	(3)
2-29	(6)	2	2.5	52	2-4	1	(4)
29GK6	(3-5-9)	4	32	40	7-8	4	(8)
30	(4)	2	2	46	2-3	1	(3)
30A5	(2-4-5)	4	32	26	7	1-3	
1-30C1	(5-8)	4	7.5	68	3-6	4	(3)
2-30C1	(5-7)	4	7.5	48	1	4	(9)
1-30L1	(1-5-7-8)	4	7.5	44	9	4	(6)
2-30L1	(5-7-8)	4	7.5	40	3	4	(2)
30P16	(5)	4	19.6	32	7-8	4	(9)

TUBE		A	B	C	U	D	
31	(4)	2	2	52	2-3	1	(3)
32	(4)	4	2	78	2-3	1	(3)
1-32L7	(1-7)	4	32	33	3-4	2	(4)
2-32L7	(7-8)	4	32	26	6	2	
33	(5)	4	2	40	2-4	1	(4)
1-33GY7	(7-9-0)	1	12.6	57	2	—	
2-33GY7	(4-9-0)	4	12.6	30	1-5	7	
34	(4)	4	2	62	2-3	1	(3)
35	(5)	4	2.5	56	2-3	1	(3)
35A5	(8)	4	32	35	2-3	1	(3)
35B5	(1-4-7)	4	32	35	5-6	3	(6)
1-35DZ8	(5-8)	4	32	32	6-7	4	(7)
2-35DZ8	(2-5)	4	32	30	1-9	4	(1)
1-35HB8	(5-8)	4	32	100	3	4	
2-35HB8	(2-5)	4	32	34	6-7	4	Good=32 (6)
35T	(4)	4	6.3	26	0	1	
Tie Top Cap and Side Pin Together							
35TG	(4)	4	6.3	26	0	1	
Tie Top Cap and Side Pin Together							
35Z3	(8)	4	35	28	2	1	
35Z4	(7)	3	32	22	5	2-8	
36	(5)	4	6.3	74	2-3	1	(3)
37	(5)	4	6.3	54	2-3	1	(3)
38	(5)	4	6.3	48	2-3	1	(3)
38A3	(5)	4	32	28	1-6-9	4	
39	(5)	4	6.3	64	2-3	1	(3)
40	(4)	2	5	48	2-3	1	(3)
40Z5	(2-3)	3	50	46	5	7	
41	(6)	4	6.3	44	2-3	1	(3)
42	(8)	4	6.3	46	2-3	1	(3)
43	(6)	4	25	35	2-3	1	(3)
44	(5)	4	6.3	64	2-3	1	(3)
45	(4)	4	2.5	38	2	1	
45B5	(1-2-5)	4	50	36	6-7-8-9	4	
45Z3	(7)	3	50	48	2-6	1	
45Z5	(2-3)	3	50	46	5	7	
46	(5)	4	2.5	36	2-4	1	(4)
47	(5)	4	2.5	40	2-4	1	(4)
48	(6)	4	32	30	2-3	1	(3)
49	(5)	2	2	54	2-3	1	(3)
50	(4)	4	7.5	36	2	1	
50A5	(8)	4	50	34	2-3	1	(3)
1-50BM8	(5-8)	4	50	38	6-7	4	(7)
2-50BM8	(2-5)	4	50	30	1-9	4	(1)
50C6	(7)	4	50	34	3-4	2	(4)
50CD6	(7)	4	50	30	8-0	2	(8)
50FK5	(2-4-5)	4	50	42	6-7	3	(6)
50HC6	(4-6)	4	50	34	5-7	3	
1-50X6	(7-8)	3	50	52	3	1	
2-50X6	(2-8)	3	50	52	6	1	

TUBE		A	B	C	U	D	
1-50Y6	(7-8)	3	50	52	3	2	
2-50Y6	(4-7)	3	50	52	5	2	
1-50Y7	(6-7-8)	3	50	50	3	2	
2-50Y7	(4-6-7)	3	50	50	5	2	
1-50Z7	(6-8)	1	50	76	3	2	
2-50Z7	(4-6-7)	1	50	76	5	2	
1-51ARC	(7)	4	2.5	60	3-5	2	(5)
2-51ARC	(5)	4	2.5	56	2-3	1	(3)
52	(5)	4	6.3	100	2	1	(3)
1-53	(7)	2	2.5	46	2-3	1	(3)
2-53	(7)	2	2.5	46	5-6	1	(5)
1-55	(6)	4	2.5	64	2	1	
2-55	(6)	1	2.5	70	3	1	
3-55	(6)	1	2.5	70	4	1	
56	(5)	2	2.5	42	2-3	1	(3)
57	(6)	4	2.5	92	2-3	1	(3)
58	(6)	4	2.5	54	2-3	1	(3)
59	(7)	4	2.5	44	2-3	1	(3)
60FX5	(2-4-5)	4	70	40	6-7	3	(6)
1-70A7	(2)	4	70	38	3-4	1-6-7	(4)
2-70A7	—	3	70	20	—	1-6-7	
Allow tube to warm up, return levers 6 & 7 to "U" position. Good tube will kick to 70.							
1-70L7	(7)	3	70	24	8	2	
2-70L7	(7)	4	70	38	3-4	2	(4)
71A	(4)	2	5	76	2	1	(3)
72	(4)	4	2.5	36	0	1	
73	(7)	1	2.5	70	0	2	
1-75	(6)	2	6.3	46	2-0	1	(0)
2-75	(6)	1	6.3	90	3	1	
3-75	(6)	1	6.3	90	4	1	
75C1	(2-4-7)	4	0.63	28	1-3-5	Gas Test	
76	(5)	2	6.3	50	2-3	1	(3)
77	(6)	4	6.3	88	2-3	1	(3)
78	(6)	4	6.3	60	2-3	1	(3)
1-79	(6)	4	6.3	28	2-3	1	(3)
2-79	(6)	4	6.3	28	5-0	1	(0)
1-80	(4)	3	5	48	2	1	
2-80	(4)	3	5	54	3	1	
81	(4)	3	7.5	88	2	1	
1-82	(4)	3	2.5	35	2	1	
2-82	(4)	3	2.5	35	3	1	
1-83	(4)	4	6.3	26	2	1	
2-83	(4)	4	6.3	26	3	1	
1-83V	(4)	3	5	30	2	1	
2-83V	(4)	3	5	30	3	1	
1-84	(5)	3	6.3	43	2	1	
2-84	(5)	3	6.3	43	3	1	
1-85	(6)	2	6.3	56	2-0	1	(0)
2-85	(6)	1	6.3	64	3	1-5	
3-85	(6)	1	6.3	64	4	1-5	
85A1	(4-8)	4	Off	50	2	Gas Test	
85A2	(2-4-7)	4	Off	24	1-2-5	Gas Test	

TUBE		A	B	C	U	D
1-85AS	(6)	4	6.3	100	2	1 (0)
2-85AS	(6)	1	6.3	90	3	1-5
3-85AS	(6)	1	6.3	70	4	1-5
89	(6)	4	6.3	46	2-3	1 (3)
90C1	(2-4-7)	4	0.63	28	1-3-5	Gas Test
99	(4)	4	3	100	2	1
100TH	(4)	4	6.3	26	0	1
Tie Side Pin and Top Cap Together						
108C1	(2-4-7)	4	0.63	50	1-5	Gas Test
1-117L7	(7)	4	110	50	3-5	2 (5)
2-117L7	(7)	1	110	14	6	2
1-117M7	(7)	4	110	50	3-5	2 (5)
2-117M7	(7)	1	110	14	6	2
1-117N7	(2)	4	110	50	3-5	7-8 (5)
2-117N7	(2)	3	110	15	—	7-8
(Allow tube to heat up. Return lever 7 to "U" position. Press value switch. Good tube will kick to 70.)						
1-117P7	(2)	4	110	50	3-5	7-8 (5)
2-117P7	(2)	3	110	16	—	7-8
(Allow tube to heat up. Return lever 7 to "U" position. Press value switch. Good tube will kick to 70.)						
117Z3	(4)	3	110	22	5	3-6
117Z4	(7)	3	110	14	5	2
1-117Z6	(7)	3	110	22	3	2-4
2-117Z6	(7)	3	110	22	5	2-8
120	(4)	1	3	52	2-3	1
130ARC	(4)	4	2.5	72	2	1
150C2	(2-4-7)	4	Off	48	1-5	—
171A	(4)	4	5	34	2	1
182B	(4)	4	5	38	2	1
183	(4)	4	5	38	2	1
210	(4)	4	7.5	50	2	1
1-213	(4)	3	5	48	2	1
2-213	(4)	3	5	54	3	1
224	(5)	4	2.5	78	2-3	1 (3)
226	(4)	4	2.5	58	2	1
227	(5)	4	2.5	56	2	1
230	(4)	2	2	46	2-3	1 (3)
231	(4)	2	2	52	2-3	1 (3)
232	(4)	4	2	78	2-3	1 (3)
234	(4)	4	2	62	2-3	1 (3)
235	(5)	4	2.5	56	2-3	1 (3)
236	(5)	4	6.3	74	2-3	1 (3)
238	(5)	4	5	58	3	1 (0)
240	(4)	2	5	48	2-3	1 (3)
245	(4)	4	2.5	38	2	1
247	(5)	4	2.5	40	2-4	1 (4)
250	(4)	4	7.5	36	2	1
262	(4)	2	12.6	76	2-0	1 (0)
264	(4)	2	1.4	62	2-3	1 (3)

TUBE		A	B	C	U	D
271	(4)	2	5	76	2	1 (3)
1-274A	(4)	3	5	50	2	1
2-274A	(4)	3	5	50	3	1
1-274B	(8)	3	5	50	4	2
2-274B	(8)	3	5	50	6	2
1-280	(4)	3	5	48	2	1
2-280	(4)	3	5	54	3	1
282	(4)	4	7.5	40	2-0	1 (2)
287	(5)	4	2	82	2	1
301	(4)	4	5	24	3	1
307A	(5)	4	5	70	4-0	1 (4)
310	(4)	4	7.5	50	2	1
311A	(5)	2	7.5	26	2	1-4 (0)
1-313	(4)	3	5	48	2	1
2-313	(4)	3	5	54	3	1
326	(4)	4	1.4	48	2-3	1 (3)
327	(5)	2	2.5	52	2-3	1 (3)
330	(4)	2	2	46	2-3	1 (3)
332	(4)	4	2	78	2-3	1 (3)
333	(5)	4	2	40	2-4	1 (4)
334	(4)	4	2	62	2-3	1 (3)
335	(5)	4	2.5	56	2-3	1 (3)
337	(5)	4	6.3	54	2-3	1 (3)
338	(5)	4	6.3	48	2-3	1 (3)
345	(4)	4	2.5	38	2	1
350	(7)	4	6.3	32	3-4	2 (4)
367	(7)	4	6.3	36	2-4	5 (4)
Allow 2 Minute Warm Up						
393A	(7-8)	4	2.5	26	0	1-2
1-396	(8-9)	4	6.3	74	4	1 (3)
2-396	(2-9)	4	6.3	74	6	1 (7)
401A	(2-4-7)	4	6.3	45	5-6	3
403A	(2-4-7)	4	6.3	50	5-6	3 (6)
403B	(2-4-7)	4	6.3	58	5-6	3 (6)
404A	(9)	4	6.3	34	6-8	3 (8)
1-407	(1-8-9)	2	19.6	100	3-4	5 (3)
2-407	(1-2-9)	2	19.6	100	6-7	5 (7)
408	(2-4-7)	2	19.6	92	1-5	3 (1)
409A	(4)	4	6.3	55	5-6	3 (6)
423A	(2-3)	4	0.63	50	7-8	Gas Test
440	(4)	2	5	46	2-3	1 (3)
446	(3-5-7-8)	2	6.3	50	0	2
Tie Top Cap & Middle Ring Together						
482B	(4)	4	5	38	2	1
483	(4)	4	5	38	2	1
484	(5)	4	2.5	76	2	1
485	(5)	4	3	68	2	1
502A	(7)	4	6.3	26	3-6	2
559	(1-3-5-7-8)	3	6.3	38	0	2
585	(4)	1	7.5	46	2-3	1

