

DuPont™ Suva®
refrigerants

**Thermodynamic
Properties
of**

**DuPont™
Suva® HP81**

Refrigerant

(R-402B)

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The miracles of science™

Thermodynamic Properties of Suva® HP81 Refrigerant

Engineering (I/P) Units

New tables of the thermodynamic properties of Suva® HP81 refrigerant [ASHRAE designation: R-402B (38/2/60)], a near azeotropic blend of HFC-125/HC-290/HCFC-22, have been developed and are presented here. These tables are based on extensive experimental measurements. Equations have been developed, based on the Peng-Robinson-Stryjek-Vera (PRSV) equation of state, which represent the data with accuracy and consistency throughout the entire range of temperature, pressure, and density presented in these tables.

Physical Properties

Chemical Formula	CHF ₂ CF ₃ /CH ₃ CH ₂ CH ₃ /CHClF ₂ (38/2/60% by weight)	
Molecular Weight	94.71	
Boiling Point at One Atmosphere	-52.83°F	(-47.14°C)
Critical Temperature, T _c	180.70°F 640.37°R	(82.61°C) (355.76 K)
Critical Pressure, P _c	644.8 psia	(4445.4 kPa [abs])
Critical Density, D _c	33.13 lb/ft ³	(530.7 kg/m ³)
Critical Volume, V _c	0.0302 ft ³ /lb	(0.00188 m ³ /kg)

Units and Factors

t = temperature in °F
 T = temperature in °R = °F + 459.67
 p_f = pressure of saturated liquid (bubble point) in psia
 p_g = pressure of saturated vapor (dew point) in psia
 v_f = volume of saturated liquid in ft³/lb
 v_g = volume of saturated vapor in ft³/lb
 V̄ = volume of superheated vapor in ft³/lb
 d_f = 1/v_f = density of saturated liquid in lb/ft³
 d_g = 1/v_g = density of saturated vapor in lb/ft³
 h_f = enthalpy of saturated liquid in Btu/lb
 h_{fg} = enthalpy of vaporization in Btu/lb
 h_g = enthalpy of saturated vapor in Btu/lb
 H̄ = enthalpy of superheated vapor in Btu/lb
 s_f = entropy of saturated liquid in Btu/(lb) (°R)
 s_g = entropy of saturated vapor in Btu/(lb) (°R)
 S̄ = entropy of superheated vapor in Btu/(lb) (°R)
 C_p = heat capacity at constant pressure in Btu/(lb) (°F)
 C_v = heat capacity at constant volume in Btu/(lb) (°F)

The gas constant, R = 10.732 (psia) (ft³)/(lb-mole) (°R)
 for Suva® HP81, R = 0.1133 (psia) (ft³)/(lb) (°R)

Conversion factor from Work Units to Heat Units:
 J = 0.185053
 Btu/lb = [(psia) (ft³)/lb] ∞ J
 One atmosphere = 14.696 psia

Reference point for enthalpy and entropy:

$$h_f = 0.0 \text{ Btu/lb at } -40^\circ\text{F}$$

$$s_f = 0.0 \text{ Btu/(lb) (}^\circ\text{R) at } -40^\circ\text{F}$$

Equations

The Peng-Robinson-Stryjek-Vera (PRSV) equation of state was used to calculate the tables of thermodynamic properties. It was chosen as the preferred equation of state because it provided an accurate fit of the thermodynamic data over the entire range of temperatures and pressures presented in these tables.

The constants for the PRSV equation of state were calculated in SI units. For conversion of thermodynamic properties to Engineering (I/P) units, conversion factors are provided for each property derived from the PRSV equation of state.

1. Equation of State (PRSV)

$$P = RT/(V-b) - a/(V^2 + 2bV - b^2)$$

where P is in kPa, T is in K, V is in m³/mole, and R = 0.008314 kJ/(mole) (K). The constants a and b are calculated as follows:

$$a = \sum_{i=1}^3 \sum_{j=1}^3 x_i x_j a_{ij} \quad b = \sum_{i=1}^3 x_i b_i$$

where

$$a_{ij} = (a_i a_j)^{0.5} (1 - k_{ij}) \quad b_i = 0.077796 RT_{ci}/P_{ci}$$

x_i = mole fraction of component i

x_j = mole fraction of component j

$$a_i = (0.457235 R^2 T_{ci}^2/P_{ci}) \alpha_i$$

$$a_j = (0.457235 R^2 T_{cj}^2/P_{cj}) \alpha_j$$

k_{ij} = binary interaction parameter for components i and j

$$\alpha_i = [1 + \kappa_i (1 - T_{ri}^{0.5})]^2$$

$$\kappa_i = \kappa_{0i} + \kappa_{1i} [(1 + T_{ri}^{0.5}) (0.7 - T_{ri})]$$

(Note: κ_i = κ_{0i} for T_r > 0.7)

$$\kappa_{0i} = 0.378893 + 1.4897153\omega_i - 0.17131848\omega_i^2 + 0.0196554\omega_i^3$$

κ_{1i} = adjustable parameter for component i

T_{ri} = T_i/T_{ci} for component i

Values for R , T_{ci} , P_{ci} , ω_i , κ_{1i} , x_i , and k_{ij} are needed to calculate constants a and b . $R = 0.008314$ kJ/(mole) (K). The remaining constants for Suva® HP81 are summarized below:

Component	T_{ci}	P_{ci}	ω_i	κ_{1i}	x_i
HFC-125 (i = 1)	339.19	3595.0	0.3010	0.0390	0.29986
HC-290 (i = 2)	369.90	4257.0	0.1520	0.0320	0.04296
HCFC-22 (i = 3)	369.16	4977.0	0.2214	0.0360	0.65718

The binary interaction parameters, k_{ij} , for Suva® HP81 are:

$k_{11} = 0.0000$	$k_{12} = 0.1478$	$k_{13} = 0.0158$
$k_{21} = 0.1478$	$k_{22} = 0.0000$	$k_{23} = 0.0839$
$k_{31} = 0.0158$	$k_{32} = 0.0839$	$k_{33} = 0.0000$

Ideal Gas Heat Capacity Equation (at constant pressure):

$$C_p^{\circ}(\text{mixture}) = \sum_{i=1}^3 x_i C_{pi}^{\circ}$$

$$C_{pi}^{\circ} = 4.184 (A_i + B_i T + C_i T^2 + D_i T^3 + E_i T^4 + F_i T^5)$$

where C_p° and C_{pi}° are in J/(mole) (K) and T is in K. x_i is the mole fraction of component i in the mixture (use same values listed in PRSV constants for Suva® HP81).

A_i , B_i , C_i , D_i , E_i , and F_i are constants:

$A_1 = 1.170140 \text{ E}+01$	$B_1 = 0.216411 \text{ E}-01$
$A_2 = -1.009000 \text{ E}+00$	$B_2 = 0.731500 \text{ E}-01$
$A_3 = 6.164370 \text{ E}+00$	$B_3 = 0.173407 \text{ E}-01$
$C_1 = 0.868526 \text{ E}-04$	$D_1 = -0.112776 \text{ E}-06$
$C_2 = -0.378900 \text{ E}-04$	$D_2 = 0.767800 \text{ E}-08$
$C_3 = 0.557618 \text{ E}-04$	$D_3 = -0.140596 \text{ E}-06$
$E_1 = 0.000000 \text{ E}+00$	$F_1 = 0.000000 \text{ E}+00$
$E_2 = 0.000000 \text{ E}+00$	$F_2 = 0.000000 \text{ E}+00$
$E_3 = 0.120557 \text{ E}-09$	$F_3 = -0.368814 \text{ E}-13$

Properties calculated in SI units from the equations and constants listed above can be converted to I/P units using the conversion factors shown below. Please note that in converting enthalpy and entropy from SI to I/P units, a change in reference states must be included (from $H = 200$ and $S = 1$ at 0°C for SI units to $H = 0$ and $S = 0$ at -40°F for I/P units). In the conversion equations below, $H(\text{ref})$ and $S(\text{ref})$ are the saturated liquid enthalpy and entropy at -40°C . For Suva® HP81: $H(\text{ref}) = 151.4$ kJ/kg and $S(\text{ref}) = 0.8092$ kJ/kg · K.

