Number of vertices $n = 8$.
Adjacencies of Graph

1. vertex 1 adjacent to 2 3 4 5 6 7 8
2. vertex 2 adjacent to 1 4 5 6 7 8
3. vertex 3 adjacent to 1 4 5 6 7 8
4. vertex 4 adjacent to 1 2 3
5. vertex 5 adjacent to 1 2 3
6. vertex 6 adjacent to 1 2 3
7. vertex 7 adjacent to 1 2 3
8. vertex 8 adjacent to 1 2 3

Size of automorphism group of the graph=240
Full group: $|Aut(polytope)| = 30720$
Restricted group: $|Aut(G) \times switch| = 30720$
Number of orbits for the full group : 2
List of orbits of facets for the full group: Total number of orbits = 2 Total number of facets = 120

1. Inequality 1 with incidence 96 and stabilizer of size 768. Orbit size is 40 nature: 3-cycle inequality, C=[2, 8, 1] F=[2, 8]

(1,2) : 1	(1,3) : 0	(1,4) : 0	(1,5) : 0	(1,6) : 0	(1,7) : 0
(1,8) : 1	(2,4) : 0	(2,5) : 0	(2,6) : 0	(2,7) : 0	(2,8) : -1
(3,4) : 0	(3,5) : 0	(3,6) : 0	(3,7) : 0	(3,8) : 0	

2. Inequality 2 with incidence 64 and stabilizer of size 384. Orbit size is 80 nature: 4-cycle inequality, C=[3, 5, 2, 4] F=[3, 5]

(1,2) : 0	(1,3) : 0	(1,4) : 0	(1,5) : 0	(1,6) : 0	(1,7) : 0
(1,8) : 0	(2,4) : 1	(2,5) : 1	(2,6) : 0	(2,7) : 0	(2,8) : 0
(3,4) : 1	(3,5) : -1	(3,6) : 0	(3,7) : 0	(3,8) : 0	