TUBE		A	B	C	U	D
615	(7)	2	6.3	48	0	2
Tie Both Top Caps Together						
708	(3-5-7)	2	1.4	55	0	1
Loctal Socket Arrows to Pins 1 & 5						
713	(3-5-7)	2	6.3	40	4-8	2 (4)
717	(3-5-7)	2	6.3	42	4-8	2 (4)
722	(4-5)	4	3	26	0	1-2
800	(4)	4	7.5	28	0	1
Tie Both Top Caps Together						
801	(4)	4	7.5	60	2	1
802	(7)	1	6.3	34	5-0	1-6 (4)
807	(5)	4	6.3	36	2-0	1 (2)
808	(4)	4	7.5	26	0	1
Tie Both Top Caps Together						
809	(4)	4	7.5	28	3-0	1 (3)
811	(4)	4	7.5	28	3-0	1 (3)
1-815	(1-3-6-8)	4	6.3	32	4-0	5 (4)
2-815	(1-3-6-8)	4	6.3	32	4-0	5 (4)
Right Top Cap 5 (4) Left Top Cap						
816	(4)	4	2.5	26	0	1
830B	(4)	4	7.5	100	0	1 (3)
836	(4)	3	3	32	0	1
837	(7)	4	12.6	38	3-0	1 (3)
841	(4)	4	7.5	28	2-3	1 (3)
843	(5)	4	2.5	62	2	1
864	(4)	2	1.4	62	2-3	1 (3)
865	(4)	4	7.5	44	1-0	1 (3)
866A	(4)	4	3	26	0	1
866JR	(4)	4	3	26	2	1
874	(2-4)	4	0.63	54	3	Gas Test
878	(3-4)	4	3	80	0	1-2
879	(4)	4	2.5	56	0	1
884	(7)	3	6.3	42	3	2 (5)
885	(5)	4	2.5	26	2	1
950	(5)	2	2	56	2-3	1 (3)
951	(4)	4	2	70	2-3	1 (3)
1-1003	—	4	0.63	27	3	—
2-1003	—	4	0.63	27	5	—
1-1005	(8)	4	6.3	28	3	6
2-1005	(8)	4	6.3	28	5	6
1-1006	(4)	4	2	26	2	1
2-1006	(4)	4	2	34	3	1
1-1007	(8)	4	1.4	26	3	7
2-1007	(8)	4	1.4	26	5	7
1-1012	(4)	4	1.4	30	2	1
2-1012	(4)	4	1.4	30	3	1
1013	(1-2-6-7)	4	0.63	38	4-0	—
1201	(4-6-8)	2	6.3	40	1-3-5-7	2
1203	(8)	1	6.3	70	4	1

85AS-1203

1216-6097

TUBE		A	B	C	U	D	
1-1216	(4)	4	6.3	52	1	3	(6)
2-1216	(4)	4	6.3	52	2	3	(5)
1217	(4)	4	6.3	40	5-6	3	(6)
1-1219	(8-9)	4	6.3	64	4	1	(3)
2-1219	(2-9)	4	6.3	64	6	1	(7)
1220	(2-4-7)	4	6.3	50	5-6	3	(6)
1221	(6)	4	6.3	86	2-3	1	(3)
1222	(6)	4	6.3	36	2-3	1	(3)
1223	(7)	4	6.3	26	4-0	2	(0)
1-1224	(7)	4	6.3	72	3	2-8	(4)
2-1224	(7)	4	6.3	72	6	2-8	(5)
1229	(4)	4	2	70	2-3	1	(3)
1231	(8)	4	6.3	55	2-3	1	(3)
1232	(8)	4	6.3	50	2-3	1	(3)
1236	(6-7-8)	1	2.5	100	4-5	1-2-3	
1273	(8)	4	6.3	78	2-3	1	(3)
1-1274	(7)	3	6.3	46	3	2	
2-1274	(7)	3	6.3	46	5	2	
1280	(8)	4	12.6	78	2-3	1	(3)
1-1291	(1-8)	2	1.4	40	2-3	4	(3)
2-1291	(1-8)	2	1.4	40	6-7	4	(6)
1294	(8)	1	1.4	68	4	1	
1299	(1-8)	4	1.4	40	2-3	7	(3)
1300/01/05	(4-5-7)	4	6.3	26	6	3	
1367	(4)	2	6.3	90	5	3	
1603	(6)	4	6.3	84	2-3	1	(3)
1611	(7)	4	6.3	46	3-4	2	(4)
1612	(7)	4	6.3	48	3-4	2	(4)
1613	(7)	4	6.3	48	3-4	2	(4)
1614	(7)	4	6.3	36	3-4	2	(4)
1616	(4)	4	3	28	0	1	
1619	(7)	4	2.5	46	3-4	2	(4)
1620	(7)	4	6.3	88	3-4	2	(4)
1621	(7)	4	6.3	44	3-4	2	
1622	(7)	4	6.3	26	3-4	2	(4)
1624	(5)	4	2.5	42	2-0	1	(2)
1625	(7)	4	12.6	36	3-0	1	(3)
1626	(7)	2	12.6	66	3-5	2	(5)
1-1629	(7)	4	12.6	30	3-4	2	
2-1629	(7)	4	12.6	30	4	2	
						Eye Closed	
						2	
						Eye Open	
1631	(7)	4	12.6	36	3-4	2	(4)
1632	(7)	4	12.6	32	3-4	2	(4)
1-1633	(6-8)	4	25	78	2	7	(1)
2-1633	(3-8)	4	25	78	5	7	(4)
1-1634	(8)	4	12.6	26	2-3	7	(3)
2-1634	(8)	4	12.6	26	4-5	7	(4)
1-1635	(7)	4	6.3	26	3-4	2	(4)
2-1635	(7)	4	6.3	26	5-6	2	(5)

TUBE		A	B	C	U	D	
1-1641	(4)	4	6.3	26	0	1	
2-1641	(4)	4	6.3	26	0	1	
						Right Top Cap	
						1	
						Left Top Cap	
1-1642	(6-7)	2	6.3	50	3-0	1	(0)
2-1642	(2-7)	2	6.3	50	4-5	1	(4)
1-1644	(7)	4	12.6	42	4-5	6	(5)
2-1644	(7)	4	12.6	42	5-8	6	(5)
1-1655	(8)	2	6.3	50	2-3	7	(3)
2-1655	(8)	2	6.3	50	4-5	7	(4)
1851	(7)	4	6.3	68	3-4	2	(4)
1852	(7)	4	6.3	56	6-8	2	(6)
1853	(7)	4	6.3	74	6-8	2	(6)
2050	(7)	4	6.3	26	3	2	
2051	(7)	4	6.3	26	3-6	2	(5)
5121	(4-5-7)	4	6.3	26	6	3	
5517	(1-2-6-7)	4	0.63	38	4-0	—	
5590	(2-4-7)	4	6.3	45	5-6	3	
5610	(4)	4	6.3	48	1-5	3	
5618	(1-7)	4	3	94	2	5	
5642	—	1	1.4	100	0		
						Base leads to pins 1 & 12 of Compactron Socket	
						Top cap to Upper wide lead	Good=34
5651	(2-4-7)	4	0.63	38	1-5		Gas Test
5654	(2-4-7)	4	6.3	54	5-6	3	(6)
1-5656	(5-6-9)	4	6.3	26	2-8	4	(2)
2-5656	(5-6-9)	4	6.3	26	3-7	4	(3)
5662	(2-4-5)	4	6.3	26	7	3	
5663	(4)	3	6.3	36	7	3	
1-5670	(8-9)	4	6.3	64	4	1	(3)
2-5670	(2-9)	4	6.3	64	6	1	(7)
5686	(1-3-5-8)	4	6.3	48	6-7-9	4	
1-5687	(4-5-6)	4	6.3	38	1	8	(2)
2-5687	(3-4-5)	4	6.3	38	9	8	(7)
1-5691	(6-8)	2	6.3	48	1-2	7	(1)
2-5691	(3-8)	2	6.3	48	4-5	7	(4)
1-5692	(6-8)	4	6.3	72	2	7	(1)
2-5692	(3-8)	4	6.3	72	5	7	(4)
5693	(7)	4	6.3	66	6-8	2	(6)
5696	(4-5-7)	3	6.3	32	6	3	
5722	(3-4)	4	5	28	1-6	7	
5725	(4)	4	6.3	55	5-6	3	(6)
1-5726	(1-4)	1	6.3	40	2	3	
2-5726	(4-5)	1	6.3	40	7	3	
5727	(4-5-7)	4	6.3	26	6	3	
5749	(4)	4	6.3	50	5-6	3	(6)
1-5750	(4)	4	6.3	40	5-6	3	(6)
2-5750	(4)	4	6.3	42	6	3	
1-5751	(4-5-8)	2	6.3	46	1-2	9	(2)
2-5751	(3-4-5)	2	6.3	46	6-7	9	(7)
5763	(5-8-9)	4	6.3	40	1-6	4	(6)
1-5814	(4-5-8)	4	6.3	58	1	9	(2)
2-5814	(3-4-5)	4	6.3	52	6	9	(7)

