Solution

1.

Lane/unit-load width	*x*	3.5			
Unit-load depth	*y*	4			
Unit-load height	*z*	3			
No. different items	*N*	3			
Down aisle width	*A*	10			
No. levels for stacking	*H*	4			
No. of rows (lane depth)	*D*	3			
SKU		**Total**	**A**	**B**	**C**
Max no. units of SKU *i*	M_i	60	10	18	32
Number of lanes	*L*	6	1	2	3
Total area (2-D)	*TA*	357			
Number of stacks		16	3	5	8
Item area (2-D)		224			
Cube utilization (2-D)		62.75%			

2.

Lane/unit-load width	*x*	3.3333333	ft	
Unit-load depth	*y*	3	ft	
Unit-load height	*z*	4	ft	
No. different items	*N*	5,000		
Down aisle width	*A*	8	ft	
No. levels for stacking	*H*	6		
Est. max no. total units	*M*	500,000		
Optimal lane depth	*D**	7		
Number of lanes	*L*	14,346		
Total area (2-D)	*TA*	1,195,500	ft^2	
Cross aisle percentage		15%		
Total WH area (2-D)	*TA'*	1,374,825	ft^2	(a)
Item area (2-D)		833,340	ft^2	
Cube utilization (2-D)	w.r.t. TA	70%		(b)
Cube utilization (2-D)	w.r.t. TA'	61%		(b)