heuristics:

[{(3, 0): 0, (4, 0): 1, (3, 1): 1, (2, 0): 1, (2, 1): 2, (1, 0): 2, (4, 1): 2, (3, 2): 2, (5, 0): 2, (1, 1): 3, (0, 0): 3, (4, 2): 3, (3, 3): 3, (5, 1): 3, (6, 0): 3, (0, 1): 4, (1, 2): 4, (4, 3): 4, (3, 4): 4, (2, 3): 4, (5, 2): 4, (6, 1): 4, (7, 0): 4, (2, 4): 5, (4, 4): 5, (3, 5): 5, (5, 3): 5, (6, 2): 5, (7, 1): 5, (2, 5): 6, (1, 4): 6, (4, 5): 6, (3, 6): 6, (5, 4): 6, (6, 3): 6, (7, 2): 6, (1, 5): 7, (0, 4): 7, (2, 6): 7, (4, 6): 7, (3, 7): 7, (6, 4): 7, (7, 3): 7, (0, 3): 8, (0, 5): 8, (1, 6): 8, (2, 7): 8, (5, 6): 8, (7, 4): 8, (6, 5): 8, (0, 6): 9, (1, 7): 9, (5, 7): 9, (7, 5): 9, (0, 7): 10, (6, 7): 10, (7, 6): 10, (7, 7): 11}, Comment: goal(3, 0), 障碍物的点不在其中, 距离是折线的最短路径。

{(0, 0): 0, (1, 0): 1, (0, 1): 1, (1, 1): 2, (2, 0): 2, (2, 1): 3, (1, 2): 3, (3, 0): 3, (3, 1): 4, (4, 0): 4, (4, 1): 5, (3, 2): 5, (5, 0): 5, (4, 2): 6, (3, 3): 6, (5, 1): 6, (6, 0): 6, (4, 3): 7, (3, 4): 7, (2, 3): 7, (5, 2): 7, (6, 1): 7, (7, 0): 7, (2, 4): 8, (4, 4): 8, (3, 5): 8, (5, 3): 8, (6, 2): 8, (7, 1): 8, (2, 5): 9, (1, 4): 9, (4, 5): 9, (3, 6): 9, (5, 4): 9, (6, 3): 9, (7, 2): 9, (1, 5): 10, (0, 4): 10, (2, 6): 10, (4, 6): 10, (3, 7): 10, (6, 4): 10, (7, 3): 10, (0, 3): 11, (0, 5): 11, (1, 6): 11, (2, 7): 11, (5, 6): 11, (7, 4): 11, (6, 5): 11, (0, 6): 12, (1, 7): 12, (5, 7): 12, (7, 5): 12, (0, 7): 13, (6, 7): 13, (7, 6): 13, (7, 7): 14},

{(1, 1): 0, (1, 0): 1, (2, 1): 1, (1, 2): 1, (0, 1): 1, (0, 0): 2, (2, 0): 2, (3, 1): 2, (3, 0): 3, (4, 1): 3, (3, 2): 3, (4, 0): 4, (4, 2): 4, (3, 3): 4, (5, 1): 4, (4, 3): 5, (3, 4): 5, (2, 3): 5, (5, 0): 5, (5, 2): 5, (6, 1): 5, (2, 4): 6, (4, 4): 6, (3, 5): 6, (5, 3): 6, (6, 0): 6, (6, 2): 6, (7, 1): 6, (2, 5): 7, (1, 4): 7, (4, 5): 7, (3, 6): 7, (5, 4): 7, (6, 3): 7, (7, 0): 7, (7, 2): 7, (1, 5): 8, (0, 4): 8, (2, 6): 8, (4, 6): 8, (3, 7): 8, (6, 4): 8, (7, 3): 8, (0, 3): 9, (0, 5): 9, (1, 6): 9, (2, 7): 9, (5, 6): 9, (7, 4): 9, (6, 5): 9, (0, 6): 10, (1, 7): 10, (5, 7): 10, (7, 5): 10, (0, 7): 11, (6, 7): 11, (7, 6): 11, (7, 7): 12},

{(5, 4): 0, (5, 3): 1, (6, 4): 1, (4, 4): 1, (4, 3): 2, (4, 5): 2, (3, 4): 2, (5, 2): 2, (6, 3): 2, (7, 4): 2, (6, 5): 2, (3, 3): 3, (3, 5): 3, (2, 4): 3, (4, 2): 3, (4, 6): 3, (5, 1): 3, (6, 2): 3, (7, 3): 3, (7, 5): 3, (2, 3): 4, (2, 5): 4, (1, 4): 4, (3, 2): 4, (3, 6): 4, (4, 1): 4, (5, 6): 4, (5, 0): 4, (6, 1): 4, (7, 2): 4, (7, 6): 4, (1, 5): 5, (0, 4): 5, (2, 6): 5, (3, 1): 5, (3, 7): 5, (4, 0): 5, (6, 0): 5, (5, 7): 5, (7, 1): 5, (7, 7): 5, (0, 3): 6, (0, 5): 6, (1, 6): 6, (2, 7): 6, (3, 0): 6, (2, 1): 6, (6, 7): 6, (7, 0): 6, (0, 6): 7, (1, 7): 7, (2, 0): 7, (1, 1): 7, (0, 7): 8, (1, 0): 8, (1, 2): 8, (0, 1): 8, (0, 0): 9},

{(5, 6): 0, (5, 7): 1, (4, 6): 1, (4, 5): 2, (3, 6): 2, (6, 7): 2, (3, 5): 3, (3, 7): 3, (2, 6): 3, (4, 4): 3, (7, 7): 3, (2, 5): 4, (2, 7): 4, (1, 6): 4, (3, 4): 4, (4, 3): 4, (5, 4): 4, (7, 6): 4, (1, 5): 5, (1, 7): 5, (0, 6): 5, (2, 4): 5, (3, 3): 5, (4, 2): 5, (5, 3): 5, (6, 4): 5, (7, 5): 5, (0, 5): 6, (0, 7): 6, (1, 4): 6, (2, 3): 6, (3, 2): 6, (4, 1): 6, (5, 2): 6, (6, 3): 6, (7, 4): 6, (6, 5): 6, (0, 4): 7, (3, 1): 7, (4, 0): 7, (5, 1): 7, (6, 2): 7, (7, 3): 7, (0, 3): 8, (3, 0): 8, (2, 1): 8, (5, 0): 8, (6, 1): 8, (7, 2): 8, (2, 0): 9, (1, 1): 9, (6, 0): 9, (7, 1): 9, (1, 0): 10, (1, 2): 10, (0, 1): 10, (7, 0): 10, (0, 0): 11}]