Solution to Part (a)

The solid angle subtended by area dA2 with respect to dA1 is 3.32e-04 sr

The solid angle subtended by area dA3 with respect to dA1 is 4.34e-04 sr

Solution to Part (b)

The intensity of radiation emitted from dA1 in the direction of dA2 is 1530 BTU/(hr.sq.ft.sr)

The intensity of radiation emitted from dA1 in the direction of dA3 is 1400 BTU/(hr.sq.ft.sr)

Solution to Part (c)

The rate at which radiation emitted by dA1 is intercepted by dA2 is 2.27e-03 BTU/hr

The rate at which radiation emitted by dA1 is intercepted by dA3 is 2.11e-03 BTU/hr