

Four colours (1)

Numbers which light the orange section are alternately odd and even.

The only single-digit numbers which do not light red are 8, 4, 2, 5, 7, and 1.

234	r
342	r
423	r
432	r
243	r
324	ro

123	r
231	rg
312	r
321	r
132	rg
213	r

The device only responds to positive integers. Its range is 1 to 999999.

In the range 1-20:

4 numbers have no effect,
10 numbers light one colour,
6 numbers light two colours.

10	p	40	p	70	p
20	p	50	p	80	p
30	pr	60	pr	90	pr

100	o	400	o	700	
200		500		800	
300	r	600	r	900	ro

1000	p	4000	p	7000	p
2000	p	5000	p	8000	p
3000	pr	6000	pr	9000	pr

12	rp
23	p
34	p
45	rp
56	p
67	p
78	rp
89	p

Four colours (2)

4	8	12	16	20	24	28	32	36	40
o		rp	op	p	rp	p	p	rop	p

5	10	15	20	25	30	35	40	45	50	55	60
	p	rp	p	op	rp	p	p	rp	p	pg	rp

123	234	345	456	567	678	789
r	r	r	r	r	r	r

1234	2345	3456	4567	5678	6789
p	p	rp	p	p	rp

1	11	111	1111	11111	111111
o	gp	r	gp		gpr

1	10	100	1000	10000	100000
o	p	o	p	o	p

These numbers all light up green			
121	1221	12221	122221
242	2442	24442	244442
363	3663	36663	366663

Four colours (3)

Between them, the numbers 1 to 99 light up

purple 90 times	red 33 times	green 9 times	orange 9 times
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In the range 1- 9: no number lights either green or purple.

The smallest number that lights exactly three sections is 33.

The smallest two-digit number that lights orange is 16.

The smallest number that lights exactly two sections is 9.

The smallest number that lights purple is 10.

Every two-digit number lights up at least one section.

There is no four-digit number which has no effect.

Purple is switched on by all numbers greater than 99 999 but less than one million

No number ending in a 2, 3, 7, or 8 lights the orange section.

There are more than 900 000 different numbers which light purple, but only 999 light orange.