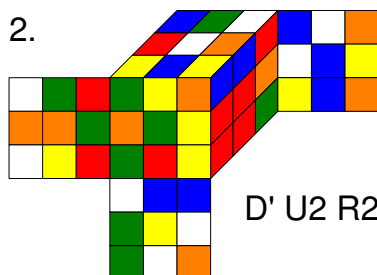
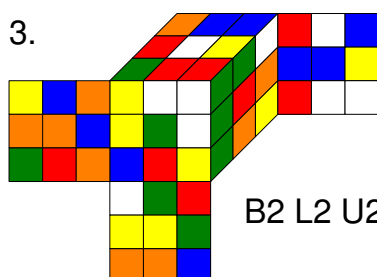


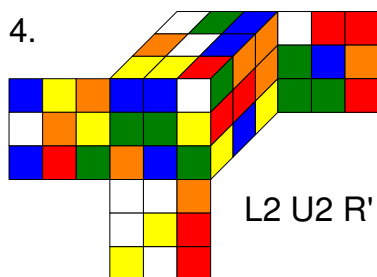
F R2 F D2 B' U2 L B2 R2 U' B2 U F' D' U F' R2 F L' (19f)



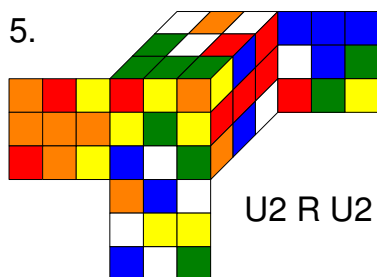
D' U2 R2 D' U' B L2 U2 B D' B L2 R2 U2 R D' L U' (18f)



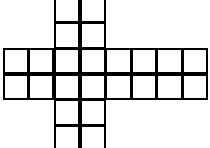
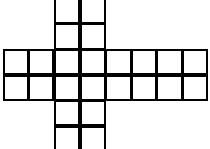
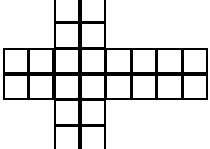
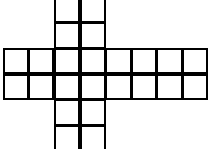
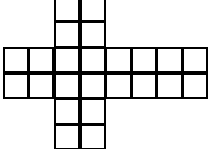
B2 L2 U2 R2 D2 U' R F D' R D2 L' R' D R' B2 R2 D U (19f)



L2 U2 R' B2 L2 B' U R D' L' R F L D B U' R' F2 (18f)

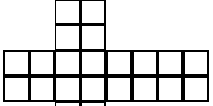
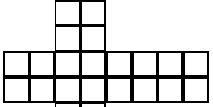
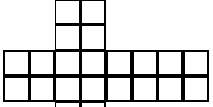
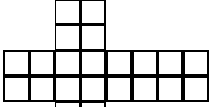
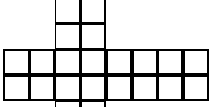


U2 R U2 R U2 L2 F R' F2 D' L F2 D' B2 L' F2 R' U' R2 (19f)

Number of scrambles:		Minimum scramble length:		Colours (DLBURF):		<input type="button" value="Scramble!"/> <a href="#">Help!</a>	
<input type="text" value="5"/>		<input type="text" value="0"/>		<input type="text" value="yobwrg"/>			
1.	<b>U2 R F R F2 R' U'</b>						
2.	<b>U2 F U' R' F2 R F' U2 R2 U'</b>						
3.	<b>U R U2 F R2 U' R F R'</b>						
4.	<b>U' R' U2 R2 F R' U2 R</b>						
5.	<b>F' R U F' U R2 U R U</b>						

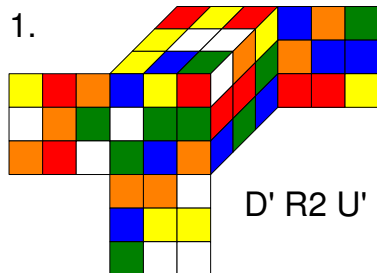
version: August 17, 2010

2x2 Round 1

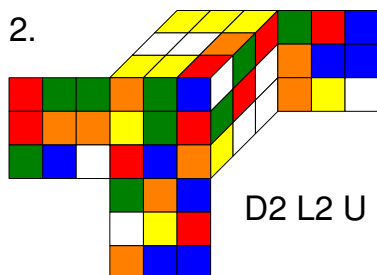
Number of scrambles:		Minimum scramble length:		Colours (DLBURF):		<input type="button" value="Scramble!"/> <a href="#">Help!</a>	
<input type="text" value="5"/>		<input type="text" value="0"/>		<input type="text" value="yobwrg"/>			
1.	<b>R2 F R2 F U' R2 F2 U'</b>						
2.	<b>F' R U2 F U' F' R2 F' R</b>						
3.	<b>U2 R' U' F2 U' F2 U2 R U'</b>						
4.	<b>F2 R' U2 R' F U2 R' U'</b>						
5.	<b>F' R2 F2 U2 R' U R2 U F</b>						