TUBE		A	B	C	U	D	
5823	(3-7)	4	.63	47	1-4	—	—
5824	(7)	4	25	30	3-4	2	(4)
1-5844	(4)	4	6.3	52	1	3	(6)
2-5844	(4)	4	6.3	52	2	3	(5)
5847	(9)	4	6.3	34	6-8	3	(8)
5879	(5)	2	6.3	56	1-8	4	(1)
5881	(7)	4	6.3	37	3-4	2	(4)
5910	(1-5)	1	1.4	38	2-6	7	(6)
1-5915	(4)	4	6.3	42	5-6	3	(6)
2-5915	(4)	4	6.3	26	1-6	3	
1-5920	(4)	4	6.3	48	1	3	(6)
2-5920	(4)	4	6.3	48	2	3	(5)
5930	(4)	4	2.5	30	2	1	
1-5931	(8)	3	5	36	4	2	
2-5931	(8)	3	5	36	6	2	
5932	(7)	4	6.3	36	3-4	2	(4)
5933	(5)	4	6.3	36	2-0	1	(2)
1-5963	(4-5-8)	4	6.3	70	1	9	(2)
2-5963	(3-4-5)	4	6.3	70	6	9	(7)
1-5964	(4)	4	6.3	44	2	3	(5)
2-5964	(4)	4	6.3	48	1	3	(6)
1-5965	(4-5-8)	4	6.3	42	1	9	(2)
2-5965	(3-4-5)	4	6.3	52	6	9	(7)
5992	(7)	4	6.3	42	3-4	2	(4)
1-6004	(8)	3	5	50	0	2	
2-6004	(8)	3	5	50	0	2	
						Upper Top Cap	
						2	
						Lower Top Cap	
6005	(1-4-7)	4	6.3	40	5-6	3	(6)
6046	(7)	4	25	30	3-4	2	(4)
1-6060	(4-5-8)	4	6.3	84	1	9	(2)
2-6060	(3-4-5)	4	6.3	84	6	9	(7)
1-6063	(4)	4	6.3	28	6	3	
2-6063	(4)	4	6.3	28	1	3	
6065	(4)	4	6.3	94	5-7	3	(7)
6069	(2-4-7)	4	6.3	52	5-6	3	(6)
1-6072	(4-5-8)	4	6.3	26	1-2	9	(2)
2-6072	(3-4-5)	4	6.3	26	6-7	9	(7)
6073	(2-4-7)	4	Off	48	1-5		
6074	(2-4-7)	4	0.63	50	1-5		Gas Test
1-6080	(6-8)	4	6.3	28	2	7	
2-6080	(3-8)	4	6.3	28	5	7	
1-6082	(6-8)	4	25	28	2	7	
2-6082	(3-8)	4	25	28	5	7	
6084	(2-5-7)	4	6.3	76	1-6	4	(1)
1-6085	(4-5-8)	4	6.3	90	1	9	(2)
2-6085	(3-4-5)	4	6.3	90	6	9	(7)
1-6087	(8)	3	5	60	4	2	
2-6087	(8)	3	5	60	6	2	
6095	(1-4-7)	4	6.3	40	5-6	3	(6)
1-6097	(1-4)	1	6.3	40	2	3	
2-6097	(4-5)	1	6.3	40	7	3	

TUBE	A	B	C	U	D
6098 (8)	4	6.3	34	3-5	6 (5)
1-6099 (4)	4	6.3	64	1	3 (6)
2-6099 (4)	4	6.3	60	2	3 (5)
6100 (4)	4	6.3	66	1-5	3 (6)
1-6101 (4)	4	6.3	64	1	3 (6)
2-6101 (4)	4	6.3	60	2	3 (5)
1-6106 (2)	2	5	42	4	8
2-6106 (2)	2	5	42	6	8
6130 (1)	4	6.3	30	3-0	2-4
6134 (7)	4	6.3	44	6-8	2 (6)
6135 (4)	4	6.3	72	1-5	3 (6)
6136 (4)	4	6.3	64	5-6	3 (6)
6137 (7)	4	6.3	52	6-8	2 (6)
6140 (2-3)	4	0.63	50	7-8	Gas Test
6145 (8)	4	6.3	38	2-3-4	1 (6)
6146 (1-4-6-7)	4	6.3	30	3-0	2 (3)
6186 (2-4-7)	4	6.3	64	5-6	3 (6)
6187 (4)	4	6.3	58	5-6	3 (6)
1-6188 (3-8)	2	6.3	48	4-5	7 (4)
2-6188 (6-8)	2	6.3	48	1-2	7 (1)
1-6189 (4-5-8)	4	6.3	62	1	9 (2)
2-6189 (3-4-5)	4	6.3	62	6	9 (7)
6197 (2-5-9)	4	6.3	36	3-6-8	4
1-6201 (4-5-8)	4	6.3	84	1	9 (2)
2-6201 (3-4-5)	4	6.3	84	6	9 (7)
1-6202 (4)	4	6.3	28	6	3
2-6202 (4)	4	6.3	28	1	3
1-6203 (5)	3	6.3	42	1	4
2-6203 (5)	3	6.3	42	9	4
1-6211 (5-9)	4	6.3	60	1	4 (2)
2-6211 (4-9)	4	6.3	60	6	5 (7)
6216 (3-5-8)	4	6.3	92	1-6-7	4 (2)
6227 (1-5-6)	4	6.3	38	7-8	4 (8)
6265 (4)	1	6.3	36	1-5	3 (1)
6267 (2-5-7)	4	6.3	26	6-9	4 (9)
1-6350 (7-9)	4	6.3	44	1	4-5 (3)
2-6350 (2-9)	4	6.3	44	6	4-5 (8)
1-6360 (4-5)	4	6.3	26	3-8	9 (3)
2-6360 (4-5)	4	6.3	26	1-6	9 (1)
6374 (5)	3	6.3	32	0	4
1-6386 (8-9)	4	6.3	48	4	1 (3)
2-6386 (2-9)	4	6.3	46	6	1 (7)
6417 (5-8-9)	4	12.6	40	1-6	4 (6)
1-6463 (7-9)	4	6.3	44	1	4-5 (3)
2-6463 (2-9)	4	6.3	44	6	4-5 (8)
6485 (4)	4	6.3	47	5-6	4 (1)
1-6507 (6-8)	2	6.3	46	1-2	7 (1)
2-6507 (3-8)	2	6.3	46	4-5	7 (4)
6516 (4)	4	6.3	46	5-7	3 (7)
6550 (7)	4	6.3	52	3-4	2 (4)
6574 (7)	4	6.3	24	3-6	1
6626 (2-4-7)	4	Off	48	1-5	

TUBE	A	B	C	U	D
6627 (2-4-7)	4	0.63	50	1-5	Gas Test
6660 (4)	4	6.3	50	5-6	3 (6)
6661 (4)	1	6.3	36	1-5	3 (1)
6662 (4)	4	6.3	57	5-6	3 (6)
1-6663 (1-4)	1	6.3	40	2	3
2-6663 (4-5)	1	6.3	40	7	3
6664 (4)	4	6.3	80	1	3 (6)
6669 (1-4-7)	4	6.3	40	5-6	3 (6)
6676 (4)	4	6.3	56	5-6	3
6677 (2-5-9)	4	6.3	38	3-6-8	4
1-6678 (5-8)	4	6.3	62	3-6	4 (3)
2-6678 (5-7)	4	6.3	56	1	4 (9)
1-6679 (4-5-8)	4	6.3	84	1	9 (2)
2-6679 (3-4-5)	4	6.3	84	6	9 (7)
1-6680 (4-5-8)	4	6.3	62	1	9 (2)
2-6680 (3-4-5)	4	6.3	62	6	9 (7)
1-6681 (4-5-8)	2	6.3	44	1-2	9 (2)
2-6681 (3-4-5)	2	6.3	44	6-7	9 (7)
6686 (1-5-6)	4	6.3	46	7-8	4 (8)
1-6687 (4)	4	6.3	42	5-6	3 (6)
2-6687 (4)	4	6.3	26	1-6	3
6688 (1-3-5)	4	6.3	40	7-9	4 (9)
6689 (1-5-6)	4	6.3	46	7-8	4 (8)
6842 (1-3-5-6-7)	1	6.3	46	4-0	2 (4)
6883 (1-4-6-7)	4	12.6	30	3-0	2 (3)
6888 (7)	4	6.3	36	6-8	2 (6)
1-6922 (5-8)	4	6.3	42	1	4 (2)
2-6922 (3-5)	4	6.3	42	6	4 (7)
6968 (2-4-7)	4	6.3	52	5-6	3 (1)
7000 (7)	4	6.3	94	3-4	2 (4)
1-7025 (4-5-8)	2	6.3	42	1-2	9 (2)
2-7025 (3-4-5)	2	6.3	42	6-7	9 (7)
7027 (5-6-7)	4	6.3	37	1-3-4	2
7034 (2-4-6-7-8)	4	6.3	30	1-5-0	3
1-7044 (6-8)	4	6.3	38	1	4-5 (2)
2-7044 (3-8)	4	6.3	38	9	4-5 (7)
7054 (3-5-9)	4	12.6	50	7-8	4 (8)
1-7055 (1-4)	1	12.6	66	2	3
2-7055 (4-5)	1	12.6	66	7	3
7056 (4)	4	12.6	48	5-6	3 (6)
1-7057 (5-8)	4	12.6	66	1	4 (2)
2-7057 (3-5)	4	12.6	66	6	4 (7)
1-7058 (5-9)	2	12.6	60	1-2	4 (2)
2-7058 (4-9)	2	12.6	60	6-7	5 (7)
1-7059 (5-7)	2	12.6	42	1-9	4 (9)
2-7059 (5-8)	4	12.6	57	3-6	4 (2)
1-7060 (5-9)	4	12.6	74	1	4 (2)
2-7060 (3-5)	4	12.6	44	6-7	4 (8)
7061 (3-5-6)	4	12.6	43	1-8-9	4
1-7062 (4-5-8)	4	6.3	60	1	9 (2)
2-7062 (3-4-5)	4	6.3	60	6	9 (7)

