Special Problem III.C-3

A transmitter delivers **100 Watts** to an antenna.

This antenna radiates **all** of this transmitter power **uniformly** throughout a **solid angle** Ω.

This solid angle Ω **subtends a rectangle**, located at a distance of **100 meters** from the antenna.

The rectangle is **20 meters wide** and **10 meters high**.

a) Determine the **intensity** of the propagating wave within the solid angle Ω.

b) Determine the **power density** of the wave at a distance of **200 meters** from the antenna.

c) Determine the **directivity** of this antenna.