Conversion Factors (SI units to I/P units):

P (psia)	$= P$ (kPa) · 0.14504
T ($^{\circ}\text{F}$)	$= (T[^{\circ}\text{C}] \cdot 1.8) + 32$
D (lb/ft ³)	$= D$ (kg/m ³) · 0.062428
V (ft ³ /lb)	$= V$ (m ³ /kg) · 16.018
H (Btu/lb)	$= [H$ (kJ/kg) $- H(\text{ref})] \cdot 0.43021$
S (Btu/lb · $^{\circ}\text{R}$)	$= [S$ (kJ/kg · K) $- S(\text{ref})] \cdot 0.23901$
C_p (Btu/lb · $^{\circ}\text{F}$)	$= C_p$ (kJ/kg · K) · 0.23901
C_v (Btu/lb · $^{\circ}\text{F}$)	$= C_v$ (kJ/kg · K) · 0.23901

2. Vapor Pressure

$$\log_n P = A + B/T + C \log_n T + D T^2$$

For SI units

T is in K and P is in kPa (abs)

A , B , C and D are constants.

Constants for vapor pressure of saturated liquid (bubble point), p_f :

$A = 5.11244 \text{ E}+01$	$C = -5.85217 \text{ E}+00$
$B = -3.47027 \text{ E}+03$	$D = 1.11710 \text{ E}-05$

Constants for vapor pressure of saturated vapor (dew point), p_g :

$A = 6.67012 \text{ E}+01$	$C = -8.32834 \text{ E}+00$
$B = -4.03132 \text{ E}+03$	$D = 1.54397 \text{ E}-05$

For I/P units

T is in $^{\circ}\text{R}$ and P is in psia

A , B , C and D are constants.

Constants for vapor pressure of saturated liquid (bubble point), p_f :

$A = 5.26337 \text{ E}+01$	$C = -5.85217 \text{ E}+00$
$B = -6.24656 \text{ E}+03$	$D = 0.34475 \text{ E}-05$

Constants for vapor pressure of saturated vapor (dew point), p_g :

$A = 6.96658 \text{ E}+01$	$C = -8.32834 \text{ E}+00$
$B = -7.25639 \text{ E}+03$	$D = 0.47653 \text{ E}-05$

3. Density of the Saturated Liquid

$$d_f/D_c = a_0 + a_1 z + a_2 z^2 + a_3 z^3 + a_4 z^4$$

$$\text{where } z = (1 - T/T_c)^{1/3} - t_0$$

Because both density and temperature appear in the reduced form in the equation, the same constants can be used for either SI or I/P units.

d_f and D_c are in kg/m^3 in SI units and lb/ft^3 in I/P units; T and T_c are in K in SI units and $^\circ\text{R}$ in I/P units; $a_0, a_1, a_2, a_3, a_4,$ and t_0 are constants:

$$a_0 = 2.338105$$

$$a_3 = -3.296387$$

$$a_1 = 2.891266$$

$$a_4 = -8.152344$$

$$a_2 = 2.094202$$

$$t_0 = 0.6032181$$

Table 1
Suva® HP81 Saturation Properties—Temperature Table

TEMP. °F	PRESSURE psia		VOLUME ft ³ /lb		DENSITY lb/ft ³		ENTHALPY Btu/lb			ENTROPY Btu/(lb)(°R)		TEMP. °F
	LIQUID P _f	VAPOR P _g	LIQUID V _f	VAPOR V _g	LIQUID 1/v _f	VAPOR 1/v _g	LIQUID h _f	LATENT h _{fg}	VAPOR h _g	LIQUID s _f	VAPOR s _g	
-150	0.47	0.34	0.0102	102.0408	98.01	0.0098	-27.6	101.5	73.9	-0.0760	0.2541	-150
-149	0.49	0.36	0.0102	97.0874	97.93	0.0103	-27.4	101.4	74.0	-0.0752	0.2534	-149
-148	0.52	0.38	0.0102	92.5926	97.85	0.0108	-27.1	101.3	74.2	-0.0745	0.2528	-148
-147	0.54	0.40	0.0102	88.4956	97.76	0.0113	-26.9	101.2	74.3	-0.0737	0.2521	-147
-146	0.57	0.42	0.0102	84.7458	97.68	0.0118	-26.7	101.1	74.4	-0.0729	0.2515	-146
-145	0.60	0.44	0.0102	80.6452	97.60	0.0124	-26.4	101.0	74.5	-0.0722	0.2508	-145
-144	0.62	0.46	0.0103	76.9231	97.51	0.0130	-26.2	100.9	74.7	-0.0714	0.2502	-144
-143	0.65	0.49	0.0103	73.5294	97.43	0.0136	-26.0	100.8	74.8	-0.0707	0.2496	-143
-142	0.68	0.51	0.0103	70.4225	97.35	0.0142	-25.7	100.7	74.9	-0.0699	0.2490	-142
-141	0.71	0.54	0.0103	67.1141	97.26	0.0149	-25.5	100.6	75.1	-0.0692	0.2484	-141
-140	0.75	0.56	0.0103	64.1026	97.18	0.0156	-25.2	100.4	75.2	-0.0684	0.2478	-140
-139	0.78	0.59	0.0103	61.3497	97.09	0.0163	-25.0	100.3	75.3	-0.0677	0.2472	-139
-138	0.81	0.62	0.0103	58.8235	97.01	0.0170	-24.8	100.2	75.5	-0.0669	0.2466	-138
-137	0.85	0.65	0.0103	56.1798	96.92	0.0178	-24.5	100.1	75.6	-0.0662	0.2461	-137
-136	0.89	0.68	0.0103	53.7634	96.84	0.0186	-24.3	100.0	75.7	-0.0655	0.2455	-136
-135	0.93	0.71	0.0103	51.5464	96.75	0.0194	-24.1	99.9	75.9	-0.0647	0.2449	-135
-134	0.97	0.75	0.0103	49.2611	96.66	0.0203	-23.8	99.8	76.0	-0.0640	0.2444	-134
-133	1.01	0.78	0.0104	47.1698	96.58	0.0212	-23.6	99.7	76.1	-0.0633	0.2438	-133
-132	1.05	0.82	0.0104	45.2489	96.49	0.0221	-23.3	99.6	76.2	-0.0625	0.2433	-132
-131	1.10	0.85	0.0104	43.4783	96.40	0.0230	-23.1	99.5	76.4	-0.0618	0.2427	-131
-130	1.15	0.89	0.0104	41.6667	96.32	0.0240	-22.8	99.4	76.5	-0.0611	0.2422	-130
-129	1.19	0.93	0.0104	40.0000	96.23	0.0250	-22.6	99.3	76.6	-0.0603	0.2417	-129
-128	1.24	0.98	0.0104	38.3142	96.14	0.0261	-22.4	99.1	76.8	-0.0596	0.2412	-128
-127	1.30	1.02	0.0104	36.9004	96.05	0.0271	-22.1	99.0	76.9	-0.0589	0.2407	-127
-126	1.35	1.06	0.0104	35.3357	95.97	0.0283	-21.9	98.9	77.0	-0.0581	0.2401	-126
-125	1.41	1.11	0.0104	34.0136	95.88	0.0294	-21.6	98.8	77.2	-0.0574	0.2396	-125
-124	1.46	1.16	0.0104	32.6797	95.79	0.0306	-21.4	98.7	77.3	-0.0567	0.2391	-124
-123	1.52	1.21	0.0104	31.3480	95.70	0.0319	-21.2	98.6	77.4	-0.0560	0.2386	-123
-122	1.58	1.26	0.0105	30.2115	95.61	0.0331	-20.9	98.5	77.6	-0.0553	0.2382	-122
-121	1.65	1.32	0.0105	28.9855	95.52	0.0345	-20.7	98.4	77.7	-0.0545	0.2377	-121
-120	1.71	1.37	0.0105	27.9330	95.43	0.0358	-20.4	98.3	77.8	-0.0538	0.2372	-120
-119	1.78	1.43	0.0105	26.8817	95.34	0.0372	-20.2	98.2	78.0	-0.0531	0.2367	-119
-118	1.85	1.49	0.0105	25.8398	95.25	0.0387	-19.9	98.0	78.1	-0.0524	0.2363	-118
-117	1.92	1.55	0.0105	24.8756	95.16	0.0402	-19.7	97.9	78.2	-0.0517	0.2358	-117
-116	2.00	1.62	0.0105	23.9808	95.07	0.0417	-19.5	97.8	78.4	-0.0510	0.2353	-116
-115	2.08	1.68	0.0105	23.0947	94.98	0.0433	-19.2	97.7	78.5	-0.0503	0.2349	-115
-114	2.16	1.75	0.0105	22.2222	94.89	0.0450	-19.0	97.6	78.6	-0.0496	0.2344	-114
-113	2.24	1.82	0.0105	21.4133	94.80	0.0467	-18.7	97.5	78.8	-0.0488	0.2340	-113
-112	2.32	1.90	0.0106	20.6612	94.70	0.0484	-18.5	97.4	78.9	-0.0481	0.2336	-112
-111	2.41	1.97	0.0106	19.9203	94.61	0.0502	-18.2	97.3	79.0	-0.0474	0.2331	-111
-110	2.50	2.05	0.0106	19.1939	94.52	0.0521	-18.0	97.2	79.2	-0.0467	0.2327	-110
-109	2.59	2.13	0.0106	18.5185	94.43	0.0540	-17.7	97.0	79.3	-0.0460	0.2323	-109
-108	2.69	2.21	0.0106	17.8571	94.34	0.0560	-17.5	96.9	79.4	-0.0453	0.2319	-108
-107	2.79	2.30	0.0106	17.2414	94.24	0.0580	-17.2	96.8	79.6	-0.0446	0.2314	-107
-106	2.89	2.39	0.0106	16.6389	94.15	0.0601	-17.0	96.7	79.7	-0.0439	0.2310	-106
-105	2.99	2.48	0.0106	16.0772	94.06	0.0622	-16.7	96.6	79.8	-0.0432	0.2306	-105
-104	3.10	2.58	0.0106	15.5280	93.96	0.0644	-16.5	96.5	80.0	-0.0425	0.2302	-104
-103	3.21	2.67	0.0107	14.9925	93.87	0.0667	-16.3	96.4	80.1	-0.0418	0.2298	-103
-102	3.33	2.77	0.0107	14.4928	93.77	0.0690	-16.0	96.2	80.2	-0.0411	0.2294	-102
-101	3.44	2.88	0.0107	14.0056	93.68	0.0714	-15.8	96.1	80.4	-0.0404	0.2291	-101
-100	3.56	2.98	0.0107	13.5318	93.58	0.0739	-15.5	96.0	80.5	-0.0398	0.2287	-100
-99	3.69	3.09	0.0107	13.0890	93.49	0.0764	-15.3	95.9	80.6	-0.0391	0.2283	-99
-98	3.82	3.21	0.0107	12.6582	93.39	0.0790	-15.0	95.8	80.8	-0.0384	0.2279	-98
-97	3.95	3.32	0.0107	12.2399	93.30	0.0817	-14.8	95.7	80.9	-0.0377	0.2275	-97
-96	4.08	3.44	0.0107	11.8483	93.20	0.0844	-14.5	95.6	81.1	-0.0370	0.2272	-96
-95	4.22	3.57	0.0107	11.4679	93.11	0.0872	-14.3	95.4	81.2	-0.0363	0.2268	-95
-94	4.36	3.69	0.0108	11.0988	93.01	0.0901	-14.0	95.3	81.3	-0.0356	0.2265	-94
-93	4.51	3.83	0.0108	10.7411	92.91	0.0931	-13.8	95.2	81.5	-0.0349	0.2261	-93
-92	4.66	3.96	0.0108	10.4058	92.82	0.0961	-13.5	95.1	81.6	-0.0343	0.2257	-92
-91	4.82	4.10	0.0108	10.0705	92.72	0.0993	-13.3	95.0	81.7	-0.0336	0.2254	-91