TUBE	A	B	C	U	D
1-7119 (4-5-6)	4	6.3	36	1	8 (2)
2-7119 (3-4-5)	4	6.3	36	9	8 (7)
7167 (2-4-7)	4	12.6	86	5-6	3 (6)
7189 (1-2-5)	4	6.3	38	7-9	4 (9)
7193 (7)	2	6.3	42	0	2
Tie Both Top Caps Together.					
7212 (1-4-6-7)	4	6.3	30	3-0	2 (3)
1-7244 (4)	4	6.3	58	2	3 (5)
2-7244 (4)	4	6.3	52	1	3 (6)
7245 (1-4-5-6)	4	6.3	56	7	3
1-7247 (4-5-8)	4	6.3	78	1	9 (2)
2-7247 (3-4-5)	2	6.3	46	6-7	9 (7)
1-7258 (5-9)	4	12.6	56	1	4 (2)
2-7258 (3-5)	4	12.6	54	6-7	4 (7)
1-7316 (4-5-8)	4	6.3	62	1	9 (2)
2-7316 (3-4-5)	4	6.3	62	6	9 (7)
7355 (7)	4	6.3	34	3-8	2 (8)
7360 (5)	4	6.3	70	2-6	4 (3)
7408 (7)	4	6.3	40	3-4	2 (4)
7543 (4)	4	6.3	74	5-6	3 (6)
7551 (1-5-9)	4	12.6	36	3-6-8	4
7558 (1-5-9)	4	6.3	37	3-6-8	4
7581 (7)	4	6.3	36	3-4	2 (4)
7586 (5)	1	6.3	100	1	4 (2)
7587 (5)	1	6.3	72	0	3-4 (1)
1-7643 (5-8)	4	6.3	66	3-6	4 (3)
2-7643 (5-7)	4	6.3	48	1	4
1-7687 (5-7)	4	6.3	54	1	4
2-7687 (5-8)	4	6.3	54	3-6	4 (3)
7693 (4)	1	6.3	36	1-5	3 (1)
7695 (5)	4	50	30	1-9	4 (6)
7700 (6)	4	6.3	90	2-3-4	1 (0)
7717 (2-4-7)	4	6.3	48	5-6	3 (6)
1-7724 (1-5-7)	1	12.6	66	2	3
2-7724 (3-5-7)	1	12.6	66	6	3
3-7724 (1-3-5)	2	12.6	62	8-9	3 (8)
1-7734 (5-7)	4	6.3	32	6	4
2-7734 (2-5)	4	6.3	100	1-9	4 (1)
7754 (5)	4	6.3	28	1-9	4 (1)
7756 (8)	4	6.3	34	3-5	6 (5)
1-7803 (5-8)	4	6.3	41	1	4 (2)
2-7803 (3-5)	4	6.3	41	6	4 (7)
7867 (7)	2	6.3	55	8-0	2 (5)
7895 (5)	1	6.3	50	1-2	4 (2)
1-7898 (8-9)	4	6.3	86	1	4-5 (2)
2-7898 (3-9)	4	6.3	86	6	4-5 (7)
7905 (1-9)	4	3	34	3-6-8	4-5
7984 (2-6-8-9)	2	12.6	86	1-3-4-5-7	— (0)
8016 (7)	4	1.4	66	0	2
8020 (4)	4	6.3	40	0	1
8058 (1-2-3-5)	1	6.3	40	0	4
Connect base ring and top cap together					

6098-8058

8077-ECB1

TUBE	A	B	C	U	D
8077 (3-5-9)	4	12.6	50	7-8	4 (8)
8084 (4)	4	12.6	47	5-6	3 (1)
8106 (2-5-6-9)	4	12.6	40	1-3-8	4 (7)
8113 (2-4-7)	4	6.3	45	5-6	3 (1)
8149 (1-2-3-9)	2	6.3	93	4-5-6-7-8	— (0)
8150 (1-2-4-6-9)	4	6.3	34	5-8	—
8156 (2-6-8-9)	4	12.6	32	1-3-5-7	—
8298 (1-4-6-7)	4	6.3	30	3-0	2 (3)
8417 (7)	4	6.3	32	3-4	2 (4)
9001 (2-4-7)	1	6.3	45	1-5	3 (1)
9002 (2-4-7)	4	6.3	82	1-5	3 (6)
9003 (2-4-7)	2	6.3	46	1-5	3 (1)
9006 (2-4-7)	2	6.3	72	1-5	3
AG5209 (2-4-7)	4	Off	34	1-3-5	Gas Test
AG5210 (2-4-7)	4	0.63	50	1-5	Gas Test
AG5211 (2-4-7)	4	Off	48	1-5	—
1-AZ31 (8)	3	4.2	52	4	2
2-AZ31 (8)	3	4.2	54	6	2
1-B36 (6-8)	4	12.6	78	2	7 (1)
2-B36 (3-8)	4	12.6	78	5	7
1-B65 (6-8)	4	6.3	72	2	7 (1)
2-B65 (3-8)	4	6.3	72	5	7 (4)
1-B152 (4-5-8)	4	6.3	84	1	9 (2)
2-B152 (3-4-5)	4	6.3	84	6	9 (7)
1-B309 (4-5-8)	4	6.3	84	1	9 (2)
2-B309 (3-4-5)	4	6.3	84	6	9 (7)
1-B329 (4-5-8)	4	6.3	62	1	9 (2)
2-B329 (3-4-5)	4	6.3	62	6	9 (7)
1-B339 (4-5-8)	2	6.3	44	1-2	9 (2)
2-B339 (3-4-5)	2	6.3	44	6-7	9 (7)
BPM04 (1-4-7)	4	6.3	40	5-6	3 (6)
BR (2-3)	4	Off	38	4	—
C1B (4)	4	3	26	0	1
1-CCa (5-8)	4	6.3	42	1	4 (2)
2-CCa (3-5)	4	6.3	42	6	4 (7)
1-CCH35 (7)	4	7.5	62	3-4	2 (4)
2-CCH35 (7)	4	7.5	80	6	2 (5)
CL33 (7)	4	32	34	3-4	2 (4)
CY31 (7)	3	19.6	54	5	2
1-D2M9 (1-4)	1	6.3	40	2	3
2-D2M9 (4-5)	1	6.3	40	7	3
1-D77 (1-4)	1	6.3	40	2	3
2-D77 (4-5)	1	6.3	40	7	3
1-D152 (1-4)	1	6.3	40	2	3
2-D152 (4-5)	1	6.3	40	7	3
DA90 (1-5)	1	1.4	90	2-6	7
1-DAC32 (7)	1	1.4	40	3-0	2 (0)
2-DAC32 (7)	1	1.4	100	5	2
1-DAF91 (7)	4	1.4	30	5-6	1 (6)
2-DAF91 (7)	1	1.4	92	3	1
1-DAF92 (7)	1	1.4	45	2-6	1 (6)
2-DAF92 (7)	1	1.4	100	4	1

TUBE	A	B	C	U	D
1-DAF96 (7)	4	1.4	30	5-6	1 (6)
2-DAF96 (7)	1	1.4	100	3	1
1-DCC90 (1-7)	4	1.4	64	2	4
2-DCC90 (1-7)	4	1.4	64	6	4
DCG4/1000G (4)	4	3	26	0	1
DF33 (7)	1	1.4	42	3-0	2 (0)
DF91 (1-5)	4	1.4	76	2-3	7 (3)
DF92 (1-5)	4	1.4	76	2-3	7 (3)
DF96 (1-5)	2	1.4	50	2-6	7 (6)
DF97 (1-5)	4	1.4	100	2-3	7 (3)
DF904 (1-5)	2	1.4	42	2-6	7 (6)
1-DH63 (7)	2	6.3	48	3-0	2 (0)
2-DH63 (7)	1	6.3	66	5	2-8
3-DH63 (7)	1	6.3	68	4	2-8
1-DH77 (4)	2	6.3	42	1-7	3 (1)
2-DH77 (4)	1	6.3	56	5	2-3
3-DH77 (4)	1	6.3	70	6	2-3
1-DH719 (3-5)	1	6.3	42	1	4
2-DH718 (5-7)	1	6.3	42	2	4
3-DH719 (3-5)	2	6.3	46	8-9	4 (8)
4-DH719 (3-5)	1	6.3	64	6	4-7
1-DK32 (7)	4	1.4	50	3-4-0	2 (4)
2-DK32 (7)	4	1.4	54	4-0	2
1-DK91 (1-5)	4	1.4	50	2-3	7 (3)
2-DK91 (1-5)	4	1.4	50	3	7
DK92 (7)	1	1.4	38	2-4	1 (4)
DK96 (7)	4	1.4	54	2-3	1 (3)
DL33 (2-7)	4	1.4	44	3-4	8 (4)
DL35 (7)	4	1.4	38	3-4	2 (4)
DL91 (1-5)	1	1.4	70	2-4-6	7 (4)
DL92 (1-7)	2	1.4	46	2-3-6	5 (3)
DL93 (1-7)	4	1.4	38	2-3-6	5 (3)
DL94 (1-7)	2	1.4	43	2-6	5 (6)
DL95 (1-7)	4	1.4	40	2-4-6	5 (4)
DL96 (1-7)	4	1.4	44	2-3	5 (3)
DL98 (4-5)	4	1.4	36	1-7	2-6 (1)
DP61 (2-4-7)	4	6.3	52	5-6	3 (6)
DY80 (1-4-6-9)	4	1.4	74	0	2-5-8
DY87 (1-4-6-9)	4	2	66	0	2-5-8
1-E80CC (4-5-8)	4	6.3	90	1	9 (2)
2-E80CC (3-4-5)	4	6.3	90	6	9 (7)
1-E80CF (5-8)	4	6.3	66	3-6	4 (3)
2-E80CF (5-7)	4	6.3	48	1	4
E80F (2-5-7)	4	6.3	76	1-6	4 (1)
E80L (1-5-6)	4	6.3	38	7-8	4 (8)
1-E81CC (4-5-8)	4	6.3	84	1	9 (2)
2-E81CC (3-4-5)	4	6.3	84	6	9 (7)
E81L (1-5-6)	4	6.3	46	7-8	4 (8)
E83F (1-5-6)	4	6.3	46	7-8	4 (8)
1-E88CC (5-8)	4	6.3	42	1	4 (2)
2-E88CC (3-5)	4	6.3	42	6	4 (7)
1-E90CC (4)	4	6.3	48	1	3 (6)
2-E90CC (4)	4	6.3	48	2	3 (5)