version: August 17, 2010

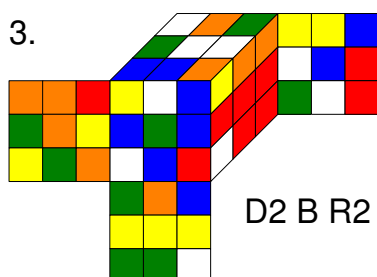
2x2 Final



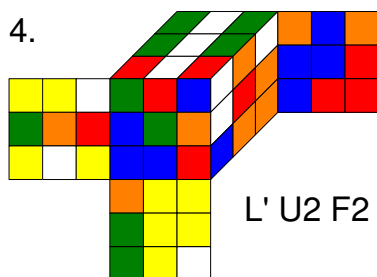
D' R2 U' B2 F2 D2 R2 B2 F L2 D F' D' R2 U2 L U' B2 (18f)



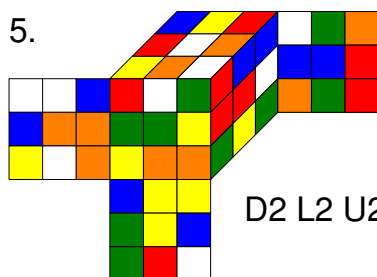
D2 L2 U B2 L2 R2 U' F2 U' B2 L2 B' U2 L' D2 F' U' F U' B (20f)



D2 B R2 B F2 D2 F' U2 L' B L2 R U R' B2 L' R' D' R (19f)

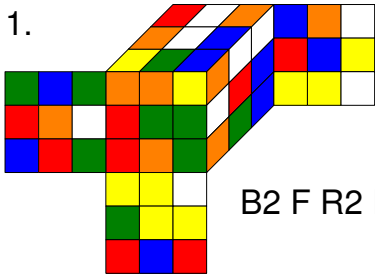


L' U2 F2 U2 R2 U2 R' F R' D2 B' U B2 L B L B' L R' (19f)



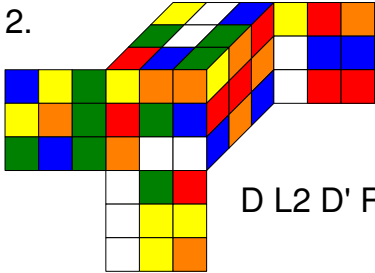
D2 L2 U2 L' B2 F2 D2 U B' U' F' L D L' D L' D2 R' D2 (19f)

1.



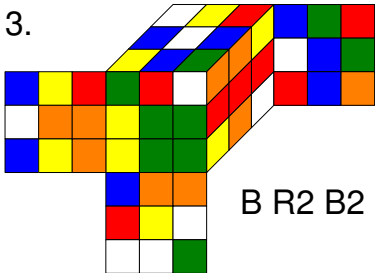
B2 F R2 F R2 D2 F2 U' F2 U B L' B2 D' L2 F U R F' (19f)

2.



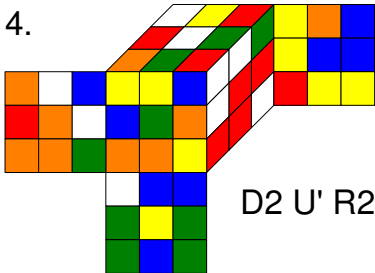
D L2 D' R2 U' L2 D R F D2 R2 D F' L' D' B2 F2 R U2 (19f)

3.



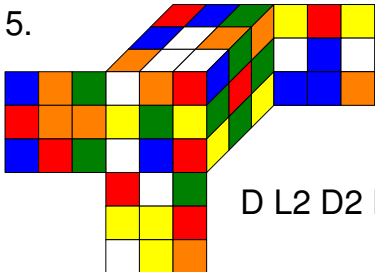
B R2 B2 D2 R2 B' F' R' B' L' R' D2 R F2 L' U' R2 D2 U (19f)

4.

