LATENT LOAD		
Infiltration 67 cfm × 4840 × 0.0071 =	2,300	
People 85 × 250 =	21,250	
TOTAL LATENT SPACE LOAD		23,550
VENTILATION AIR		
Sensible 1275 cfm × 1.08 × 15° =		20,700
Latent 1275 cfm × 4840 × 0.0071 =		43,800
GRAND TOTAL LOAD		272,815

LETTER SYMBOLS USED IN CHAPTER 15

β = solar altitude, degrees.

γ = difference between the azimuth angle of an outdoor wall and the azimuth angle of the horizontal projection of the sun's rays, degrees.

μ = Permeability of material to moisture transmission, grains per (sq ft) (hr) (inch Hg).

λ = amplitude decrement factor, a variable depending on thickness, material, and orientation of the wall or roof dimensionless.

θ = angle of incidence for sun's rays striking a surface, degrees.

τ = fraction of incident radiant energy transmitted through a glass section, dimensionless.

A = area across which heat is being transferred, square feet.

a = fraction of incident radiant energy absorbed within a glass section, dimensionless.

b = fraction of incident radiant energy absorbed by a non-transparent surface, dimensionless.

e = ratio of direct solar radiation to sky radiation falling on a horizontal surface, dimensionless.

f_i = unit convective conductance for indoor surface = film coefficient of heat transfer of indoor air, Btu per (square foot) (hour) (Fahrenheit degree).

f_o = unit convective conductance for outdoor surface = film coefficient of heat transfer of outdoor air, Btu per (square foot) (hour) (Fahrenheit degree).

G_f = fraction of total window area receiving direct solar radiation when shaded by window reveal, dimensionless.

h_i = enthalpy of indoor air per pound of dry air, Btu per pound.

h_o = enthalpy of outdoor air per pound of dry air, Btu per pound.

I_d = direct solar radiation incident upon a surface at any angle of incidence, Btu per (square foot) (hour).

I_n = direct solar radiation incident on a surface at normal incidence, Btu per (square foot) (hour).

I_s = sky radiation incident upon a surface, Btu per (square foot) (hour).

$I_t = I_s + I_d$, Btu per (square foot) (hour).

K = cosine of angle of incidence for direct solar radiation striking a surface, dimensionless.

k = thermal conductivity of building material, Btu per (square foot) (hour) (Fahrenheit degree per foot).

L = thickness of building material, feet.

l = height of window, feet.

Q = rate of entry of outdoor air, cubic feet per minute.

Q_{ra} = required air quantity through conditioning equipment, cubic feet per minute.

q = instantaneous rate of heat transfer, Btu per hour.

q_e = *instantaneous* latent heat load, Btu per hour.

q_m = Latent head load due to moisture transmission through materials, Btu per (hr) (sq ft).

q_s = instantaneous sensible heat load, Btu per hour.

$q_t = q_e + q_s$, Btu per hour.

q_w = the heat-moisture ratio of the room load based upon the ratio of the total heat added divided by the required rate of water-vapor removed.

r = fraction of incident radiation reflected from glass surface, dimensionless.

t_e = sol-air temperature, Fahrenheit degrees.

t_e^* = sol-air temperature at a time earlier than the time for which heat gain is being found by an amount that is equal to the time lag of the wall or roof, Fahrenheit degrees.

t_i = indoor air temperature, Fahrenheit degrees.

t_o = temperature of outer surface of building, Fahrenheit degrees.

t_m = 24-hr cyclic average sol-air temperature, Fahrenheit degrees.

$t_p = t_m + (t_e^* - t_m)$, *net* equivalent outdoor temperature for combined periodic and mean heat flow, Fahrenheit degrees.

U = over-all coefficient of heat transfer of a structural section, Btu per (square foot) (hour) (Fahrenheit degree).

v_o = volume of outdoor air per pound of dry air, cubic feet.

w = width of window, feet.

W_i = humidity ratio of indoor air, pounds moisture per pound of dry air.

W_o = humidity ratio of outdoor air, pounds moisture per pound of dry air.

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