TUBE	A	B	C	U	D
E90F (4)	1	6.3	36	1-5	3 (1)
1-E91AA (1-4)	1	6.3	40	2	3
2-E91AA (4-5)	1	6.3	40	7	3
1-E91H (4)	4	6.3	42	5-6	3 (6)
2-E91H (4)	4	6.3	26	1-6	3
1-E92CC (4)	4	6.3	66	2	3 (5)
2-E92CC (4)	4	6.3	66	1	3 (6)
E95F (2-4-7)	4	6.3	52	5-8	3 (6)
1-E180CC (4-5-8)	4	6.3	60	1	9 (2)
2-E180CC (3-4-5)	4	6.3	60	6	9 (7)
E180F (1-3-5)	4	6.3	40	7-9	4 (9)
1-E182CC (4-5-6)	4	6.3	36	1	8 (2)
2-E182CC (3-4-5)	4	6.3	36	9	8 (7)
E1148 (7)	4	6.3	26	0	2
Tie Both Top Caps Together					
1-EAA91 (1-4)	1	6.3	40	2	3
2-EAA91 (4-5)	1	6.3	40	7	3
1-EAA901S (1-4)	1	6.3	40	2	3
2-EAA901S (4-5)	1	6.3	40	7	3
1-EABC80 (3-5)	1	6.3	42	1	4
2-EABC80 (5-7)	1	6.3	42	2	4
3-EABC80 (3-5)	2	6.3	46	8-9	4 (8)
4-EABC80 (3-5)	1	6.3	64	6	4-7
1-EAC91 (2-4)	4	6.3	96	7	3 (6)
2-EAC91 (4-5)	2	6.3	40	1	3
1-EB34 (7-8)	3	6.3	62	3	2
2-EB34 (4-7)	3	6.3	62	5	2
1-EB91 (1-4)	1	6.3	40	2	3
2-EB91 (4-5)	1	6.3	40	7	3
1-EBC33 (7)	4	6.3	100	3	2 (0)
2-EBC33 (7)	1	6.3	60	4	2
3-EBC33 (7)	1	6.3	48	5	2
1-EBC81 (5-7-9)	2	6.3	45	1-2	4 (2)
2-EBC81 (5-7-9)	1	6.3	66	6	3-4
3-EBC81 (5-7-9)	1	6.3	100	8	3-4
1-EBC90 (4)	2	6.3	42	1-7	3 (1)
2-EBC90 (4)	1	6.3	42	5	2-3
3-EBC90 (4)	1	6.3	70	6	2-3
1-EBC91 (4)	1	6.3	44	1-7	3 (1)
2-EBC91 (4)	1	6.3	67	5	3
3-EBC91 (4)	1	6.3	100	6	3
1-EBF80 (5)	4	6.3	56	1-6	4 (1)
2-EBF80 (5)	1	6.3	64	7	3-4
3-EBF80 (5)	1	6.3	52	8	3-4
1-EBF83 (5)	4	6.3	24	2-6	4 (2)
2-EBF83 (5)	1	6.3	74	8	3-4
3-EBF83 (5)	1	6.3	56	7	3-4
1-EBF89 (5)	4	6.3	56	1-6	4 (1)
2-EBF89 (5)	1	6.3	100	7	4
3-EBF89 (5)	1	6.3	100	8	4
1-EBL31 (7)	4	6.3	40	3-6	2 (0)
2-EBL31 (7)	1	6.3	70	5	2
3-EBL31 (7)	1	6.3	52	4	2
EC80 (1-2-5-7-8)	4	6.3	64	9	4
EC81 (5)	4	6.3	48	8	4

TUBE	A	B	C	U	D
EC86 (2-3-5-6-7-8)	4	6.3	59	1-9	4
EC88 (1-3-5-6-7-9)	4	6.3	52	8	4
EC90 (4)	4	6.3	66	1-5	3 (6)
EC91 (1-2-4-5-6)	4	6.3	80	7	3
EC92 (4)	4	6.3	80	1	3 (6)
EC95 (1-4-7)	4	6.3	66	5	3 (2)
EC97 (1-4-7)	4	6.3	50	5	3 (2)
EC900 (2-4-7)	4	6.3	53	5	3 (1)
1-ECC32 (6-8)	4	6.3	100	2	7 (1)
2-ECC32 (3-8)	4	6.3	100	5	7 (4)
1-ECC33 (6-8)	4	6.3	76	2	7 (1)
2-ECC33 (3-8)	4	6.3	84	5	7 (4)
1-ECC34 (6-8)	4	6.3	48	2	7
2-ECC34 (3-8)	4	6.3	48	5	7
1-ECC35 (6-8)	2	6.3	48	1-2	7 (1)
2-ECC35 (3-8)	2	6.3	48	4-5	7 (4)
1-ECC81 (4-5-8)	4	6.3	84	1	9 (2)
2-ECC81 (3-4-5)	4	6.3	84	6	9 (7)
1-ECC82 (4-5-8)	4	6.3	62	1	9 (2)
2-ECC82 (3-4-5)	4	6.3	62	6	9 (7)
1-ECC83 (4-5-8)	2	6.3	44	1-2	9 (2)
2-ECC83 (3-4-5)	2	6.3	44	6-7	9 (7)
1-ECC84 (5-7-8)	4	6.3	50	3	4 (2)
2-ECC84 (1-5-8)	4	6.3	50	9	4 (6)
1-ECC85 (5-8)	4	6.3	84	1	4 (2)
2-ECC85 (3-5)	4	6.3	84	6	4 (7)
1-ECC86 (3-5)	2	6.3	100	6	4 (7)
2-ECC86 (5-8)	2	6.3	100	1	4 (2)
1-ECC88 (5-8)	4	6.3	40	1	4 (2)
2-ECC88 (3-5)	4	6.3	40	6	4 (7)
1-ECC91 (4)	4	6.3	64	1	3 (6)
2-ECC91 (4)	4	6.3	60	2	3 (5)
1-ECC180 (5-8)	4	6.3	64	1	4 (2)
2-ECC180 (3-5)	4	6.3	56	6	4 (7)
1-ECC186 (4-5-8)	4	6.3	62	1	9 (2)
2-ECC186 (3-4-5)	4	6.3	62	6	9 (7)
1-ECC189 (5-8)	4	6.3	42	1	4 (2)
2-ECC189 (3-5)	4	6.3	42	6	4 (7)
1-ECC801S (4-5-8)	4	6.3	84	1	9 (2)
2-ECC801S (3-4-5)	4	6.3	84	6	9 (7)
1-ECC802S (4-5-8)	4	6.3	62	1	9 (2)
2-ECC802S (3-4-5)	4	6.3	62	6	9 (7)
1-ECC960 (4)	4	6.3	48	1	3 (6)
2-ECC960 (4)	4	6.3	48	2	3 (5)
1-ECC962 (4)	4	6.3	66	2	3 (5)
2-ECC962 (4)	4	6.3	66	1	3 (6)
1-ECF80 (5-8)	4	6.3	62	3-6	4 (3)
2-ECF80 (5-7)	4	6.3	50	1	4 (9)
1-ECF82 (5-8)	4	6.3	62	3-6	4 (3)
2-ECF82 (5-7)	4	6.3	56	1	4 (9)
1-ECF801 (1-3-5)	1	6.3	80	6-7	4 (2)
2-ECF801 (1-3-5)	1	6.3	90	8	4 (9)
1-ECH35 (7)	4	6.3	60	3-4	2 (4)
2-ECH35 (7)	4	6.3	74	6	2 (5)

TUBE	A	B	C	U	D
1-ECH81 (5)	4	6.3	66	1-6	4 (1)
2-ECH81 (5)	2	6.3	44	8-9	4 (9)
1-ECH83 (5)	4	6.3	48	1-6	4 (1)
2-ECH83 (5)	4	6.3	60	8	4
1-ECL80 (5)	4	6.3	50	6-8	4 (8)
2-ECL80 (5)	2	6.3	45	1-2	4 (2)
1-ECL82 (5-8)	4	6.3	30	6-7	4 (7)
2-ECL82 (2-5)	4	6.3	26	1-9	4 (1)
1-ECL83 (3-5)	4	6.3	40	6-8	4 (8)
2-ECL83 (5-7)	4	6.3	26	1-2	4 (2)
1-ECL84 (3-5)	4	6.3	51	6-9	4 (8)
2-ECL84 (5-7)	2	6.3	38	1-2	4 (1)
1-ECL85 (5-8)	4	6.3	78	1	4 (2)
2-ECL85 (3-5)	2	6.3	84	6-7	4 (9)
1-ECL86 (2-5)	4	6.3	40	3-6	4 (3)
2-ECL86 (5-7)	2	6.3	42	1-9	4 (1)
1-ED2 (1-4)	1	6.3	40	2	3
2-ED2 (4-5)	1	6.3	40	7	3
EF22 (8)	4	7.5	50	2-3	1 (3)
EF36 (7)	4	6.3	75	3-4	2 (0)
EF37 (7)	1	6.3	75	3-4	2 (0)
EF39 (7)	4	6.3	56	3-4	2 (4)
EF80 (1-3-5)	4	6.3	50	7-8	4 (8)
EF85 (1-3-5)	4	6.3	46	7-8	4 (8)
EF86 (2-5-7)	4	6.3	26	6-9	4 (9)
EF89 (1-5-6)	4	6.3	48	7-8	4 (8)
EF91 (4)	4	6.3	90	5-7	3 (7)
EF92 (4)	4	6.3	100	5-7	3 (7)
EF93 (4)	4	6.3	50	5-6	3 (6)
EF94 (4)	4	6.3	54	5-6	3 (6)
EF95 (2-4-7)	4	6.3	52	5-6	3 (6)
EF96 (2-4-7)	4	6.3	64	5-6	3 (6)
EF98 (4)	2	6.3	65	5-6	3 (6)
EF183 (1-3-5)	4	6.3	32	7-8	4 (8)
EF184 (1-3-5)	4	6.3	40	7-8	4 (8)
EF861 (1-3-5)	4	6.3	40	7-9	4 (9)
1-EH90 (4)	4	6.3	48	6	3
2-EH90 (4)	4	6.3	46	5-6	3 (6)
1-EH900S (4)	4	6.3	42	5-6	3 (6)
2-EH900S (4)	4	6.3	26	1-6	3
1-EK90 (4)	4	6.3	48	6	3
2-EK90 (4)	4	6.3	46	5-6	3 (6)
EL31 (7)	4	6.3	32	4-0	2
EL32 (7)	4	6.3	40	3-4	2
EL33 (7)	4	6.3	34	3-4	2 (4)
EL34 (7)	4	6.3	32	3-4	2 (4)
EL36 (1-3-4-7-8)	4	6.3	26	5-0	2 (5)
EL37 (7)	4	6.3	30	3-4	2 (4)
EL38 (7)	4	6.3	34	4-0	2 (4)
EL81 (1-5-6-9)	4	6.3	30	7-8-0	4
EL82 (5)	2	6.3	92	7-9	4 (2)
EL83 (5)	4	6.3	42	1-7	4 (1)