Table 1 (continued)
Suva® HP81 Saturation Properties—Temperature Table

TEMP. °F	PRESSURE psia		VOLUME ft ³ /lb		DENSITY lb/ft ³		ENTHALPY Btu/lb			ENTROPY Btu/(lb)(°R)		TEMP. °F
	LIQUID P _f	VAPOR P _g	LIQUID v _f	VAPOR v _g	LIQUID 1/v _f	VAPOR 1/v _g	LIQUID h _f	LATENT h _{fg}	VAPOR h _g	LIQUID s _f	VAPOR s _g	
-90	4.98	4.24	0.0108	9.7561	92.62	0.1025	-13.0	94.9	81.9	-0.0329	0.2251	-90
-89	5.14	4.39	0.0108	9.4518	92.52	0.1058	-12.8	94.7	82.0	-0.0322	0.2247	-89
-88	5.31	4.54	0.0108	9.1659	92.43	0.1091	-12.5	94.6	82.1	-0.0315	0.2244	-88
-87	5.48	4.69	0.0108	8.8810	92.33	0.1126	-12.2	94.5	82.3	-0.0309	0.2240	-87
-86	5.66	4.85	0.0108	8.6133	92.23	0.1161	-12.0	94.4	82.4	-0.0302	0.2237	-86
-85	5.84	5.02	0.0109	8.3472	92.13	0.1198	-11.7	94.3	82.5	-0.0295	0.2234	-85
-84	6.02	5.18	0.0109	8.0972	92.03	0.1235	-11.5	94.2	82.7	-0.0288	0.2231	-84
-83	6.21	5.36	0.0109	7.8555	91.93	0.1273	-11.2	94.0	82.8	-0.0282	0.2228	-83
-82	6.41	5.53	0.0109	7.6220	91.83	0.1312	-11.0	93.9	82.9	-0.0275	0.2224	-82
-81	6.61	5.71	0.0109	7.3964	91.73	0.1352	-10.7	93.8	83.1	-0.0268	0.2221	-81
-80	6.82	5.90	0.0109	7.1788	91.63	0.1393	-10.5	93.7	83.2	-0.0261	0.2218	-80
-79	7.03	6.09	0.0109	6.9686	91.53	0.1435	-10.2	93.6	83.3	-0.0255	0.2215	-79
-78	7.24	6.29	0.0109	6.7659	91.43	0.1478	-10.0	93.4	83.5	-0.0248	0.2212	-78
-77	7.46	6.49	0.0109	6.5703	91.33	0.1522	-9.7	93.3	83.6	-0.0241	0.2209	-77
-76	7.69	6.70	0.0110	6.3816	91.23	0.1567	-9.4	93.2	83.7	-0.0235	0.2206	-76
-75	7.92	6.91	0.0110	6.1996	91.13	0.1613	-9.2	93.1	83.9	-0.0228	0.2203	-75
-74	8.16	7.13	0.0110	6.0241	91.03	0.1660	-8.9	93.0	84.0	-0.0221	0.2200	-74
-73	8.40	7.35	0.0110	5.8514	90.92	0.1709	-8.7	92.8	84.2	-0.0215	0.2198	-73
-72	8.65	7.58	0.0110	5.6883	90.82	0.1758	-8.4	92.7	84.3	-0.0208	0.2195	-72
-71	8.91	7.81	0.0110	5.5310	90.72	0.1808	-8.2	92.6	84.4	-0.0202	0.2192	-71
-70	9.17	8.05	0.0110	5.3763	90.62	0.1860	-7.9	92.5	84.6	-0.0195	0.2189	-70
-69	9.44	8.30	0.0110	5.2274	90.51	0.1913	-7.6	92.3	84.7	-0.0188	0.2186	-69
-68	9.71	8.55	0.0111	5.0839	90.41	0.1967	-7.4	92.2	84.8	-0.0182	0.2184	-68
-67	9.99	8.81	0.0111	4.9456	90.31	0.2022	-7.1	92.1	85.0	-0.0175	0.2181	-67
-66	10.28	9.07	0.0111	4.8123	90.20	0.2078	-6.9	92.0	85.1	-0.0169	0.2178	-66
-65	10.57	9.34	0.0111	4.6838	90.10	0.2135	-6.6	91.8	85.2	-0.0162	0.2176	-65
-64	10.87	9.62	0.0111	4.5579	89.99	0.2194	-6.4	91.7	85.4	-0.0155	0.2173	-64
-63	11.18	9.90	0.0111	4.4366	89.89	0.2254	-6.1	91.6	85.5	-0.0149	0.2171	-63
-62	11.49	10.19	0.0111	4.3178	89.78	0.2316	-5.8	91.5	85.6	-0.0142	0.2168	-62
-61	11.81	10.48	0.0112	4.2052	89.68	0.2378	-5.6	91.3	85.8	-0.0136	0.2166	-61
-60	12.14	10.79	0.0112	4.0950	89.57	0.2442	-5.3	91.2	85.9	-0.0129	0.2163	-60
-59	12.47	11.10	0.0112	3.9872	89.47	0.2508	-5.0	91.1	86.0	-0.0123	0.2161	-59
-58	12.81	11.41	0.0112	3.8850	89.36	0.2574	-4.8	90.9	86.2	-0.0116	0.2158	-58
-57	13.16	11.74	0.0112	3.7836	89.25	0.2643	-4.5	90.8	86.3	-0.0110	0.2156	-57
-56	13.52	12.07	0.0112	3.6873	89.15	0.2712	-4.3	90.7	86.4	-0.0103	0.2153	-56
-55	13.88	12.41	0.0112	3.5932	89.04	0.2783	-4.0	90.6	86.6	-0.0097	0.2151	-55
-54	14.26	12.76	0.0112	3.5026	88.93	0.2855	-3.7	90.4	86.7	-0.0090	0.2149	-54
-53	14.63	13.11	0.0113	3.4141	88.83	0.2929	-3.5	90.3	86.8	-0.0084	0.2147	-53
-52	15.02	13.47	0.0113	3.3278	88.72	0.3005	-3.2	90.2	87.0	-0.0077	0.2144	-52
-51	15.42	13.84	0.0113	3.2457	88.61	0.3081	-2.9	90.0	87.1	-0.0071	0.2142	-51
-50	15.82	14.22	0.0113	3.1646	88.50	0.3160	-2.7	89.9	87.2	-0.0064	0.2140	-50
-49	16.24	14.60	0.0113	3.0864	88.39	0.3240	-2.4	89.8	87.4	-0.0058	0.2138	-49
-48	16.66	15.00	0.0113	3.0111	88.28	0.3321	-2.1	89.6	87.5	-0.0051	0.2135	-48
-47	17.09	15.40	0.0113	2.9377	88.18	0.3404	-1.9	89.5	87.6	-0.0045	0.2133	-47
-46	17.52	15.81	0.0114	2.8662	88.07	0.3489	-1.6	89.4	87.8	-0.0039	0.2131	-46
-45	17.97	16.23	0.0114	2.7964	87.96	0.3576	-1.3	89.2	87.9	-0.0032	0.2129	-45
-44	18.43	16.66	0.0114	2.7293	87.85	0.3664	-1.1	89.1	88.0	-0.0026	0.2127	-44
-43	18.89	17.10	0.0114	2.6638	87.74	0.3754	-0.8	89.0	88.2	-0.0019	0.2125	-43
-42	19.37	17.54	0.0114	2.6008	87.62	0.3845	-0.5	88.8	88.3	-0.0013	0.2123	-42
-41	19.85	18.00	0.0114	2.5394	87.51	0.3938	-0.3	88.7	88.4	-0.0006	0.2121	-41
-40	20.34	18.46	0.0114	2.4795	87.40	0.4033	0.0	88.6	88.6	0.0000	0.2119	-40
-39	20.85	18.93	0.0115	2.4213	87.29	0.4130	0.3	88.4	88.7	0.0006	0.2117	-39
-38	21.36	19.42	0.0115	2.3646	87.18	0.4229	0.5	88.3	88.8	0.0013	0.2115	-38
-37	21.88	19.91	0.0115	2.3100	87.07	0.4329	0.8	88.1	88.9	0.0019	0.2113	-37
-36	22.41	20.41	0.0115	2.2568	86.96	0.4431	1.1	88.0	89.1	0.0026	0.2111	-36
-35	22.96	20.92	0.0115	2.2051	86.84	0.4535	1.4	87.9	89.2	0.0032	0.2109	-35
-34	23.51	21.45	0.0115	2.1542	86.73	0.4642	1.6	87.7	89.3	0.0038	0.2107	-34
-33	24.07	21.98	0.0115	2.1053	86.62	0.4750	1.9	87.6	89.5	0.0045	0.2105	-33
-32	24.64	22.52	0.0116	2.0580	86.50	0.4859	2.4	87.2	89.6	0.0056	0.2104	-32
-31	25.23	23.07	0.0116	2.0117	86.39	0.4971	2.7	87.1	89.7	0.0063	0.2102	-31