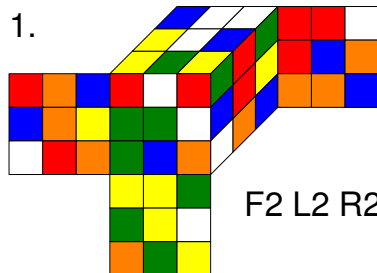


D2 U' R2 D' R2 B2 F2 R2 D2 F' U' B2 F2 U2 B L' B R F D2 (20f)

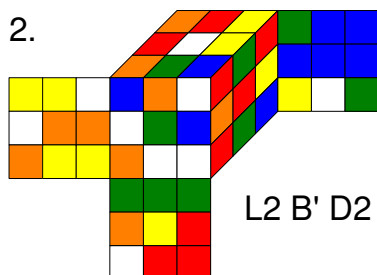
5.



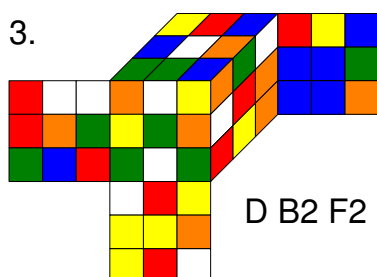
D L2 D2 L2 F2 U2 L F2 D' F R' U B2 U2 R F D L2 R' (19f)



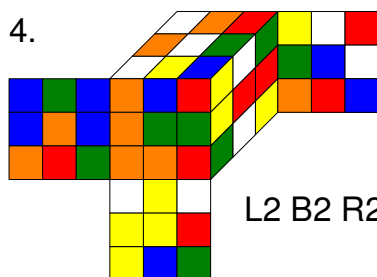
F2 L2 R2 D2 R' D2 F U' B2 U2 B2 L D B2 L2 F2 R' (17f)



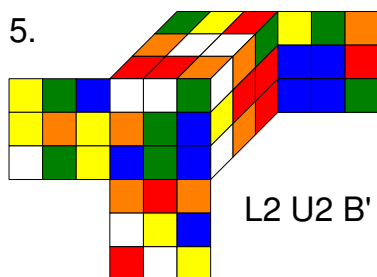
L2 B' D2 F' R2 U F' L2 F' D2 F' U2 F L F2 U' B L F' (19f)



D B2 F2 U L2 D' R' B F' D2 R F L2 U' F' L' U2 L F' (19f)

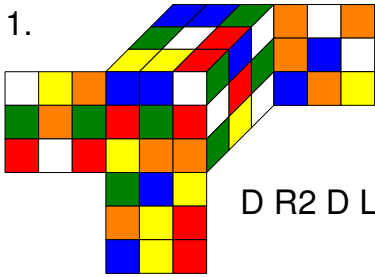


L2 B2 R2 B2 F D U2 B' U B2 R2 D R' B F2 D L' D' (18f)



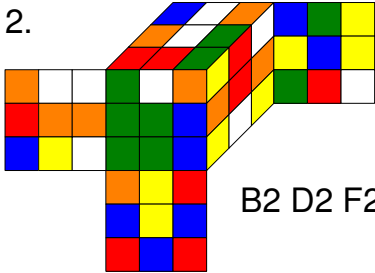
L2 U2 B' L2 R2 F R2 F2 D U F2 L U L R2 U R2 B' F (19f)

1.



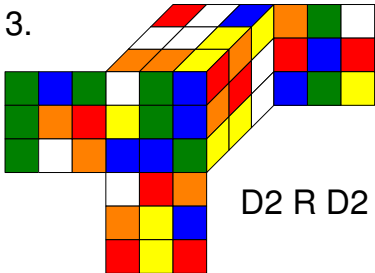
D R2 D L2 F2 D' F2 L B2 D U2 F' L' D B' L2 U' B' F (19f)

2.



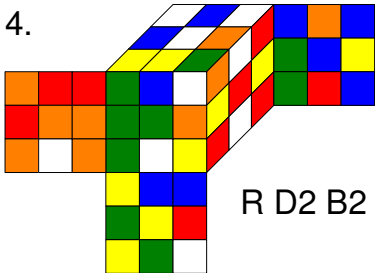
B2 D2 F2 D2 R2 D2 L' F R2 D' F2 L B F2 L2 D' B' L R (19f)

3.