TUBE	A	B	C	U	D
EL84 (1-2-5)	4	6.3	35	7-8	4 (9)
EL85 (1-2-5-6-8)	4	6.3	48	7-9	4 (9)
EL86 (1-2-5)	4	6.3	30	7-8-9	4 (9)
EL90 (1-4-7)	4	6.3	40	5-6	3 (6)
EL91 (4)	4	6.3	48	5-7	3 (7)
EL95 (1-4-7)	4	6.3	44	5-5	3 (6)
EL180 (3-4-5-9)	4	6.3	38	7-8	6 (8)
EL360 (3-7-8)	4	6.3	28	1-4-0	2
EL500 (1-2-3-5-8)	4	6.3	28	6-7-0	4
EL803 (5)	4	6.3	42	1-7	4 (1)
EL821 (5)	4	6.3	42	7-8	4 (8)
EL822 (5)	4	6.3	38	7-8	4 (8)
1-EM34 (7)	4	6.3	0	3-5-6	2
2-EM34 (7)	4	6.3	0	5-6	2
3-EM34 (7)	4	6.3	0	3-5	2
1-EM80 (3-4-8-9)	1	6.3	50	1-7	5 (1)
2-EM80 (4)	4	6.3	0	3-7-8-9	5
3-EM80 (4)	4	6.3	0	3-8-9	5
EM81 (3-5-8-9)	2	6.3	70	1-6	4 (1)
1-EM84 (2-5-6-8)	2	6.3	70	1-9	4 (1)
2-EM84 (5)	4	6.3	0	2-6-7-8-9	4
3-EM84 (5)	4	6.3	0	2-6-7-8-9	4
1-EM87 (2-5-6-8)	2	6.3	44	1-9	4 (1)
2-EM87 (5)	4	6.3	0	2-6-7-8	4
3-EM87 (5)	4	6.3	0	2-6-7-8	4
EN32 (7)	4	6.3	24	3-6	1
EN93 (4)	4	6.3	26	7	3
1-EQ80 (3-5-8)	4	6.3	64	1-6	4 (1)
2-EQ80 (3-5-8)	4	6.3	66	1	4 (7)
EY80 (5)	3	6.3	28	9	4
EY81 (5)	3	6.3	25	2-9	4-0
EY84 (5)	3	6.3	32	0	4
EY86 (1-4-6-9)	4	6.3	64	0	2-5-8
EY88 (1-2-5)	3	6.3	28	3-6-7-8-9	4
EY91 (4)	3	6.3	28	1-5	3
1-EZ35 (7)	3	6.3	40	3	2
2-EZ35 (7)	3	6.3	40	5	2
1-EZ80 (5)	3	6.3	46	1	4
2-EZ80 (5)	3	6.3	46	7	4
1-EZ81 (5)	3	6.3	30	1	4
2-EZ81 (5)	3	6.3	30	7	4
1-EZ90 (4)	4	6.3	28	6	3
2-EZ90 (4)	4	6.3	28	1	3
FM1000 (8)	4	6.3	40	4-5	1 (5)
G4 (5)	3	6.3	43	2	1

EC86-G4

G84-UBC81

TUBE	A	B	C	U	D
G84 (4)	3	2.5	56	2	1
1-GZ30 (8)	3	5	34	4	2
2-GZ30 (8)	3	5	34	6	2
1-GZ33 (8)	3	5	25	4	2
2-GZ33 (8)	3	5	25	6	2
1-GZ34 (8)	3	5	26	4	2
2-GZ34 (8)	3	5	26	6	2
H63 (7)	2	6.3	40	4-0	2 (0)
1-HAA91 (1-4)	1	12.6	40	2	3
2-HAA91 (4-5)	1	12.6	40	7	3
1-HABC80 (5-7)	1	19.6	30	2	3-4
2-HABC80 (3-5)	2	19.6	100	8-9	4
3-HABC80 (3-5)	1	19.6	30	6	4-7
4-HABC80 (3-5)	1	19.6	30	1	4-7
1-HBC90 (4)	2	12.6	62	1-7	3 (1)
2-HBC90 (4)	1	12.6	88	5	2-3
3-HBC90 (4)	1	12.6	70	6	2-3
1-HBC91 (4)	2	12.6	56	1-7	3 (1)
2-HBC91 (4)	1	12.6	56	5	2-3
3-HBC91 (4)	1	12.6	56	6	2-3
1-HCC85 (5-8)	4	19.6	74	1	4 (2)
2-HCC85 (3-5)	4	19.6	74	6	4 (7)
1-HD14 (7)	1	1.4	40	3-0	2
2-HD14 (7)	1	1.4	100	5	2
HF93 (4)	4	12.6	52	5-6	3 (6)
HF94 (4)	4	12.6	80	5-6	3 (6)
1-HK90 (4)	4	12.6	44	5-6	3 (6)
2-HK90 (4)	4	12.6	46	6	3
HL92 (2-4-5)	4	50	34	6-7	3 (6)
HL94 (2-4-5)	4	32	26	7	1-3
1-HM04 (4)	4	6.3	48	6	3
2-HM04 (4)	4	6.3	46	5-6	3 (6)
HY40 (4)	4	6.3	100	0	1
HY65 (7)	4	6.3	36	4-0	2 (4)
HY90 (4-6)	4	32	26	5	3
KT61 (7)	4	6.3	34	3-4	2 (4)
KT63 (7)	4	6.3	34	3-4	2 (4)
KT66 (7)	4	6.3	34	3-4	2 (4)
KT77 (7)	4	6.3	32	3-4	2 (4)
KT88 (7)	4	6.3	30	3-4	2 (4)
KTZ63 (7)	2	6.3	54	3-0	2 (0)
L63 (7)	4	6.3	76	3	2 (5)
L77 (4)	4	6.3	66	1-5	3 (6)
LA (5)	4	6.3	40	2-4	1 (4)
LC900 (2-4-7)	4	3	50	5	3 (1)
1-LCL84 (3-5)	4	7.5	51	6-9	4 (8)
2-LCL84 (5-7)	2	7.5	38	1-2	4 (1)
1-LN119 (5-8)	4	50	38	6-7	4 (7)
2-LN119 (2-5)	4	50	30	1-9	4 (1)
1-M8081 (4)	4	6.3	64	2	3 (5)
2-M8081 (4)	4	6.3	64	1	3 (6)
M8082 (4)	4	6.3	46	5-7	3 (7)
M8100 (2-4-7)	4	6.3	52	5-6	3 (6)

TUBE	A	B	C	U	D
M8161 (4)	4	6.3	94	5-7	3 (7)
M8196 (4)	4	6.3	55	5-6	3 (6)
M8204 (4-5-7)	4	6.3	26	6	3
1-M8212 (1-4)	1	6.3	40	2	3
2-M8212 (4-5)	1	6.3	40	7	3
M8223 (2-4-7)	4	Off	48	1-5	Gas Test
M8224 (2-4-7)	4	0.63	50	1-5	Gas Test
M8232 (1-4-5-6)	4	6.3	64	7	3
M8245 (1-4-7)	4	6.3	40	5-6	3 (6)
N16 (2-7)	4	1.4	44	3-4	8 (4)
N17 (1-7)	2	1.4	46	2-3-6	5 (3)
N18 (1-7)	4	1.4	40	2-4-6	5 (4)
N19 (1-7)	2	1.4	43	2-6	5 (6)
N152 (1-5-6-9)	4	19.6	30	7-8-0	4
N153 (5)	4	12.6	44	1-7	4 (1)
N154 (5)	4	19.6	32	7-9	4 (9)
N329 (5)	4	19.6	32	7-9	4 (9)
N359 (1-5-6-9)	4	19.6	30	7-8-0	4
N709 (1-2-5)	4	6.3	35	7-9	4 (9)
N727 (1-4-7)	4	6.3	40	5-6	3 (6)
1-PABC80 (3-5)	2	7.5	46	8-9	4 (8)
2-PABC80 (3-5)	1	7.5	100	6	4
3-PABC80 (3-5)	1	7.5	46	1	4
4-PABC80 (5-7)	1	7.5	46	2	4
PC900 (2-4-7)	4	4.2	51	5	3 (1)
1-PCC84 (1-5-7-8)	4	7.5	44	9	4 (6)
2-PCC84 (5-7-8)	4	7.5	40	3	4 (2)
1-PCC85 (3-5)	4	7.5	88	6	4 (7)
2-PCC85 (5-8)	4	7.5	100	1	4 (2)
1-PCC88 (5-8)	4	7.5	40	1	4 (2)
2-PCC88 (3-5)	4	7.5	40	6	4 (7)
1-PCC89 (1-5-7-8)	4	7.5	36	9	4 (6)
2-PCC89 (5-7-8)	4	7.5	30	3	4 (2)
1-PCF80 (5-8)	4	7.5	68	3-6	4 (3)
2-PCF80 (5-7)	4	7.5	46	1	4 (9)
1-PCF82 (5-8)	4	7.5	60	3-6	4 (3)
2-PCF82 (5-7)	4	7.5	62	1	4 (9)
1-PCF86 (1-3-5)	4	7.5	38	7	4
2-PCF86 (1-3-5)	4	7.5	48	8-9	4 (2)
1-PCL82 (5-8)	4	19.6	32	6-7	4 (7)
2-PCL82 (2-5)	3	19.6	24	1-9	4 (1)
1-PCL83 (3-5)	4	12.6	36	6-8	4 (8)
2-PCL83 (5-7)	4	12.6	78	1	4 (2)
1-PCL84 (3-5)	4	12.6	56	6-9	4 (9)
2-PCL84 (5-7)	4	12.6	24	1-2	4 (1)
PL21 (4-5-7)	4	6.3	26	6	3
PL36 (3-7-8)	4	25	30	1-4-0	2 (5)
PL38 (7)	4	32	36	4-0	2 (4)
PL81 (1-5-6-9)	4	19.6	30	7-8-0	4
PL82 (5)	4	19.6	32	7-9	4 (9)
PL83 (5)	4	12.6	44	1-7	4 (1)
PL84 (1-2-5)	4	19.6	30	7-8-9	4 (9)

TUBE	A	B	C	U	D
PL500 (1-2-3-5-8)	4	25	28	6-7-0	4
PM04 (4)	4	6.3	50	5-6	3 (6)
PY32 (7)	3	32	20	3-5	2-8
PY80 (5)	3	19.6	46	9	4
PY81 (5)	3	19.6	50	2-9	4
PY82 (5)	3	19.6	48	9	1
QE03/10 (3-5-9)	4	6.3	40	1-6	4 (6)
QE06/50 (5)	4	6.3	36	2-0	1 (2)
1-QQE03/12 (4-5)	4	6.3	26	3-8	9 (3)
2-QQE03/12 (4-5)	4	6.3	26	1-6	9 (1)
1-QQV03-10 (4-5)	4	6.3	26	3-8	9 (3)
2-QQV03-10 (4-5)	4	6.3	26	1-6	9 (1)
QV06-20 (1-4-6-7)	4	6.3	30	3-0	2 (3)
1-R52 (8)	3	5	34	4	2
2-R52 (8)	3	5	34	6	2
RA-1 (4)	1	12.6	75	2-3	1
1-RK34 (7)	4	6.3	64	0	1 Right Top Cap
2-RK34 (7)	4	6.3	64	0	1 Left Top Cap
1-RK60 (4)	4	6.3	26	0	1 Right Top Cap
2-RK60 (4)	4	6.3	26	0	1 Left Top Cap
RK75 (5)	4	5	70	4-0	1 (4)
RX233 (7)	3	2.5	36	0	2
SR2 (2-4-7)	4	Off	34	1-3-5	Gas Test
SR3 (2-4-7)	4	0.63	50	1-5	Gas Test
STV85/10 (2-4-7)	4	Off	34	1-3-5	Gas Test
STV108/30 (2-4-7)	4	0.63	50	1-5	Gas Test
STV150/30 (2-4-7)	4	Off	48	1-5	Gas Test
1-T2M05 (4)	4	6.3	64	1	3 (6)
2-T2M05 (4)	4	6.3	60	2	3 (5)
1-U50 (8)	3	5	48	6	2
2-U50 (8)	3	5	31	4	2
1-U52 (8)	3	5	36	4	2
2-U52 (8)	3	5	36	6	2
1-U78 (4)	4	6.3	28	6	3
2-U78 (4)	4	6.3	28	1	3
1-U147 (7)	3	6.3	40	3	2
2-U147 (7)	3	6.3	40	5	2
1-U149 (8)	3	6.3	43	3	1
2-U149 (8)	3	6.3	43	6	1
U153 (5)	3	19.6	50	2-9	4
1-U709 (5)	3	6.3	30	1	4
2-U709 (5)	3	6.3	30	7	4
1-UABC80 (3-5)	1	32	30	1	4-7
2-UABC80 (5-7)	1	32	30	2	3-4
3-UABC80 (3-5)	4	32	28	8-9	4 (8)
4-UABC80 (3-5)	1	32	72	6	4-7
1-UBC81 (5-7-9)	2	12.6	58	1-2	4 (2)
2-UBC81 (5-7-9)	1	12.6	100	6	3-4
3-UBC81 (5-7-9)	1	12.6	64	8	3-4