Table 1 (continued)
Suva® HP81 Saturation Properties—Temperature Table

TEMP. °F	PRESSURE psia		VOLUME ft ³ /lb		DENSITY lb/ft ³		ENTHALPY Btu/lb			ENTROPY Btu/(lb)(°R)		TEMP. °F
	LIQUID P _f	VAPOR P _g	LIQUID v _f	VAPOR v _g	LIQUID 1/v _f	VAPOR 1/v _g	LIQUID h _f	LATENT h _{fg}	VAPOR h _g	LIQUID s _f	VAPOR s _g	
-30	25.82	23.63	0.0116	1.9666	86.27	0.5085	2.9	86.9	89.9	0.0069	0.2100	-30
-29	26.42	24.21	0.0116	1.9227	86.16	0.5201	3.2	86.8	90.0	0.0075	0.2098	-29
-28	27.04	24.79	0.0116	1.8804	86.05	0.5318	3.5	86.6	90.1	0.0081	0.2096	-28
-27	27.66	25.39	0.0116	1.8389	85.93	0.5438	3.8	86.5	90.3	0.0088	0.2095	-27
-26	28.30	25.99	0.0117	1.7986	85.82	0.5560	4.0	86.4	90.4	0.0094	0.2093	-26
-25	28.95	26.61	0.0117	1.7593	85.70	0.5684	4.3	86.2	90.5	0.0100	0.2091	-25
-24	29.61	27.24	0.0117	1.7209	85.58	0.5811	4.6	86.1	90.6	0.0106	0.2089	-24
-23	30.28	27.88	0.0117	1.6838	85.47	0.5939	4.8	85.9	90.8	0.0113	0.2088	-23
-22	30.96	28.53	0.0117	1.6474	85.35	0.6070	5.1	85.8	90.9	0.0119	0.2086	-22
-21	31.65	29.19	0.0117	1.6121	85.23	0.6203	5.4	85.6	91.0	0.0125	0.2085	-21
-20	32.36	29.87	0.0117	1.5778	85.12	0.6338	5.7	85.5	91.2	0.0131	0.2083	-20
-19	33.08	30.55	0.0118	1.5442	85.00	0.6476	5.9	85.3	91.3	0.0137	0.2081	-19
-18	33.81	31.25	0.0118	1.5115	84.88	0.6616	6.2	85.2	91.4	0.0144	0.2080	-18
-17	34.56	31.96	0.0118	1.4797	84.76	0.6758	6.5	85.0	91.5	0.0150	0.2078	-17
-16	35.31	32.69	0.0118	1.4489	84.65	0.6902	6.8	84.9	91.7	0.0156	0.2077	-16
-15	36.08	33.42	0.0118	1.4186	84.53	0.7049	7.0	84.8	91.8	0.0162	0.2075	-15
-14	36.86	34.17	0.0118	1.3891	84.41	0.7199	7.3	84.6	91.9	0.0168	0.2073	-14
-13	37.66	34.93	0.0119	1.3604	84.29	0.7351	7.6	84.4	92.0	0.0175	0.2072	-13
-12	38.47	35.71	0.0119	1.3324	84.17	0.7505	7.9	84.3	92.2	0.0181	0.2070	-12
-11	39.29	36.50	0.0119	1.3050	84.05	0.7663	8.1	84.1	92.3	0.0187	0.2069	-11
-10	40.12	37.30	0.0119	1.2784	83.93	0.7822	8.4	84.0	92.4	0.0193	0.2067	-10
-9	40.97	38.12	0.0119	1.2525	83.81	0.7984	8.7	83.8	92.5	0.0199	0.2066	-9
-8	41.84	38.94	0.0119	1.2271	83.69	0.8149	9.0	83.7	92.7	0.0205	0.2065	-8
-7	42.71	39.79	0.0120	1.2024	83.57	0.8317	9.3	83.5	92.8	0.0212	0.2063	-7
-6	43.60	40.64	0.0120	1.1783	83.45	0.8487	9.5	83.4	92.9	0.0218	0.2062	-6
-5	44.51	41.51	0.0120	1.1547	83.32	0.8660	9.8	83.2	93.0	0.0224	0.2060	-5
-4	45.43	42.40	0.0120	1.1317	83.20	0.8836	10.1	83.1	93.2	0.0230	0.2059	-4
-3	46.36	43.30	0.0120	1.1093	83.08	0.9015	10.4	82.9	93.3	0.0236	0.2058	-3
-2	47.31	44.21	0.0121	1.0874	82.96	0.9196	10.7	82.7	93.4	0.0242	0.2056	-2
-1	48.27	45.14	0.0121	1.0661	82.83	0.9380	11.0	82.6	93.5	0.0248	0.2055	-1
0	49.25	46.08	0.0121	1.0452	82.71	0.9568	11.2	82.4	93.7	0.0255	0.2053	0
1	50.25	47.04	0.0121	1.0248	82.59	0.9758	11.5	82.3	93.8	0.0261	0.2052	1
2	51.25	48.02	0.0121	1.0049	82.46	0.9951	11.8	82.1	93.9	0.0267	0.2051	2
3	52.28	49.01	0.0121	0.9855	82.34	1.0147	12.1	81.9	94.0	0.0273	0.2049	3
4	53.32	50.01	0.0122	0.9665	82.21	1.0347	12.4	81.8	94.1	0.0279	0.2048	4
5	54.37	51.03	0.0122	0.9480	82.09	1.0549	12.7	81.6	94.3	0.0285	0.2047	5
6	55.44	52.06	0.0122	0.9299	81.96	1.0754	13.4	81.0	94.4	0.0300	0.2046	6
7	56.53	53.11	0.0122	0.9123	81.84	1.0961	13.7	80.8	94.5	0.0307	0.2045	7
8	57.62	54.17	0.0122	0.8951	81.71	1.1172	14.0	80.7	94.6	0.0313	0.2043	8
9	58.74	55.25	0.0123	0.8783	81.59	1.1386	14.2	80.5	94.8	0.0319	0.2042	9
10	59.87	56.34	0.0123	0.8618	81.46	1.1603	14.5	80.4	94.9	0.0325	0.2041	10
11	61.02	57.45	0.0123	0.8458	81.33	1.1823	14.8	80.2	95.0	0.0331	0.2040	11
12	62.18	58.58	0.0123	0.8302	81.21	1.2046	15.1	80.0	95.1	0.0337	0.2038	12
13	63.36	59.73	0.0123	0.8147	81.08	1.2274	15.4	79.9	95.2	0.0343	0.2037	13
14	64.56	60.89	0.0124	0.7997	80.95	1.2504	15.7	79.7	95.3	0.0348	0.2036	14
15	65.78	62.07	0.0124	0.7851	80.82	1.2738	15.9	79.5	95.5	0.0354	0.2035	15
16	67.01	63.26	0.0124	0.7707	80.70	1.2975	16.2	79.3	95.6	0.0360	0.2034	16
17	68.26	64.47	0.0124	0.7566	80.57	1.3217	16.5	79.2	95.7	0.0366	0.2033	17
18	69.53	65.70	0.0124	0.7429	80.44	1.3461	16.8	79.0	95.8	0.0372	0.2031	18
19	70.82	66.95	0.0125	0.7294	80.31	1.3709	17.1	78.8	95.9	0.0378	0.2030	19
20	72.12	68.22	0.0125	0.7163	80.18	1.3961	17.4	78.7	96.0	0.0384	0.2029	20
21	73.44	69.50	0.0125	0.7034	80.05	1.4217	17.7	78.5	96.2	0.0390	0.2028	21
22	74.79	70.81	0.0125	0.6908	79.92	1.4477	18.0	78.3	96.3	0.0396	0.2027	22
23	76.14	72.13	0.0125	0.6784	79.79	1.4740	18.3	78.1	96.4	0.0402	0.2026	23
24	77.52	73.47	0.0126	0.6664	79.66	1.5007	18.5	78.0	96.5	0.0408	0.2025	24
25	78.92	74.83	0.0126	0.6545	79.52	1.5279	18.8	77.8	96.6	0.0414	0.2024	25
26	80.34	76.21	0.0126	0.6429	79.39	1.5554	19.1	77.6	96.7	0.0420	0.2023	26
27	81.77	77.60	0.0126	0.6316	79.26	1.5833	19.4	77.4	96.8	0.0426	0.2021	27
28	83.23	79.02	0.0126	0.6205	79.13	1.6116	19.7	77.2	97.0	0.0432	0.2020	28
29	84.70	80.46	0.0127	0.6096	78.99	1.6404	20.0	77.0	97.1	0.0438	0.2019	29

