



**CHALLENGE**  
SERIES

# **KEGEL** NAVIGATION PATTERNS





### MIDDLE ROAD 4239

In political terms, this pattern is centrism in nature because the characteristics lie between the extremes of having to play too far to the right or too far to the left. The MIDDLE ROAD is a 39 foot pattern that is moderately challenging; it's not too easy and it's not too tough. The best mindset and line for this pattern is usually somewhere near the middle of the road.

#### **Latitude Ratio Coordinates**

22' 4.2 to 1

37' 3.2 to 1

#### **Longitude Ratio Coordinates**

Outside Taper 4.0 to 1

Inside Taper 2.9 to 1

#### **Pattern Distance**

39 Feet

#### **Pattern Volume**

Forward 11.90 mL

Reverse 10.95 mL

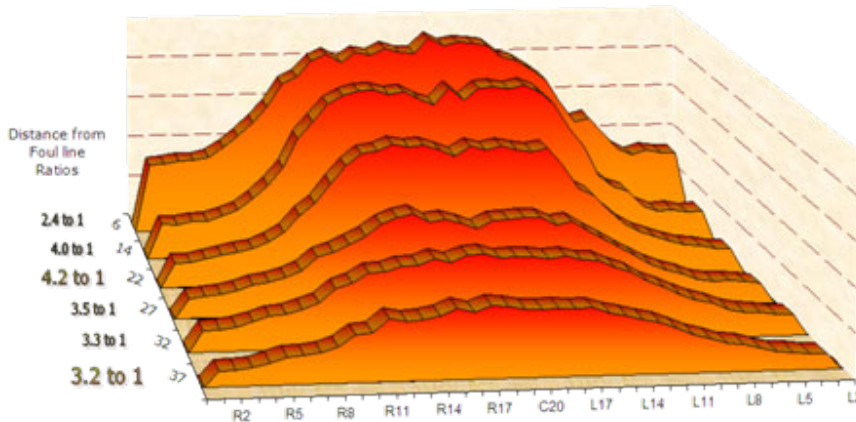
Total 22.85 mL



### MIDDLE ROAD 4239

#### Latitude Ratio Coordinates

22' 4.2 to 1  
37' 3.2 to 1



The 2D chart on the left was generated by Lane Monitor showing select tapes and ratios at key distances throughout the pattern. USBC Sport Bowling ratios are calculated at 22' and 2' before the end of the pattern. All Latitude Ratio Coordinates are calculated from these two distances.

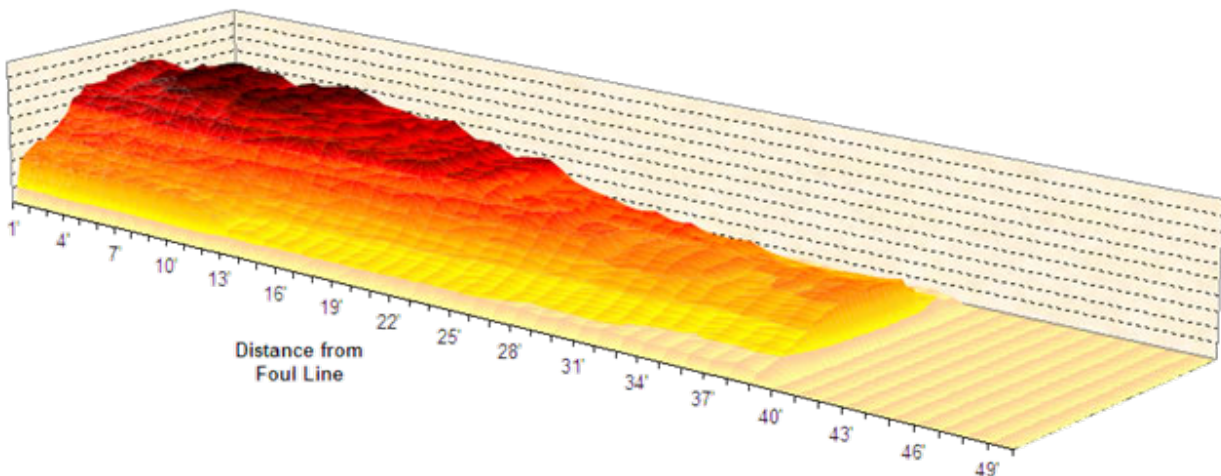
Latitude ratios in the last half of the pattern can be an indicator of the difficulty of a pattern. Generally, the lower the ratios down lane, the more difficult the pattern.

#### Longitude Ratio Coordinates

Outside Taper 4.0 to 1

Inside Taper 2.9 to 1

The 3D chart below was generated by taking tapes every foot of the pattern. This gives a visual of how the conditioner tapers off from the front to the end of the pattern.





### MIDDLE ROAD 4239

#### Kegel Sanction Technology™ Lane Machine Settings

Oil per Board (Pump Setting): 50 µL

Pattern Distance: 39 feet

Forward Settings									
Screen #	Left End of Stream	Right End of Stream	# Loads or Streams	Travel Speed (in/sec)	Beginning Distance of Load (feet)	Ending Distance of Load (feet)	# Boards Crossed per Load	Total Boards Crossed	Total Volume of Oil (µL)
01F	2	2	2	14.00	0.00	1.90	37	74	3700
02F	6	6	1	14.00	1.90	3.80	29	29	1450
03F	8	8	1	14.00	3.80	5.70	25	25	1250
04F	10	10	3	14.00	5.70	11.60	21	63	3150
05F	12	12	2	18.00	11.60	16.70	17	34	1700
06F	14	14	1	18.00	16.70	19.20	13	13	650
07F	2	2	0	18.00	19.20	26.00			
08F	2	2	0	22.00	26.00	32.00			
09F	2	2	0	30.00	32.00	39.00			
Forward Buff Screens: 3			Forward # Boards Crossed   Volume mL					238	11.90
Reverse Settings									
Screen #	Left End of Stream	Right End of Stream	# Loads or Streams	Travel Speed (in/sec)	Beginning Distance of Load (feet)	Ending Distance of Load (feet)	# Boards Crossed per Load	Total Boards Crossed	Total Volume of Oil (µL)
01R	2	2	0	30.00		32.00			
02R	13	13	2	22.00	32.00	25.80	15	30	1500
03R	11	11	2	18.00	25.80	20.70	19	38	1900
04R	9	9	1	18.00	20.70	18.20	23	23	1150
05R	7	7	2	18.00	18.20	13.10	27	54	2700
06R	2	2	2	18.00	13.10	8.00	37	74	3700
07R	2	2	0	14.00	8.00	0.00			
08R									
09R									
Reverse # Boards Crossed   Volume mL								219	10.95
<b>Forward plus Reverse Boards Crossed   Volume mL</b>								<b>457</b>	<b>22.85</b>





### MIDDLE ROAD 4239

The charts on this page are generated by Kegel's KOSI software from the lane machine program sheet.

The **OVERHEAD CHART** on the right shows where the conditioner is applied on both the forward and reverse screens. The gradient area is a calculation of how the conditioner might bleed off the buffer brush.

The **COMPOSITE GRAPH** below shows the total amount of conditioner applied to every board. A good way to think about this graph is to envision all the conditioner on the lane being pushed back to the foul line. Once all the conditioner is stacked up, this is what it would look like.

- Forward Oil
- Reverse Oil
- Combined Oil
- Buff Area