TUBE	A	B	C	U	D
1-UBF80 (5)	4	19.6	52	1-6	4 (1)
2-UBF80 (5)	1	19.6	50	7	3-4
3-UBF80 (5)	1	19.6	62	8	3-4
1-UBL21 (8)	4	50	34	2-4	1 (4)
2-UBL21 (8)	1	50	100	5	1
3-UBL21 (8)	1	50	100	6	1
UC92 (4)	2	7.5	44	1-6	3 (6)
1-UCC84 (1-5-7-8)	4	19.6	50	9	4 (6)
2-UCC84 (5-7-8)	4	19.6	50	3	4 (2)
1-UCC85 (3-5)	4	2.5	88	6	4 (7)
2-UCC85 (5-8)	4	2.5	88	1	4 (2)
1-UCF80 (5-8)	4	25	68	3-6	4 (3)
2-UCF80 (5-7)	4	25	54	1	4 (9)
1-UCH81 (5)	4	19.6	58	1	4
2-UCH81 (5)	4	19.6	54	1-6	4 (1)
3-UCH81 (5)	4	19.6	68	8	4 (9)
1-UCL82 (5-8)	4	50	38	6-7	4 (7)
2-UCL82 (2-5)	4	50	30	1-9	4 (1)
1-UCL83 (3-5)	4	32	40	6-8	4 (8)
2-UCL83 (5-7)	4	32	28	1-2	4 (2)
UF80 (1-3-5)	4	19.6	54	7-8	4 (8)
UF85 (1-3-5)	4	19.6	44	7-8	4 (8)
UF86 (2-5-7)	2	12.6	58	6-9	4 (9)
UF89 (1-5-6)	4	12.6	50	7-8	4 (8)
UL84 (1-2-5)	4	50	36	6-7-8-9	4
1-UM4 (8)	4	12.6	0	4	1
2-UM4 (8)	4	12.6	0	3-4	1
3-UM4 (8)	4	12.6	0	4-6	1
1-UM80 (3-5-8-9)	2	19.6	100	1-7	4 (1)
2-UM80 (5)	4	19.6	0	3-7-8-9	4
3-UM80 (5)	4	19.6	0	3-8-9	4
1-UU12 (5)	3	6.3	30	1	4
2-UU12 (5)	3	6.3	30	7	4
UY85 (5)	4	32	28	1-6-9	4
1-V2M70 (4)	4	6.3	28	6	3
2-V2M70 (4)	4	6.3	28	1	3
VR75 (3-7)	4	0.63	50	5	Gas Test
VR90 (3-7)	4	Off	40	5	Gas Test
VR105 (3-7)	4	0.63	40	5	Gas Test
VR150 (3-7)	4	Off	30	5	Gas Test
VT24 (4)	2	1.4	62	2-3	1 (3)
VT25 (4)	4	7.5	50	2	1
VT26 (4)	4	3	80	2-3	1 (3)
VT27 (4)	2	2	46	2-3	1 (3)
VT28 (5)	4	2.5	78	2-3	1 (3)
VT29 (5)	2	2.5	52	2-3	1 (3)
VT30 (4)	5	5	65	2	1
VT31 (4)	2	2	52	2-3	1 (3)
VT33 (5)	4	2	40	2-4	1 (4)

TUBE	A	B	C	U	D
VT35 (5)	4	2.5	56	2-3	1 (3)
VT36 (5)	4	6.3	74	2-3	1 (3)
VT37 (5)	4	6.3	54	2-3	1 (3)
VT38 (5)	4	6.3	48	2-3	1 (3)
VT40 (4)	2	5	48	2-3	1 (3)
VT44 (4)	4	2	78	2-3	1 (3)
VT45 (4)	4	2.5	38	2	1
VT46A (4)	4	3	26	0	1
VT47 (5)	4	2.5	40	2-4	1 (4)
VT48 (6)	4	6.3	44	2-3	1 (3)
VT49 (5)	4	6.3	64	2-3	1 (3)
VT50 (4)	4	7.5	36	2	1
VT51 (4)	4	7.5	28	2-3	1 (3)
VT52 (4)	4	5	38	2	1
VT54 (4)	4	2	62	2-3	1 (3)
VT55 (4)	4	7.5	44	1-0	1 (3)
VT56 (5)	2	2.5	42	2-3	1 (3)
VT57 (6)	4	2.5	92	2-3	1 (3)
VT58 (6)	4	2.5	54	2-3	1 (3)
VT62 (4)	4	7.5	60	2	1
VT63 (5)	4	2.5	36	2-4	1 (4)
VT64 (4)	4	7.5	28	0	1
Tie Both Top Caps Together					
VT65 (7)	4	6.3	82	3	2 (5)
VT66 (7)	4	6.3	46	3-4	2 (4)
1-VT68 (7)	4	6.3	70	2-3	1 (3)
2-VT68 (7)	1	6.3	68	4	1-6
3-VT68 (7)	1	6.3	68	5	1-6
VT69 (6)	4	6.3	60	2-3	1 (3)
1-VT70 (7)	2	6.3	78	2-0	1
2-VT70 (7)	1	6.3	90	4-5	1 (5)
VT73 (5)	4	2.5	62	2	1
1-VT74 (8)	3	5	34	4	2
2-VT74 (8)	3	5	34	6	2
1-VT75 (6)	2	6.3	46	2-0	1 (0)
2-VT75 (6)	1	6.3	90	3	1
3-VT75 (6)	1	6.3	90	4	1
VT76 (5)	2	6.3	50	2-3	1 (3)
VT77 (6)	4	6.3	88	2-3	1 (3)
VT78 (6)	4	6.3	60	2-3	1 (3)
1-VT80 (4)	3	5	48	2	1 (3)
2-VT80 (4)	3	5	54	3	1
1-VT83 (4)	4	6.3	26	2	1
2-VT83 (4)	4	6.3	26	2	1
VT84 (5)	3	6.3	43	2	1
VT86 (7)	2	6.3	60	3-0	2
1-VT87 (7)	4	6.3	26	0-4	2
2-VT87 (7)	4	6.3	28	3-0	2
1-VT88 (7)	2	6.3	46	3-0	2
2-VT88 (7)	1	6.3	68	4	2-8
3-VT88 (7)	1	6.3	68	5	2-8

TUBE	A	B	C	U	D
VT89 (6)	4	6.3	46	2-3	1 (3)
1-VT90 (7-8)	3	6.3	62	3	2
2-VT90 (4-7)	3	6.3	62	5	2
VT91 (7)	2	6.3	54	3-0	2
1-VT92 (7)	2	6.3	48	3-0	2
2-VT92 (7)	1	6.3	66	5	2-8
3-VT92 (7)	1	6.3	68	4	2-8
1-VT93 (7)	1	6.3	50	5	2-8
2-VT93 (7)	1	6.3	50	4	2-8
3-VT93 (7)	4	6.3	84	3-6	2 (6)
VT94 (7)	4	6.3	76	3	2 (5)
VT95 (4)	4	2.5	30	2	1
1-VT96 (7)	4	6.3	27	3-4	2 (4)
2-VT96 (7)	4	6.3	27	5-6	2 (5)
1-VT97 (8)	3	5	58	4	2
2-VT97 (8)	3	5	58	6	2
1-VT98 (6)	4	6.3	50	2-4	1
2-VT98 (6)	4	6.3	50	4	1
1-VT99 (7-8)	4	6.3	72	3	2
2-VT99 (4-7)	4	6.3	72	6	2 (5)
VT100 (5)	4	6.3	36	2-0	1 (2)
VT101 (7)	4	12.6	38	3-0	1 (3)
1-VT103 (8)	2	6.3	50	2-6	7 (2)
2-VT103 (8)	1	6.3	78	4	3-7
3-VT103 (8)	1	6.3	78	5	3-7
1-VT104 (8)	2	12.6	62	2-6	7 (3)
2-VT104 (8)	1	12.6	56	4	3-7
3-VT104 (8)	1	12.6	48	5	3-7
1-VT105 (8)	2	6.3	50	2-3	7 (3)
2-VT105 (8)	2	6.3	50	4-5	7 (4)
VT107 (7)	4	6.3	42	3-4	2 (4)
VT109 (7)	4	6.3	26	3-6	2 (5)
VT112 (7)	4	6.3	56	6-8	2 (6)
1-VT114 (8)	3	5	34	4	2
2-VT114 (8)	3	5	34	6	2
VT115 (7)	4	6.3	36	3-4	2 (4)
VT116 (7)	4	6.3	66	6-8	2 (6)
VT117 (7)	4	6.3	52	6-8	2 (6)
VT119 (4)	4	2.5	56	0	1
VT124 (7)	4	1.4	60	3-4	2 (4)
VT125 (7)	4	1.4	38	3-4	2 (4)
1-VT126 (7)	3	6.3	40	3	2
2-VT126 (7)	3	6.3	40	5	2
VT131 (7)	4	12.6	52	6-8	2 (6)
1-VT133 (8)	4	12.6	82	6	7 (2)
2-VT133 (8)	1	12.6	100	4	3-7
3-VT133 (8)	1	12.6	70	5	3-7
VT134 (7)	4	12.6	52	3-4	2 (4)
VT135 (7)	4	12.6	66	3	2 (5)
VT136 (7)	4	12.6	36	3-0	1 (3)