Table 1 (continued)
Suva® HP81 Saturation Properties—Temperature Table

TEMP. °F	PRESSURE psia		VOLUME ft ³ /lb		DENSITY lb/ft ³		ENTHALPY Btu/lb			ENTROPY Btu/(lb)(°R)		TEMP. °F
	LIQUID P _f	VAPOR P _g	LIQUID v _f	VAPOR v _g	LIQUID 1/v _f	VAPOR 1/v _g	LIQUID h _f	LATENT h _{fg}	VAPOR h _g	LIQUID s _f	VAPOR s _g	
30	86.19	81.91	0.0127	0.5989	78.86	1.6696	20.3	76.9	97.2	0.0444	0.2018	30
31	87.71	83.39	0.0127	0.5885	78.73	1.6992	20.6	76.7	97.3	0.0450	0.2017	31
32	89.24	84.88	0.0127	0.5783	78.59	1.7292	20.9	76.5	97.4	0.0456	0.2016	32
33	90.80	86.40	0.0127	0.5683	78.46	1.7596	21.2	76.3	97.5	0.0462	0.2015	33
34	92.37	87.93	0.0128	0.5585	78.33	1.7905	21.5	76.1	97.6	0.0468	0.2014	34
35	93.97	89.49	0.0128	0.5489	78.19	1.8219	21.8	75.9	97.7	0.0474	0.2013	35
36	95.58	91.07	0.0128	0.5395	78.06	1.8537	22.1	75.7	97.8	0.0480	0.2012	36
37	97.22	92.67	0.0128	0.5302	77.92	1.8860	22.4	75.5	97.9	0.0486	0.2011	37
38	98.88	94.29	0.0129	0.5212	77.78	1.9187	22.7	75.3	98.0	0.0492	0.2010	38
39	100.56	95.93	0.0129	0.5123	77.65	1.9519	23.0	75.1	98.1	0.0498	0.2009	39
40	102.26	97.59	0.0129	0.5036	77.51	1.9856	23.3	74.9	98.3	0.0504	0.2008	40
41	103.98	99.27	0.0129	0.4951	77.37	2.0197	23.6	74.8	98.4	0.0510	0.2007	41
42	105.72	100.98	0.0129	0.4868	77.24	2.0544	23.9	74.6	98.5	0.0516	0.2006	42
43	107.49	102.71	0.0130	0.4786	77.10	2.0896	24.2	74.4	98.6	0.0522	0.2005	43
44	109.28	104.46	0.0130	0.4705	76.96	2.1252	24.5	74.1	98.7	0.0528	0.2004	44
45	111.09	106.23	0.0130	0.4627	76.82	2.1614	24.8	73.9	98.8	0.0534	0.2003	45
46	112.92	108.02	0.0130	0.4549	76.68	2.1981	25.1	73.7	98.9	0.0540	0.2002	46
47	114.78	109.84	0.0131	0.4474	76.54	2.2353	25.4	73.5	99.0	0.0546	0.2001	47
48	116.65	111.68	0.0131	0.4399	76.40	2.2730	25.8	73.3	99.1	0.0552	0.2000	48
49	118.56	113.55	0.0131	0.4327	76.26	2.3113	26.1	73.1	99.2	0.0558	0.1999	49
50	120.48	115.43	0.0131	0.4255	76.12	2.3502	26.4	72.9	99.3	0.0564	0.1998	50
51	122.43	117.34	0.0132	0.4185	75.98	2.3896	26.7	72.7	99.4	0.0570	0.1997	51
52	124.40	119.28	0.0132	0.4116	75.84	2.4295	27.0	72.5	99.5	0.0576	0.1996	52
53	126.40	121.24	0.0132	0.4049	75.70	2.4700	27.3	72.3	99.6	0.0582	0.1995	53
54	128.42	123.22	0.0132	0.3982	75.56	2.5112	27.6	72.0	99.7	0.0588	0.1994	54
55	130.46	125.23	0.0133	0.3917	75.41	2.5528	27.9	71.8	99.8	0.0594	0.1993	55
56	132.53	127.26	0.0133	0.3853	75.27	2.5951	28.2	71.6	99.9	0.0600	0.1992	56
57	134.62	129.31	0.0133	0.3791	75.13	2.6380	28.6	71.4	100.0	0.0606	0.1991	57
58	136.74	131.39	0.0133	0.3729	74.98	2.6815	28.9	71.2	100.0	0.0612	0.1990	58
59	138.88	133.50	0.0134	0.3669	74.84	2.7257	29.2	70.9	100.1	0.0618	0.1989	59
60	141.05	135.63	0.0134	0.3610	74.69	2.7704	29.5	70.7	100.2	0.0624	0.1988	60
61	143.24	137.79	0.0134	0.3551	74.55	2.8158	29.8	70.5	100.3	0.0630	0.1987	61
62	145.46	139.97	0.0134	0.3494	74.40	2.8619	30.2	70.3	100.4	0.0636	0.1986	62
63	147.70	142.17	0.0135	0.3438	74.26	2.9086	30.5	70.0	100.5	0.0642	0.1985	63
64	149.97	144.41	0.0135	0.3383	74.11	2.9560	30.8	69.8	100.6	0.0648	0.1984	64
65	152.27	146.67	0.0135	0.3329	73.97	3.0040	31.1	69.6	100.7	0.0654	0.1983	65
66	154.59	148.95	0.0135	0.3276	73.82	3.0528	31.4	69.3	100.8	0.0660	0.1982	66
67	156.94	151.27	0.0136	0.3224	73.67	3.1022	31.8	69.1	100.9	0.0666	0.1981	67
68	159.31	153.61	0.0136	0.3172	73.52	3.1524	32.1	68.8	100.9	0.0672	0.1980	68
69	161.71	155.97	0.0136	0.3122	73.38	3.2033	32.4	68.6	101.0	0.0678	0.1979	69
70	164.14	158.37	0.0137	0.3072	73.23	3.2549	32.8	68.4	101.1	0.0684	0.1978	70
71	166.60	160.79	0.0137	0.3024	73.08	3.3072	33.1	68.1	101.2	0.0691	0.1977	71
72	169.08	163.24	0.0137	0.2976	72.93	3.3604	33.4	67.9	101.3	0.0697	0.1976	72
73	171.59	165.71	0.0137	0.2929	72.78	3.4143	33.7	67.6	101.4	0.0703	0.1975	73
74	174.13	168.22	0.0138	0.2883	72.63	3.4689	34.1	67.4	101.4	0.0709	0.1974	74
75	176.70	170.75	0.0138	0.2837	72.48	3.5244	34.4	67.1	101.5	0.0715	0.1973	75
76	179.29	173.31	0.0138	0.2793	72.32	3.5807	34.7	66.9	101.6	0.0721	0.1972	76
77	181.92	175.90	0.0139	0.2749	72.17	3.6377	35.1	66.6	101.7	0.0727	0.1971	77
78	184.57	178.52	0.0139	0.2706	72.02	3.6957	35.4	66.3	101.8	0.0733	0.1970	78
79	187.25	181.17	0.0139	0.2664	71.87	3.7544	35.8	66.1	101.8	0.0739	0.1969	79
80	189.96	183.85	0.0139	0.2622	71.71	3.8141	36.1	65.8	101.9	0.0746	0.1968	80
81	192.70	186.55	0.0140	0.2581	71.56	3.8746	36.4	65.5	102.0	0.0752	0.1967	81
82	195.46	189.29	0.0140	0.2541	71.41	3.9360	36.8	65.3	102.0	0.0758	0.1966	82
83	198.26	192.06	0.0140	0.2501	71.25	3.9983	37.1	65.0	102.1	0.0764	0.1965	83
84	201.09	194.85	0.0141	0.2462	71.10	4.0615	37.5	64.7	102.2	0.0770	0.1964	84
85	203.95	197.68	0.0141	0.2424	70.94	4.1257	37.8	64.5	102.3	0.0776	0.1963	85
86	206.83	200.54	0.0141	0.2386	70.78	4.1908	38.2	64.2	102.3	0.0783	0.1961	86
87	209.75	203.43	0.0142	0.2349	70.63	4.2569	38.5	63.9	102.4	0.0789	0.1960	87
88	212.70	206.34	0.0142	0.2313	70.47	4.3240	38.8	63.6	102.5	0.0795	0.1959	88
89	215.68	209.30	0.0142	0.2277	70.31	4.3921	39.2	63.3	102.5	0.0801	0.1958	89