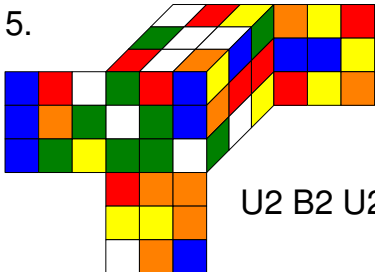
D2 R D2 R' B2 F R2 U F' D F U' L' B L2 D' L D2 (18f)

4.

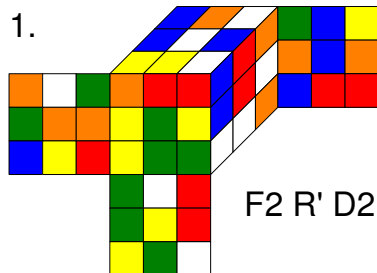


R D2 B2 R2 F2 L' R2 F2 R2 B' L' F' U2 L2 D U2 L' F U F2 (20f)

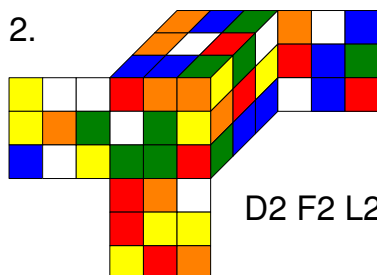
5.



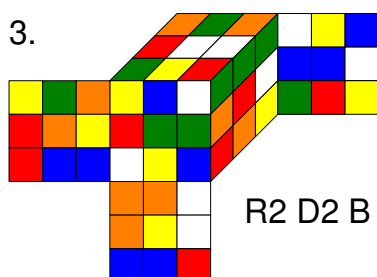
U2 B2 U2 R' D' L' U B' U' R' U L R2 F2 U R2 B2 (17f)



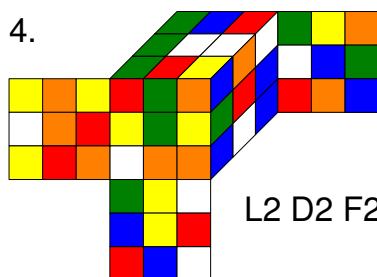
F2 R' D2 F2 R' D2 B2 U' B' L D U2 B F' D' U2 B' R' B' (19f)



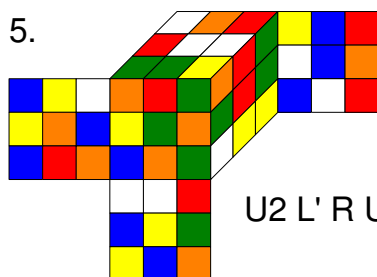
D2 F2 L2 F2 L2 R D U R F' D' L R' F L B' R' F' U2 (19f)



R2 D2 B F' D2 R' F U B R' D2 B R' F' R2 D' F U2 (18f)

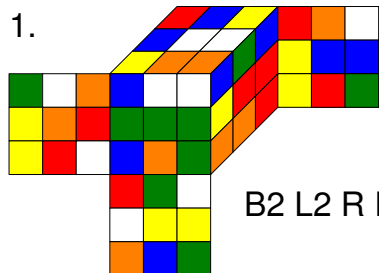


L2 D2 F2 R2 U2 B2 L2 B R' D2 B' U R2 U2 L F2 R D' L' (19f)

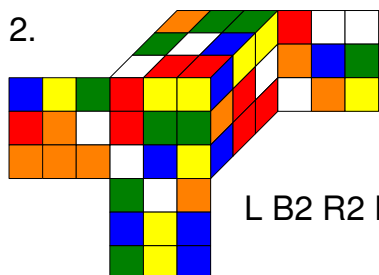


U2 L' R U2 F2 D' F U L' D' L' R2 U2 L' R' D' B' L' R2 (19f)

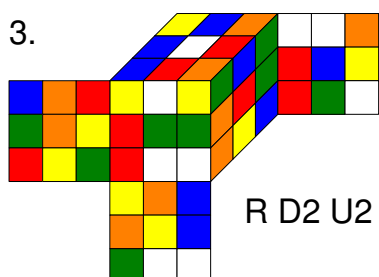




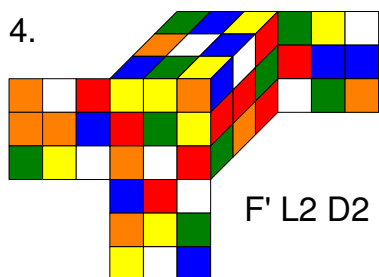
B2 L2 R D2 L' R D' U2 L' D' F' L2 D' B2 L2 U' B2 U (18f)



