The diffraction of surface plasmon-polaritons in an abruptly terminated dielectric-metal interface is studied by the method of lines. The forward radiating field and the reflected field are calculated. The occurrence of a surface plasmon-polariton propagating at right angles to the incident one is reported. It is suggested that studies of surface plasmon-polariton diffraction in this common geometry must account for the sideways propagating plasmon-polariton for the proper balance of power at the plane of diffraction to be achieved.