Table 1 (continued)
Suva® HP81 Saturation Properties—Temperature Table

TEMP. °F	PRESSURE psia		VOLUME ft ³ /lb		DENSITY lb/ft ³		ENTHALPY Btu/lb			ENTROPY Btu/(lb)(°R)		TEMP. °F
	LIQUID P _f	VAPOR P _g	LIQUID v _f	VAPOR v _g	LIQUID 1/v _f	VAPOR 1/v _g	LIQUID h _f	LATENT h _{fg}	VAPOR h _g	LIQUID s _f	VAPOR s _g	
90	218.69	212.28	0.0143	0.2242	70.15	4.4612	39.5	63.0	102.6	0.0808	0.1957	90
91	221.73	215.29	0.0143	0.2207	69.99	4.5313	39.9	62.8	102.7	0.0814	0.1956	91
92	224.80	218.34	0.0143	0.2173	69.83	4.6026	40.3	62.5	102.7	0.0820	0.1955	92
93	227.91	221.41	0.0144	0.2139	69.67	4.6749	40.6	62.2	102.8	0.0826	0.1954	93
94	231.04	224.52	0.0144	0.2106	69.51	4.7483	41.0	61.9	102.8	0.0833	0.1953	94
95	234.21	227.66	0.0144	0.2073	69.35	4.8228	41.3	61.6	102.9	0.0839	0.1951	95
96	237.41	230.84	0.0145	0.2041	69.19	4.8985	41.7	61.3	103.0	0.0845	0.1950	96
97	240.64	234.05	0.0145	0.2010	69.03	4.9754	42.0	61.0	103.0	0.0852	0.1949	97
98	243.91	237.29	0.0145	0.1979	68.87	5.0534	42.4	60.7	103.1	0.0858	0.1948	98
99	247.21	240.56	0.0146	0.1948	68.70	5.1327	42.8	60.3	103.1	0.0864	0.1947	99
100	250.54	243.87	0.0146	0.1918	68.54	5.2132	43.1	60.0	103.2	0.0871	0.1945	100
101	253.90	247.21	0.0146	0.1889	68.37	5.2949	43.5	59.7	103.2	0.0877	0.1944	101
102	257.30	250.59	0.0147	0.1859	68.21	5.3780	43.9	59.4	103.3	0.0883	0.1943	102
103	260.73	254.00	0.0147	0.1831	68.04	5.4624	44.2	59.1	103.3	0.0890	0.1942	103
104	264.20	257.44	0.0147	0.1802	67.88	5.5481	44.6	58.7	103.4	0.0896	0.1941	104
105	267.69	260.92	0.0148	0.1775	67.71	5.6352	45.0	58.4	103.4	0.0903	0.1939	105
106	271.23	264.44	0.0148	0.1747	67.54	5.7237	45.4	58.1	103.4	0.0909	0.1938	106
107	274.80	267.99	0.0148	0.1720	67.37	5.8136	45.7	57.7	103.5	0.0916	0.1937	107
108	278.40	271.57	0.0149	0.1693	67.20	5.9051	46.1	57.4	103.5	0.0922	0.1935	108
109	282.04	275.19	0.0149	0.1667	67.03	5.9980	46.5	57.1	103.6	0.0929	0.1934	109
110	285.71	278.85	0.0150	0.1641	66.86	6.0924	46.9	56.7	103.6	0.0935	0.1933	110
111	289.42	282.54	0.0150	0.1616	66.69	6.1884	47.3	56.4	103.6	0.0942	0.1931	111
112	293.16	286.27	0.0150	0.1591	66.52	6.2861	47.6	56.0	103.7	0.0948	0.1930	112
113	296.94	290.04	0.0151	0.1566	66.34	6.3853	48.0	55.7	103.7	0.0955	0.1929	113
114	300.76	293.84	0.0151	0.1542	66.17	6.4863	48.4	55.3	103.7	0.0961	0.1927	114
115	304.61	297.68	0.0152	0.1518	65.99	6.5889	48.8	54.9	103.7	0.0968	0.1926	115
116	308.50	301.56	0.0152	0.1494	65.82	6.6934	49.2	54.6	103.8	0.0975	0.1924	116
117	312.43	305.47	0.0152	0.1471	65.64	6.7996	49.6	54.2	103.8	0.0981	0.1923	117
118	316.39	309.43	0.0153	0.1448	65.46	6.9077	50.0	53.8	103.8	0.0988	0.1921	118
119	320.39	313.42	0.0153	0.1425	65.29	7.0177	50.4	53.4	103.8	0.0995	0.1920	119
120	324.43	317.45	0.0154	0.1403	65.11	7.1297	50.8	53.0	103.8	0.1001	0.1918	120
121	328.50	321.52	0.0154	0.1381	64.93	7.2436	51.2	52.6	103.8	0.1008	0.1917	121
122	332.62	325.63	0.0154	0.1359	64.75	7.3597	51.6	52.3	103.9	0.1015	0.1915	122
123	336.77	329.77	0.0155	0.1337	64.56	7.4778	52.0	51.9	103.9	0.1022	0.1913	123
124	340.95	333.96	0.0155	0.1316	64.38	7.5981	52.4	51.4	103.9	0.1029	0.1912	124
125	345.18	338.18	0.0156	0.1295	64.20	7.7206	52.8	51.0	103.9	0.1036	0.1910	125
126	349.45	342.45	0.0156	0.1275	64.01	7.8455	53.3	50.6	103.9	0.1042	0.1908	126
127	353.75	346.76	0.0157	0.1254	63.83	7.9727	53.7	50.2	103.9	0.1049	0.1907	127
128	358.10	351.10	0.0157	0.1234	63.64	8.1023	54.1	49.8	103.9	0.1056	0.1905	128
129	362.48	355.49	0.0158	0.1214	63.45	8.2344	54.5	49.3	103.9	0.1063	0.1903	129
130	366.90	359.92	0.0158	0.1195	63.26	8.3691	55.0	48.9	103.9	0.1070	0.1901	130
131	371.37	364.39	0.0159	0.1176	63.07	8.5065	55.4	48.5	103.9	0.1077	0.1899	131
132	375.87	368.90	0.0159	0.1157	62.88	8.6466	55.8	48.0	103.8	0.1084	0.1897	132
133	380.41	373.45	0.0160	0.1138	62.68	8.7896	56.3	47.6	103.8	0.1092	0.1895	133
134	385.00	378.05	0.0160	0.1119	62.49	8.9355	56.7	47.1	103.8	0.1099	0.1894	134
135	389.62	382.69	0.0161	0.1101	62.29	9.0844	57.1	46.6	103.8	0.1106	0.1892	135
136	394.29	387.37	0.0161	0.1083	62.09	9.2365	57.6	46.2	103.7	0.1113	0.1889	136
137	398.99	392.09	0.0162	0.1065	61.89	9.3918	58.0	45.7	103.7	0.1121	0.1887	137
138	403.74	396.86	0.0162	0.1047	61.69	9.5504	58.5	45.2	103.7	0.1128	0.1885	138
139	408.53	401.67	0.0163	0.1030	61.49	9.7126	59.0	44.7	103.6	0.1135	0.1883	139
140	413.36	406.52	0.0163	0.1012	61.28	9.8783	59.4	44.2	103.6	0.1143	0.1881	140
141	418.23	411.42	0.0164	0.0995	61.07	10.0478	59.9	43.7	103.6	0.1150	0.1879	141
142	423.15	416.36	0.0164	0.0978	60.87	10.2213	60.3	43.2	103.5	0.1158	0.1876	142
143	428.11	421.35	0.0165	0.0962	60.65	10.3987	60.8	42.6	103.5	0.1165	0.1874	143
144	433.11	426.38	0.0165	0.0945	60.44	10.5805	61.3	42.1	103.4	0.1173	0.1871	144
145	438.15	431.46	0.0166	0.0929	60.23	10.7666	61.8	41.5	103.3	0.1181	0.1869	145
146	443.24	436.58	0.0167	0.0913	60.01	10.9573	62.3	41.0	103.3	0.1188	0.1866	146
147	448.37	441.75	0.0167	0.0897	59.79	11.1528	62.8	40.4	103.2	0.1196	0.1864	147
148	453.54	446.97	0.0168	0.0881	59.56	11.3534	63.3	39.8	103.1	0.1204	0.1861	148
149	458.76	452.23	0.0169	0.0865	59.34	11.5592	63.8	39.3	103.0	0.1212	0.1858	149