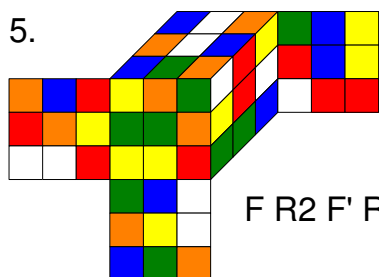
L B2 R2 B2 D2 L D' B R' B2 D F' L2 R2 U' F L U R' (19f)



R D2 U2 R' B2 R F2 U' R F2 U' R D' U B L' F' D R' (19f)

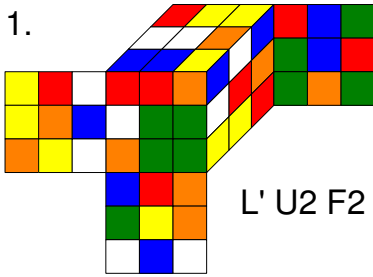


F' L2 D2 B F' D2 R' B' L F2 R2 B' D U2 R B2 U F' R2 (19f)



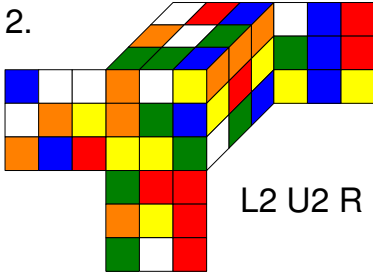
F R2 F' R2 B' U L' B2 U2 B' F D2 U F2 L U' F2 D' (18f)

1.



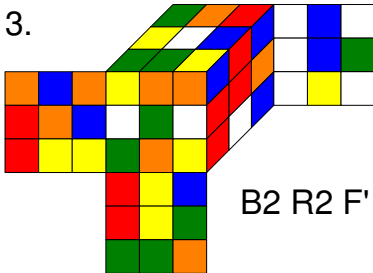
L' U2 F2 R B2 L2 U' B' F' D2 R2 U' R' U' L2 B F2 U' L2 (19f)

2.



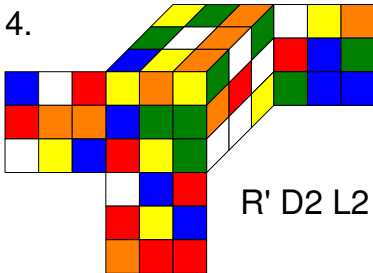
L2 U2 R B2 D2 B2 R F' R' B' U' L2 D' U2 R B F R' F (19f)

3.



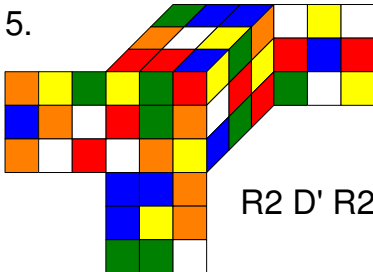
B2 R2 F' D2 U2 L2 B D' R' B' L D2 R2 F2 D2 F2 D F2 L2 (19f)

4.

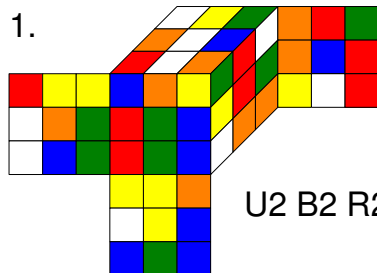


R' D2 L2 U2 L' U2 B R2 D F' U2 R' D U' L' B R2 B2 D2 (19f)

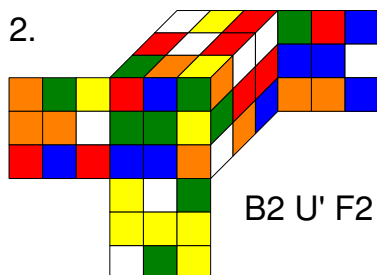
5.