TUBE	A	B	C	U	D
VT137 (7)	2	12.6	66	3-5	2 (5)
1-VT138 (7)	4	12.6	30	3-4	2
2-VT138 (7)	4	12.6	30	4	Eye Closed 2
VT139 (3-7)	4	Off	30	5	Eye Open Gas Test
1-VT145 (4)	3	5	34	2	1
2-VT145 (4)	3	5	34	3	1
VT146 (7)	1	1.4	42	3-0	2 (0)
1-VT147 (7)	4	1.4	50	3-4-0	2 (4)
2-VT147 (7)	4	1.4	54	4-0	2
1-VT148 (7)	2	1.4	52	3-5	2 (5)
2-VT148 (7)	2	1.4	54	6-0	2
3-VT148 (7)	1	1.4	96	8	2
1-VT149 (2-7)	1	1.4	42	3-0	1
2-VT149 (2-7)	1	1.4	44	5-6	1 (5)
3-VT149 (2-7)	1	1.4	78	8	1
1-VT150 (7)	4	6.3	45	4	2
2-VT150 (7)	4	6.3	44	3-4	2 (4)
1-VT151 (7-0)	4	6.3	50	1-3-4-0	2
2-VT151 (1-7-0)	1	6.3	50	5-6	2 (5)
VT152 (7)	4	6.3	44	3-4	2 (4)
1-VT161 (7)	4	12.6	45	4	2
2-VT161 (7)	4	12.6	44	3-4	2 (4)
VT162 (7)	4	12.6	66	6-8	2 (6)
1-VT163 (7-8)	2	6.3	54	3-0	2
2-VT163 (4-7)	2	6.3	50	5-6	2 (5)
VT164 (7)	4	2.5	46	3-4	2 (4)
VT165 (5)	4	2.5	42	2-0	1 (2)
1-VT167 (7)	4	6.3	46	1-3-4-0	2 (4)
2-VT167 (7)	4	6.3	86	6	2 (5)
VT168 (7)	4	6.3	30	3-4	2 (4)
1-VT169 (7)	4	12.6	74	3-6	2 (6)
2-VT169 (7)	1	12.6	100	4	2-8
3-VT169 (7)	1	12.6	100	5	2-8
VT170 (7)	2	2	62	3-0	2
1-VT171 (1-5)	4	1.4	50	2-3	7 (3)
2-VT171 (1-5)	4	1.4	50	3	7
1-VT172 (7)	4	1.4	30	5-6	1 (6)
2-VT172 (7)	1	1.4	92	3	1
VT173 (1-5)	4	1.4	76	2-3	7 (3)
VT174 (1-7)	2	1.4	46	2-3-6	5 (3)
VT175 (7)	4	6.3	48	3-4	2 (4)
VT176 (7)	4	6.3	74	6-8	2 (6)
1-VT177 (8)	1	1.4	44	2-6	1 (6)
2-VT177 (8)	1	1.4	100	4	1
1-VT178 (8)	4	1.4	50	2-5	1 (5)
2-VT178 (8)	2	1.4	74	3-4	1 (4)
VT179 (5-8)	2	1.4	48	2-6	1 (6)
VT180 (1-8)	4	1.4	42	2-3	7 (3)
1-VT181 (8)	3	6.3	58	3	1
2-VT181 (8)	3	6.3	58	6	1
1-VT182 (1-8)	2	1.4	40	2-3	4 (3)
2-VT182 (1-8)	2	1.4	40	6-7	4 (6)

TUBE	A	B	C	U	D
VT183 (8)	2	1.4	86	4	1
VT184 (3-7)	4	Off	40	5	Gas Test
VT185 (1-8)	4	1.4	40	2-3	1 (3)
1-VT188 (4-7-8)	2	6.3	50	2-3	1 (3)
2-VT188 (4-7-8)	1	6.3	100	5	1
3-VT188 (4-7-8)	1	6.3	100	6	1
1-VT189 (7-8)	2	6.3	48	3-4	1 (4)
2-VT189 (2-8)	2	6.3	48	5-6	1 (5)
VT190 (8)	4	6.3	58	2-3	1 (3)
VT192 (8)	2	6.3	44	2-6	1 (6)
VT193 (8)	4	6.3	78	2-3	1 (3)
1-VT194 (8)	2	6.3	52	3-4	1 (4)
2-VT194 (8)	4	6.3	64	2-5	1 (5)
3-VT194 (8)	2	6.3	42	5-6	1 (6)
1-VT195 (8)	4	6.3	28	3	6
2-VT195 (8)	4	6.3	28	5	6
1-VT197A (8)	3	5	48	4	2
2-VT197A (8)	3	5	31	4-0	2 (4)
VT198A (4)	4	6.3	50	3-4	2 (4)
VT199 (7)	4	6.3	56	6-8	2 (6)
VT200 (3-7)	4	6.3	40	5	Gas Test
VT201 (7)	4	2.5	36	3-4	2 (4)
VT202 (2-4-7)	4	6.3	82	1-5	3 (6)
VT203 (2-4-7)	2	6.3	46	1-5	3 (1)
1-VT205 (8)	4	6.3	73	6	7 (2)
2-VT205 (8)	1	6.3	74	4	3-7
3-VT205 (8)	1	6.3	74	5	3-7
1-VT206A (8)	3	5	30	4	2
2-BT206A (8)	3	5	30	6	2
1-VT207 (4-8)	4	12.6	80	3	7 (1)
2-VT207 (2-8)	4	12.6	80	6	7 (5)
1-VT208 (8)	4	6.3	46	2-5	1 (5)
2-VT208 (8)	2	6.3	44	3-4	1 (4)
VT209 (3-5-7)	4	12.6	54	6-8	2 (6)
VT210 (1-5)	1	1.4	70	2-4-6	7 (4)
VT211 (3-5-7)	4	6.3	58	6-8	2 (6)
VT213A (7)	4	6.3	78	3	2 (5)
1-VT214 (7-8)	3	12.6	86	3	2
2-VT214 (4-7)	3	12.6	86	5	2
1-VT215 (6)	4	6.3	30	2-4	1
2-VT215 (6)	4	6.3	30	4	Eye Closed 1
VT216 (4)	4	2.5	26	0	Eye Open 1
VT217 (4)	4	6.3	28	3-0	3
VT218 (4)	4	6.3	26	0	1
Tie Side Pin and Top Cap Together					
VT221 (2-7)	4	1.4	44	3-4	8 (4)
VT222 (7)	3	6.3	42	3	2 (5)
1-VT224 (7)	4	6.3	64	0	1
2-VT224 (7)	4	6.3	64	0	Right Top Cap 1 Left Top Cap

TUBE	A	B	C	U	D
VT225 (5)	4	5	70	4-0	1 (4)
1-VT229 (6-8)	2	6.3	48	1-2	7 (1)
2-VT229 (3-8)	2	6.3	48	4-5	7 (4)
VT230 (7)	4	6.3	32	3-4	2
1-VT231 (6-8)	4	6.3	72	2	7 (1)
2-VT231 (3-8)	4	6.3	72	5	7 (4)
VT232 (7)	4	6.3	26	0	2
1-VT233 (8)	4	6.3	26	2-6	7 (1)
2-VT233 (8)	1	6.3	80	4	3-7
3-VT233 (8)	1	6.3	80	5	3-7
VT235 (7)	2	6.3	48	0	2
Tie Both Top Caps Together					
VT236 (4)	3	3	32	0	1
VT239 (8)	2	1.4	46	2-6	1 (6)
VT241 (1-4-5-6-8)	4	6.3	94	3-7	2
VT243 (8)	3	6.3	72	4	1
1-VT244 (8)	3	5	36	4	2
2-VT244 (8)	3	5	36	6	2
VT245 (7)	4	6.3	26	3	2
VT247 (7)	4	6.3	40	6-8	2 (6)
VT260 (3-7)	4	0.63	50	5	Gas Test
VT264 (1-7)	4	1.4	40	2-4-6	5 (4)
VT266 (4)	4	3	28	0	1
1-VT268 (8)	2	12.6	68	2-3	7 (3)
2-VT268 (8)	2	12.6	68	4-5	7 (4)
VT269 (3-5-7)	2	6.3	42	4-8	2 (4)
1-VT287 (1-3-6-8)	4	6.3	32	4-0	5 (4)
2-VT287 (1-3-6-8)	4	6.3	32	4-0	Right Top Cap 5 (4) Left Top Cap
VT288 (3-5-7)	4	12.6	70	6-8	2 (6)
1-VT289 (6-8)	2	12.6	70	1-2	7 (1)
2-VT289 (3-8)	2	12.6	70	4-5	7 (4)
W17 (1-5)	4	1.4	76	2-3	7 (3)
W719 (1-3-5)	4	6.3	46	7-8	4 (8)
W727 (4)	4	6.3	50	5-6	3 (6)
1-X14 (7)	4	1.4	50	3-4-0	2 (4)
2-X14 (7)	4	1.4	54	4-0	2
1-X17 (1-5)	4	1.4	50	2-3	7 (3)
2-X17 (1-5)	4	1.4	50	3	7
X99 (4)	2	3.0	60	2-3	1 (3)
1-X719 (5)	4	6.3	66	1-6	4 (1)
2-X719 (5)	2	6.3	44	8-9	4 (9)
1-X727 (4)	4	6.3	48	6	3
2-X727 (4)	4	6.3	46	5-6	3 (6)
XC95 (1-4-7)	4	2	90	5	3 (2)
XC97 (1-4-7)	2	2	32	2-5	3 (2)
XC900 (2-4-7)	1	2.5	54	5	3 (1)
1-XCC189 (5-8)	4	4.2	36	1	4 (2)
2-XCC189 (3-5)	4	4.2	36	6	4 (7)
1-XCF80 (5-7)	4	4.2	46	1	4
2-XCF80 (5-8)	4	4.2	66	3-6	4 (3)

TUBE	A	B	C	U	D
1-XCL85 (5-8)	4	7.5	90	1	4 (2)
2-XCL85 (3-5)	2	7.5	100	6-7	4 (9)
XF183 (1-3-5)	4	3	36	7-8	4 (8)
XF184 (1-3-5)	4	3	44	7-8	4 (2)
XL84 (1-2-5)	4	7.5	36	7-9	4 (9)
XL500 (1-2-3-5-8)	4	12.6	28	6-7-0	4
1-XXB (1-8)	1	1.4	40	3-4	7 (4)
2-XXB (1-8)	1	1.4	40	5-6	7 (5)

TUBE	A	B	C	U	D
2-XXD (7-8)	4	12.6	76	3	1 (4)
2-XXD (2-8)	4	12.6	76	6	1 (5)
1-XXFM (7-8)	2	6.3	56	2-3	1 (3)
2-XXFM (7-8)	1	6.3	100	5	1
3-XXFM (4-8)	1	6.3	100	6	1
XXL (8)	4	6.3	66	2	1 (6)
XY88 (1-2-5)	3	19.6	40	3-6-7-8-9	4
YC95 (1-4-7)	4	3	72	5	3 (2)

TUBE	A	B	C	U	D
YF183 (1-3-5)	4	4.2	40	7-8	4 (8)
YF184 (1-3-5)	4	4.2	43	7-8	4 (2)
Z14 (7)	1	1.4	42	3-0	2
Z63 (7)	2	6.3	54	3-0	2
Z729 (2-5-7)	4	6.3	26	6-9	4 (9)
Z900T (3-7)	4	.63	47	1-4	— —
1-ZD17 (7)	4	1.4	30	5-6	1 (6)
2-ZD17 (7)	1	1.4	92	3	1