Table 2
Suva® HP81 Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia													
TEMP. °F	1.00			2.00			3.00			4.00			TEMP. °F
	(-127.44°F)			(-110.64°F)			(-99.85°F)			(-91.71°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(37.5075)	(76.8)	(0.2409)	(19.6471)	(79.1)	(0.2330)	(13.4689)	(80.5)	(0.2286)	(10.3059)	(81.6)	(0.2256)	
-100	40.6327	80.6	0.2518	20.2557	80.6	0.2372	—	—	—	—	—	—	-100
-90	41.7710	82.0	0.2557	20.8275	82.0	0.2410	13.8461	81.9	0.2324	10.3553	81.9	0.2263	-90
-80	42.9090	83.5	0.2595	21.3989	83.4	0.2449	14.2287	83.4	0.2363	10.6435	83.3	0.2301	-80
-70	44.0466	84.9	0.2633	21.9701	84.9	0.2486	14.6111	84.8	0.2401	10.9315	84.8	0.2339	-70
-60	45.1840	86.4	0.2670	22.5410	86.3	0.2524	14.9932	86.3	0.2438	11.2192	86.2	0.2377	-60
-50	46.3212	87.9	0.2707	23.1116	87.8	0.2561	15.3750	87.8	0.2475	11.5066	87.7	0.2414	-50
-40	47.4582	89.4	0.2743	23.6820	89.3	0.2597	15.7566	89.3	0.2511	11.7938	89.3	0.2450	-40
-30	48.5949	90.9	0.2779	24.2523	90.9	0.2633	16.1380	90.8	0.2547	12.0807	90.8	0.2486	-30
-20	49.7314	92.5	0.2815	24.8223	92.4	0.2669	16.5191	92.4	0.2583	12.3675	92.3	0.2522	-20
-10	50.8678	94.0	0.2850	25.3921	94.0	0.2704	16.9001	93.9	0.2618	12.6541	93.9	0.2557	-10
0	52.0040	95.6	0.2885	25.9618	95.6	0.2739	17.2810	95.5	0.2653	12.9405	95.5	0.2592	0
10	53.1400	97.2	0.2919	26.5313	97.2	0.2773	17.6616	97.1	0.2688	13.2268	97.1	0.2627	10
20	54.2759	98.8	0.2953	27.1006	98.8	0.2808	18.0422	98.8	0.2722	13.5129	98.7	0.2661	20
30	55.4117	100.5	0.2987	27.6699	100.4	0.2841	18.4225	100.4	0.2756	13.7989	100.4	0.2695	30
40	56.5473	102.1	0.3021	28.2390	102.1	0.2875	18.8028	102.1	0.2789	14.0847	102.0	0.2729	40
50	57.6828	103.8	0.3054	28.8079	103.8	0.2908	19.1829	103.8	0.2823	14.3704	103.7	0.2762	50
60	58.8182	105.5	0.3087	29.3768	105.5	0.2941	19.5630	105.4	0.2856	14.6560	105.4	0.2795	60
70	59.9535	107.2	0.3120	29.9456	107.2	0.2974	19.9429	107.2	0.2888	14.9415	107.1	0.2828	70
80	61.0887	109.0	0.3152	30.5143	108.9	0.3006	20.3227	108.9	0.2921	15.2270	108.9	0.2860	80
90	62.2239	110.7	0.3184	31.0828	110.7	0.3039	20.7025	110.7	0.2953	15.5123	110.6	0.2892	90
100	63.3589	112.5	0.3216	31.6513	112.5	0.3070	21.0821	112.4	0.2985	15.7975	112.4	0.2924	100
110	64.4938	114.3	0.3248	32.2198	114.2	0.3102	21.4617	114.2	0.3017	16.0827	114.2	0.2956	110
120	65.6287	116.1	0.3279	32.7881	116.1	0.3134	21.8412	116.0	0.3048	16.3678	116.0	0.2988	120
130	66.7635	117.9	0.3311	33.3564	117.9	0.3165	22.2207	117.9	0.3079	16.6528	117.8	0.3019	130
140	67.8983	119.7	0.3342	33.9246	119.7	0.3196	22.6000	119.7	0.3110	16.9377	119.7	0.3050	140
150	69.0330	121.6	0.3372	34.4927	121.6	0.3227	22.9793	121.6	0.3141	17.2226	121.5	0.3081	150
160	70.1676	123.5	0.3403	35.0608	123.5	0.3257	23.3585	123.4	0.3172	17.5074	123.4	0.3111	160
170	71.3021	125.4	0.3433	35.6288	125.4	0.3287	23.7377	125.3	0.3202	17.7922	125.3	0.3141	170
180	72.4366	127.3	0.3463	36.1968	127.3	0.3318	24.1168	127.2	0.3232	18.0769	127.2	0.3172	180
190	73.5711	129.2	0.3493	36.7647	129.2	0.3348	24.4959	129.2	0.3262	18.3615	129.1	0.3202	190
200	74.7055	131.2	0.3523	37.3326	131.1	0.3377	24.8749	131.1	0.3292	18.6461	131.1	0.3231	200
210	—	—	—	—	—	—	25.2539	133.1	0.3321	18.9307	133.1	0.3261	210