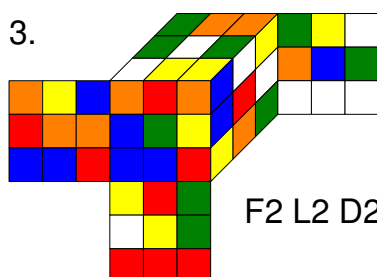
R2 D' R2 D' U L' F' R' D B' R2 B' U F2 D B' R F2 U' (19f)



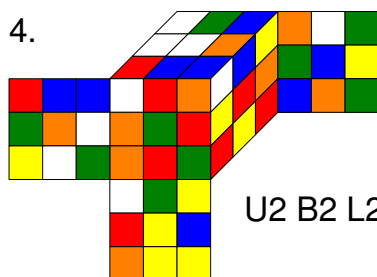
U2 B2 R2 B' U2 F' L2 D F U' B2 L2 B' U2 L' B U2 L R' (19f)



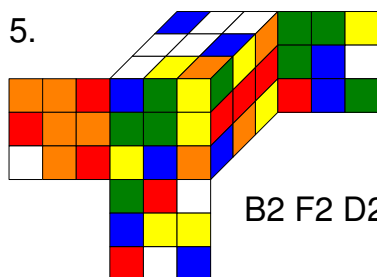
B2 U' F2 U' F2 L2 D2 U' L2 R U2 F' D2 B' L' B' D' U' F (19f)



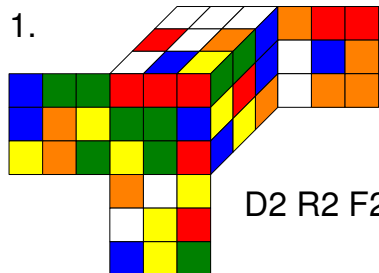
F2 L2 D2 F2 L2 R2 U' L' B2 R' B F' R B2 L' F2 U2 R' F' (19f)



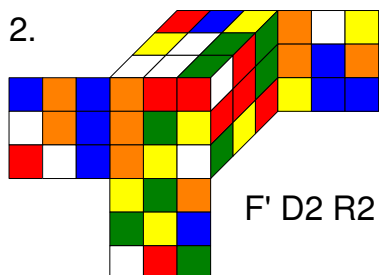
U2 B2 L2 U L2 B2 D' R B L' D2 L' R2 B2 L' F2 U2 F D' U (20f)



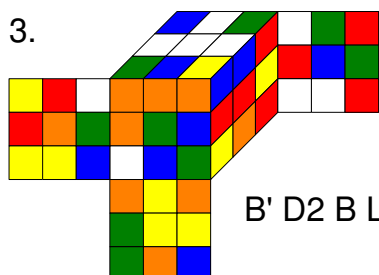
B2 F2 D2 R2 B2 F' L F U2 L B D2 U2 F2 L R' (16f)



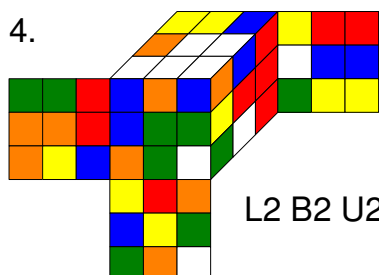
D2 R2 F2 D' L2 U2 L2 B' U F D' B2 F' D' L' D2 F2 R B2 U' (20f)



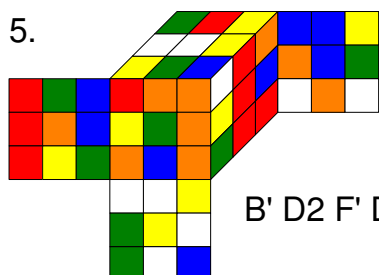
F' D2 R2 B F U2 B D2 U L R2 F' L R U L U2 R2 (18f)



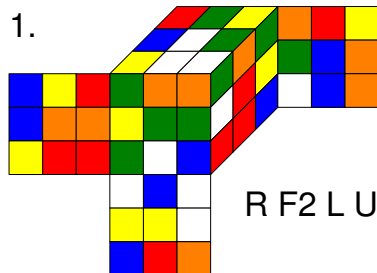
B' D2 B L2 R2 D2 F U' R' U2 L' D F2 D L B' F2 L' F (19f)



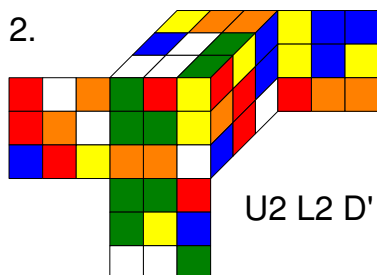
L2 B2 U2 L' D2 F2 L D2 F2 R B' F2 U2 R F' L' U (17f)



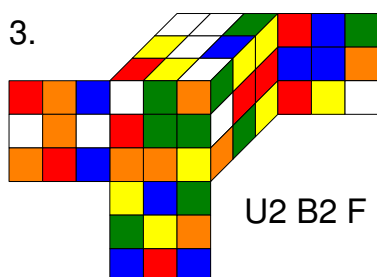
B' D2 F' D2 F' U2 L2 F R2 U B' R' D L2 R' B' L' D U' B2 (20f)



