**5x5 F4C Algorithms (First Four Centers)**

**五阶前四面公式**

Learn intuitive F4C first. *(case)* denotes final state. 先凭直觉学习F4C。*(case)* 表终态。

|  |  |  |  |
| --- | --- | --- | --- |
| **1x3 Line** |  |  |  |
|  |  |  |  |
| **Rw U Rw'** (*line*) | **Rw U' Rw'** (*line*) | **Rw U Rw'** (*line*)  U Rw' F' Rw | **Rw U' Rw'** (*line*)  U' Rw' F Rw |
|  |  |  |  |
| **Rw U Rw'** (*line*) | **Rw U' Rw'** (*line*) | **Rw' F Rw** (*line*) | **Rw' F' Rw** (*line*) |
|  |  |  |  |
| **3Rw' F U' 3Rw** (*line*)  U M' U M | **Rw U' B Rw'** (*line*)  U' M' U' M | **Rw U2 Rw'** (*line*) | **Rw U2 Rw'** (*line*) |
|  |  |  |  |
| **(U2) Rw U2' Rw' U2 Rw**  (U2) M' U2 M(*line*) | **M' U M** (*line*) | **Rw U' Rw' U2 Rw**  (*line*) | **Rw U Rw'** *(1x2)* |
|  |  |  |  |
|  | **Rw U Rw'** *(2 lines)* | **Rw U' Rw'** *(2 lines)* |  |
| **T** |  |  |  |
|  |  |  |  |
| **Rw U(') Rw'** *(2x3)* | **Rw U2 Rw'** *(T)* | **3Rw Rw' U' Rw'** *(2x3)* | **M' U M** *(3x3)* |
| **Squares (S) &** **W** | | | |
|  |  |  |  |
| **Rw U Rw'** *(2x3)* | **Rw U' Rw'** *(2x3)* | **Rw U Rw'** *(2x3)* | **Rw U' Rw'** *(2x3)* |
|  |  |  |  |
| **Rw U Rw'** *(2x3)* | **Rw U' Rw'** *(2x3)* | **(Rw U Rw' U) (Rw U' Rw')** *(2x3)* | **(Rw U Rw' U') (Rw U' Rw')** *(2x3)* |
|  |  |  |  |
| **(U2) Rw U2' Rw' U2 Rw**  (U2) M' U2 M*(1x3)* | **(Rw U' Rw' U2) (Rw U' Rw')** *(2x3)* | **(Rw U Rw' U2') (Rw U Rw')** *(2x3)* |  |
| **P** |  |  |  |
|  |  |  |  |
| **Rw U Rw'** *(T)* | **Rw U' Rw'** *(T)* | **(Rw U Rw' U') (Rw U' Rw')** *(2x3)*  U2 Rw U Rw2' F' Rw | **(Rw U' Rw' U) (Rw U Rw')** *(2x3)*  U2 Rw U' Rw2' F Rw |
|  |  |  |  |
|  | **(Rw U Rw' U2') (Rw U' Rw')** *(2x3)* | **(Rw U' Rw' U2) (Rw U Rw')** *(2x3)* |  |
| **Fish (F)** |  |  |  |
|  |  |  |  |
| **Rw U Rw'** *(2x3)* | **Rw U' Rw'** *(2x3)* | **(Rw U' Rw' U) (Rw U' Rw')** *(2x3)* | **(Rw U Rw' U') (Rw U Rw')** *(2x3)* |
| **Knight Move** |  |  |  |
|  |  |  |  |
| **Rw U' Rw'** *(S)* | **Rw U Rw'** *(S)* | **Rw U2 Rw'** *(T)* | **Rw U2 Rw'** *(T)* |
|  |  |  |  |
| **Rw U Rw'** *(T)* | **Rw U' Rw'** *(T)* | **(Rw' U' Rw U) (Rw U Rw')** *(2x3)* | **(Rw' U Rw U') (Rw U' Rw')** *(2x3)* |
|  |  |  |  |
| **Rw U' Rw' F Rw**  *(2x3)* | **Rw U Rw' F' Rw**  *(2x3)* | **Rw U Rw'** *(2x3)* | **Rw U' Rw'** *(2x3)* |
|  |  |  |  |
| **L** |  |  |  |
|  |  |  |  |
| **Rw U Rw'** *(S)* | **Rw U' Rw'** *(S)* | **M' U M** *(S)* | **M' U' M** *(S)* |
|  |  |  |  |
| **Lightning Bolts** |  |  |  |
|  |  |  |  |
| **Rw U Rw' U' Rw** *(T)* | **Rw U' Rw' U Rw** *(T)* | **Rw U Rw'** *(T)* | **Rw U' Rw'** *(T)* |
|  |  |  |  |
|  |  |  |  |
| **Rw U2 Rw'** *(2x3)* | **Rw U2 Rw'** *(2x3)* | **(Rw U2 Rw' U') (Rw U Rw')** *(2x3)* | **(Rw U2' Rw' U) (Rw U' Rw')** *(2x3)* |
| **Awkward** |  |  |  |
|  |  |  |  |
| **Rw U Rw' U' Rw** *(T)* | **Rw U' Rw' U Rw** *(T)* | **Rw U Rw'** *(T)* | **Rw U' Rw'** *(T)* |
|  |  |  |  |
| **Rw U Rw'** *(T)* | **Rw U' Rw'** *(T)* | **Rw U Rw'** *(F)* | **Rw U' Rw'** *(F)* |
|  |  |  |  |
| **Rw U Rw'** *(S)* | **Rw U' Rw'** *(S)* | **Rw U2 Rw'** *(half T)* | **Rw U2 Rw'** *(half T)* |
|  |  |  |  |
| **Dot** |  |  |  |
|  |  |  |  |
| **M' U M** *(2x3)* | **Rw' F Rw2 U Rw'**  *(S)* | **Rw' F' Rw2 U' Rw'**  *(S)* |  |