

CASE

CASE 11.1 LET THERE BE LIGHT LAMP SHADE COMPANY

Located 60 miles from Chicago, Illinois, the Let There Be Light Lamp Shade Company, which designs and builds custom lamp shapes and lamp globes, historically derived all of its sales from customers in the United States and Canada. Recently, an architectural firm that often contracted with Let There Be Light was commissioned to design several large public buildings in the People's Republic of China (China). These buildings would require Let There Be Light to supply 8,100 identical lights, and the relevant terms of sale would include delivery to the Port of Shanghai where the architectural firm would take possession.

Let There Be Light designed a prototype cylindrical lamp shade that measured 11 inches high and 11 inches in diameter and would be packed into cartons that measured 12 inches by 12 inches by 12 inches. (We refer to these shades as Style A.) The Style A lamp shades would cost \$4 each to manufacture and weighed nine pounds each; each carton cost 60 cents and weighed one pound, meaning that each loaded Style A carton weighed 10 pounds.

In an effort to reduce packaging costs and also enhance the company's commitment to environmental logistics, Let There Be Light also developed two prototype lamp shades (referred to as Style B and Style C) in the shape of a cone, rather than a cylinder. One advantage to conical shades is that they can be nested, that is, stacked inside each other, meaning that, unlike Style A, multiple lamp shades could be packed into a single carton. Moreover, the nested shades would also help protect each other, although a slight bit of padding would be needed between the nested shades. The production costs for the conical lamp shades would be higher than those for the cylindrical shades.

Let There Be Light determined that each Style B lamp shade would cost \$4.50 to manufacture and could be shipped nested, with six lamp shades per carton. The carton dimensions were 12 inches by 12 inches by 40 inches,

and when holding six shades, a carton weighed 62 pounds. Each Style B carton cost \$2.00, and this included padding between the shades. Each Style C lamp shade would cost \$5 to make and could be shipped nested, with 10 lamp shades per carton. The carton dimensions were 12 inches by 12 inches by 48 inches, and when holding 10 shades, a carton weighed 101 pounds. Each carton cost \$2.25, including padding between the individual shades.

The lamp shades would be loaded into intermodal containers and transported by rail to the Port of Vancouver. The transportation cost to Vancouver was \$1,400 per 40-foot container, without regard to weight, although the total shipment weight could not exceed 44,000 pounds per container because of highway weight restrictions. The interior dimensions of the intermodal container were 8 feet wide by 8.5 feet high by 40 feet long. Insurance costs were 2 percent of the value of the shipment ready to be loaded aboard ship in Vancouver (i.e., all of the company's costs up to this point). Let There Be Light learned that the transportation cost from the Port of Vancouver to the Port of Shanghai were \$800 for a 40-foot container.

QUESTIONS

1. How many Style A shades can be loaded into a 40-foot container?
2. How many Style B shades can be loaded into a 40-foot container?
3. How many Style C shades can be loaded into a 40-foot container?
4. What are the total costs of delivering the Style A shades to the Port of Shanghai?
5. What are the total costs of delivering the Style B shades to the Port of Shanghai?
6. What are the total costs of delivering the Style C shades to the Port of Shanghai?
7. Which style would you recommend? Why?