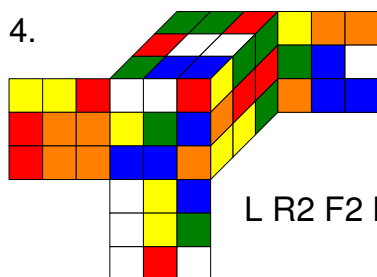
R F2 L U2 B' U R F U' R' D2 U F2 R F2 L F' R' (18f)



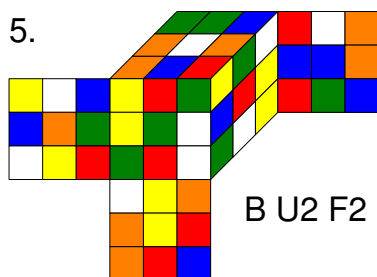
U2 L2 D' U2 F2 U2 L U' B2 F' R' U F' D2 U' L' D2 U2 (18f)



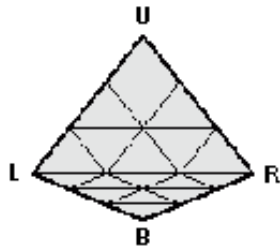
U2 B2 F U2 F2 R D2 B2 L2 U2 R2 F' D' B L' B' U2 B' (18f)



L R2 F2 L2 U2 R' D2 B2 F2 L' D2 B2 D2 B L F2 R U' (18f)



B U2 F2 L2 F D R2 B U R2 U2 R' F2 R2 F L R' F U (19f)



Number of scrambles:

5

Note:

Small letter: Rotate a vertex piece, Capital letter: Rotate two layers at once.

Optimal Random-State Scrambles

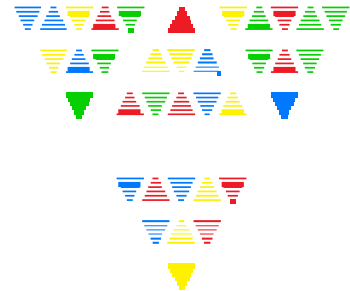
Generated Sat, 18 Jun 2011 01:41:11 GMT

Colours (LFRD):

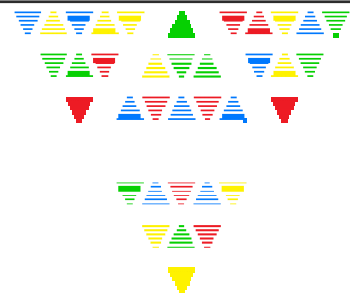
gryb

Scramble!

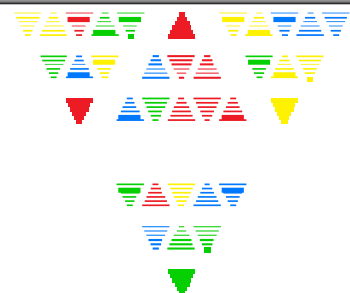
1. U' L' U B U' B L' R U' l' r u'



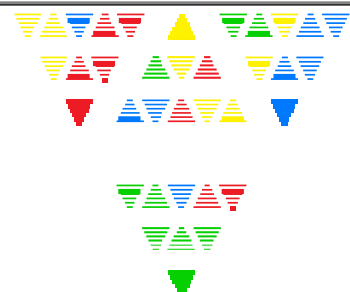
2. U R' L' U R L R' B R l' r b



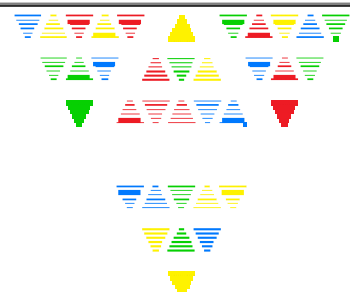
3. B U R B R' L U' B' l



4. U' R' B U' L R' L R

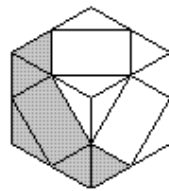
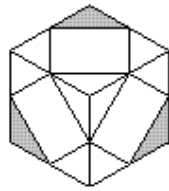
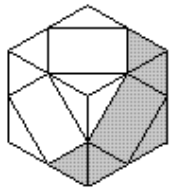
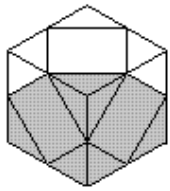


