Máquina de Estados:

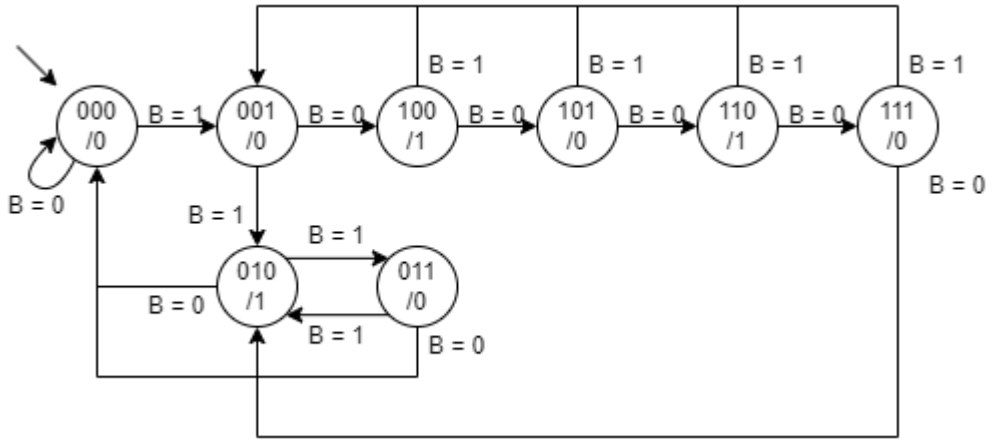

Tabela Verdade:

E02(A)	E01(B)	E00(C)	B(D)	E2	E1	E0	S
0	0	0	0	0	0	0	0
0	0	0	1	0	0	1	0
0	0	1	0	1	0	0	0
0	0	1	1	0	1	0	0
0	1	0	0	0	0	0	1
0	1	0	1	0	1	1	1
0	1	1	0	0	0	0	0
0	1	1	1	0	1	0	0
1	0	0	0	1	0	1	1
1	0	0	1	0	0	1	1
1	0	1	0	1	1	0	0
1	0	1	1	0	0	1	0
1	1	0	0	1	1	1	1
1	1	0	1	0	0	1	1
1	1	1	0	0	1	0	0
1	1	1	1	0	0	1	0

Derivando as expressões de E2, E1, E0 e S usando FND:

E2 = A’.B’.C.D’ + A.B’.C’.D’ + A.B’.C.D’ + A.B.C’.D’
E2 = B’.C.D’ + A.C’.D’

E1 = A’.B’.C.D + A’.B.C’.D + A’.B.C.D + A.B’.C.D’ + A.B.C’.D’ + A.B.C.D’
E1 = A’.C.D + A’.B.D + A.C.D’ + A.B.D’

E0 = A’.B’.C’.D + A’.B.C’.D + A.B’.C’.D’ + A.B’.C’.D + A.B’.C.D + A.B.C’.D’ + A.B.C’.D + A.B.C.D
E0 = C’.D + A.C’ + A.D

S = A’.B.C’.D’ + A’.B.C’.D + A.B’.C’.D’ + A.B’.C’.D + A.B.C’.D’ + A.B.C’.D
S = B.C’ + A.C’

Simplificações:

-E2 = A'.B'.C.D' + A.B'.C'.D' + A.B'.C.D' + A.B.C'.D'
E2 = B'.C.D'.(A' + A) + A.C'.D'.(B' + B) -> Distrib.
E2 = B'.C.D' + A.C'.D' -> Complemento / Elem. Neutro

-E1 = A'.B'.C.D + A'.B.C'.D + A'.B.C.D + A.B'.C.D' + A.B.C'.D' + A.B.C.D'
E1 = A'.C.D.(B + B') + A'.B.D.(C' + C) + A.B.D'.(C' + C) -> Distrib.
E1 = A'.C.D + A'.B.D + A.C.D' + A.B.D' -> Complemento / Elem. Neutro

-E0 = A'.B'.C'.D + A'.B.C'.D + A.B'.C'.D' + A.B'.C'.D + A.B'.C.D + A.B.C'.D' + A.B.C'.D + A.B.C.D
E0 = A'.B'.C'.D + A'.B.C'.D + A.B'.C'(D' + D) + A.B'.C.D + A.B.C'(D' + D) + A.B.C.D -> Distrib.
E0 = A'.B'.C'.D + A'.B.C'.D + A.B'.C' + A.B'.C.D + A.B.C' + A.B.C.D -> Complemento / Elem. Neutro
E0 = A'.B'.C'.D + A'.B.C'.D + A.C'(B' + B) + A.B'.C.D + A.B.C.D -> Distrib.
E0 = A'.B'.C'.D + A'.B.C'.D + A.C' + A.B'.C.D + A.B.C.D -> Complemento / Elem. Neutro
E0 = A'.C'.D(B' + B) + A.C' + A.C.D(B' + B) -> Distrib.
E0 = A'.C'.D + A.C' + A.C.D -> Complemento / Elem. Neutro
E0 = A'.C'.D + A.(C' + C.D) -> Distrib.
E0 = A'.C'.D + A.(C' + D) -> Cobertura
E0 = A'.C'.D + A.C' + A.D -> Distrib.
E0 = C'.(A + A'.D) + A.D -> Distrib.
E0 = C'.(A + D) + A.D -> Cobertura
E0 = C'.D + A.C' + A.D -> Distrib.

-S = A'.B.C'.D' + A'.B.C'.D + A.B'.C'.D' + A.B'.C'.D + A.B.C'.D' + A.B.C'.D
S = A'.B.C'(D' + D) + A.B'.C'.(D' + D) + A.B.C'.(D' + D) -> Distrib.
S = A'.B.C' + A.B'.C' + A.B.C' -> Complemento / Elem. Neutro
S = C'(A'.B + A.B' + A.B) -> Distrib.
S = C'.(B(A' + A) + A.B') -> Distrib.
S = C'.(B + A.B') -> Complemento / Elem. Neutro
S = C'(B + A) -> Cobertura
S = B.C' + A.C' -> Distrib.