5. R U L B' U B' L' b u'



UU u=0 dd d=1	UU u=-1 dd d=-4	UU u=-5 dd d=2	UU u=4 dd d=1	UU u=-5 dd d=3
dU u=1 dU d=0	dU u=4 dU d=4	dU u=3 dU d=6	dU u=5 dU d=-1	dU u=-5 dU d=0
dd u=0 UU d=4	dd u=-2 UU d=6	dd u=-1 UU d=-4	dd u=0 UU d=-4	dd u=-5 UU d=1
Ud u=0 Ud d=-5	Ud u=2 Ud d=-1	Ud u=-3 Ud d=5	Ud u=2 Ud d=-2	Ud u=2 Ud d=4
dU u=-3 UU	dU u=2 UU	dU u=-1 UU	dU u=3 UU	dU u=3 UU
Ud u=-4 UU	Ud u=0 UU	Ud u=4 UU	Ud u=-5 UU	Ud u=4 UU
UU u=0 Ud	UU u=2 Ud	UU u=-2 Ud	UU u=6 Ud	UU u=-2 Ud
UU u=6 dU	UU u=5 dU	UU u=4 dU	UU u=5 dU	UU u=-1 dU
UU u=5 UU	UU u=2 UU	UU u=0 UU	UU u=6 UU	UU u=5 UU
dd d=-1 dd	dd d=-4 dd	dd d=-2 dd	dd d=4 dd	dd d=4 dd
Ud dU	dd Ud	Ud dd	UU UU	dd Ud
Result Front: 10 5 7 4 5 5 10 5 12 Back: 5 2 2 1 1 8 12 5 2	Result Front: 4 4 3 10 2 12 2 3 2 Back: 9 7 8 3 11 10 10 5 10	Result Front: 10 12 10 8 11 2 3 4 2 Back: 2 7 2 11 5 10 10 1 9	Result Front: 5 2 3 9 2 12 4 10 5 Back: 9 3 7 1 2 12 7 10 8	Result Front: 8 1 4 1 8 6 2 1 12 Back: 8 3 4 12 12 4 12 1 10

CLOCK



**F**

**R**

**B**

**L**

Number of Scramble Colours  
scrambles: length: (UBLFRD):

Scramble!

5

20

wbogy

Note:

With the front facing you, turn the cube a 1/8 turn to the left. The edge of the middle square on top should now be parallel to you. The top square will stay stationary. Turn the edges appropriately around this square.

1. FL'BFRFLFBRBRLBL'FBL'F'L

2. RBLBFR'LF'L'FL'BL'F'B'R'F'BRF

3. R'LR'B'F'BR'LB'L'FLFLFBRFRF'

4. B'RFB'R'LB'FR'BF'BR'LR'L'B'RFL'



5. RB'R'BRF'LFB'F'RBRB'L'R'F'B'F'L'	
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SKOOB

Number of scrambles:	Scramble length:	Colours (DLBURF):	Scramble!
<input type="text" value="5"/>	<input type="text" value="40"/>	<input type="text" value="yobwrg"/>	<input type="button" value="Scramble!"/>
<b>(0,3) (0,3) (0,3) (-3,1) (0,5) (-3,4) (-3,0) (0,2) (6,4) (-2,5) (4,0) (0,4) (-5,4) (0,2) (0,4) (2,4) (6,2) (0,0)</b>			
<b>(-5,2) (6,6) (0,5) (6,1) (3,0) (0,2) (0,3) (-5,4) (0,2) (2,2) (-3,2) (2,0) (4,5) (-3,0) (2,0) (0,1) (-3,0) (0,0)</b>			
<b>(6,0) (0,-3) (4,0) (0,3) (0,5) (-2,4) (2,2) (0,3) (6,4) (3,0) (2,0) (0,2) (6,1) (0,3) (0,2) (-2,5) (2,0) (6,0) (0,0)</b>			
<b>(0,6) (0,6) (6,3) (0,1) (5,0) (-3,0) (6,0) (-5,4) (-4,5) (4,4) (-1,0) (-2,4) (6,1) (6,5) (-3,4) (0,2)</b>			
<b>(0,6) (0,3) (3,3) (0,3) (-5,3) (-1,0) (6,3) (5,0) (4,4) (0,3) (0,5) (6,5) (4,2) (6,0) (6,0) (-3,4) (-5,0) (0,0)</b>			

version: November 29, 2009