TEMP. °F	5.00			6.00			7.00			8.00			TEMP. °F
	(-85.10°F)			(-79.48°F)			(-74.58°F)			(-70.21°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(8.3743)	(82.5)	(0.2234)	(7.0681)	(83.3)	(0.2217)	(6.1239)	(83.9)	(0.2202)	(5.4085)	(84.5)	(0.2190)	
-80	8.4923	83.3	0.2254	—	—	—	—	—	—	—	—	—	-80
-70	8.7236	84.7	0.2292	7.2517	84.7	0.2253	6.2002	84.6	0.2219	5.4115	84.6	0.2191	-70
-60	8.9547	86.2	0.2329	7.4450	86.1	0.2290	6.3665	86.1	0.2257	5.5577	86.0	0.2228	-60
-50	9.1855	87.7	0.2366	7.6380	87.6	0.2327	6.5326	87.6	0.2294	5.7035	87.5	0.2265	-50
-40	9.4160	89.2	0.2403	7.8308	89.2	0.2364	6.6985	89.1	0.2331	5.8492	89.1	0.2302	-40
-30	9.6464	90.7	0.2439	8.0234	90.7	0.2400	6.8641	90.6	0.2367	5.9946	90.6	0.2338	-30
-20	9.8765	92.3	0.2475	8.2158	92.2	0.2436	7.0295	92.2	0.2403	6.1398	92.2	0.2374	-20
-10	10.1064	93.9	0.2510	8.4080	93.8	0.2471	7.1947	93.8	0.2438	6.2848	93.7	0.2409	-10
0	10.3362	95.5	0.2545	8.6000	95.4	0.2506	7.3598	95.4	0.2473	6.4296	95.3	0.2444	0
10	10.5658	97.1	0.2579	8.7918	97.0	0.2541	7.5247	97.0	0.2508	6.5743	96.9	0.2479	10
20	10.7953	98.7	0.2614	8.9835	98.7	0.2575	7.6894	98.6	0.2542	6.7188	98.6	0.2514	20
30	11.0246	100.3	0.2648	9.1751	100.3	0.2609	7.8540	100.3	0.2576	6.8631	100.2	0.2548	30
40	11.2538	102.0	0.2681	9.3665	102.0	0.2643	8.0185	101.9	0.2610	7.0074	101.9	0.2581	40
50	11.4829	103.7	0.2715	9.5578	103.6	0.2676	8.1828	103.6	0.2643	7.1515	103.6	0.2615	50
60	11.7119	105.4	0.2748	9.7490	105.3	0.2709	8.3470	105.3	0.2676	7.2955	105.3	0.2648	60
70	11.9407	107.1	0.2780	9.9401	107.1	0.2742	8.5112	107.0	0.2709	7.4394	107.0	0.2681	70
80	12.1695	108.8	0.2813	10.1311	108.8	0.2774	8.6752	108.8	0.2742	7.5832	108.7	0.2713	80
90	12.3982	110.6	0.2845	10.3221	110.6	0.2807	8.8391	110.5	0.2774	7.7269	110.5	0.2745	90
100	12.6267	112.4	0.2877	10.5129	112.3	0.2839	9.0030	112.3	0.2806	7.8705	112.3	0.2777	100
110	12.8553	114.2	0.2909	10.7036	114.1	0.2870	9.1667	114.1	0.2838	8.0141	114.1	0.2809	110
120	13.0837	116.0	0.2940	10.8943	115.9	0.2902	9.3304	115.9	0.2869	8.1575	115.9	0.2841	120
130	13.3120	117.8	0.2972	11.0849	117.8	0.2933	9.4940	117.7	0.2900	8.3009	117.7	0.2872	130
140	13.5403	119.6	0.3003	11.2754	119.6	0.2964	9.6576	119.6	0.2931	8.4442	119.6	0.2903	140
150	13.7686	121.5	0.3033	11.4659	121.5	0.2995	9.8211	121.4	0.2962	8.5875	121.4	0.2934	150
160	13.9967	123.4	0.3064	11.6562	123.4	0.3026	9.9845	123.3	0.2993	8.7307	123.3	0.2965	160
170	14.2248	125.3	0.3094	11.8466	125.3	0.3056	10.1478	125.2	0.3023	8.8738	125.2	0.2995	170
180	14.4529	127.2	0.3125	12.0369	127.2	0.3086	10.3111	127.1	0.3053	9.0169	127.1	0.3025	180
190	14.6809	129.1	0.3155	12.2271	129.1	0.3116	10.4744	129.1	0.3083	9.1599	129.1	0.3055	190
200	14.9088	131.1	0.3184	12.4173	131.0	0.3146	10.6376	131.0	0.3113	9.3028	131.0	0.3085	200
210	15.1367	133.0	0.3214	12.6074	133.0	0.3175	10.8008	133.0	0.3143	9.4458	133.0	0.3114	210
220	15.3646	135.0	0.3243	12.7975	135.0	0.3205	10.9639	135.0	0.3172	9.5886	134.9	0.3144	220
230	—	—	—	12.9875	137.0	0.3234	11.1269	137.0	0.3201	9.7315	136.9	0.3173	230

Table 2 (continued)
Suva® HP81 Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia													
TEMP. °F	9.00			10.00			11.00			12.00			TEMP. °F
	(-66.26°F)			(-62.65°F)			(-59.31°F)			(-56.21°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(4.8469)	(85.1)	(0.2179)	(4.3940)	(85.5)	(0.2170)	(4.0206)	(86.0)	(0.2161)	(3.7074)	(86.4)	(0.2154)	
-60	4.9285	86.0	0.2203	4.4251	85.9	0.2180	—	—	—	—	—	—	-60
-50	5.0587	87.5	0.2240	4.5427	87.4	0.2217	4.1206	87.4	0.2196	3.7687	87.3	0.2177	-50
-40	5.1886	89.0	0.2276	4.6601	89.0	0.2254	4.2276	88.9	0.2233	3.8672	88.9	0.2214	-40
-30	5.3183	90.6	0.2313	4.7772	90.5	0.2290	4.3345	90.5	0.2269	3.9655	90.4	0.2250	-30
-20	5.4477	92.1	0.2349	4.8941	92.1	0.2326	4.4411	92.0	0.2305	4.0635	92.0	0.2286	-20
-10	5.5770	93.7	0.2384	5.0108	93.6	0.2361	4.5475	93.6	0.2341	4.1614	93.6	0.2322	-10
0	5.7061	95.3	0.2419	5.1273	95.2	0.2397	4.6537	95.2	0.2376	4.2591	95.2	0.2357	0
10	5.8351	96.9	0.2454	5.2437	96.9	0.2431	4.7598	96.8	0.2411	4.3565	96.8	0.2392	10
20	5.9638	98.5	0.2488	5.3599	98.5	0.2466	4.8657	98.5	0.2445	4.4539	98.4	0.2426	20
30	6.0925	100.2	0.2522	5.4759	100.1	0.2500	4.9715	100.1	0.2479	4.5511	100.1	0.2461	30
40	6.2210	101.9	0.2556	5.5918	101.8	0.2534	5.0771	101.8	0.2513	4.6481	101.7	0.2494	40
50	6.3494	103.5	0.2590	5.7076	103.5	0.2567	5.1826	103.5	0.2547	4.7450	103.4	0.2528	50
60	6.4776	105.2	0.2623	5.8233	105.2	0.2600	5.2880	105.2	0.2580	4.8419	105.1	0.2561	60
70	6.6058	107.0	0.2656	5.9389	106.9	0.2633	5.3933	106.9	0.2613	4.9386	106.9	0.2594	70
80	6.7339	108.7	0.2688	6.0544	108.7	0.2666	5.4985	108.6	0.2645	5.0352	108.6	0.2627	80
90	6.8618	110.5	0.2720	6.1698	110.4	0.2698	5.6036	110.4	0.2678	5.1317	110.4	0.2659	90
100	6.9897	112.2	0.2752	6.2851	112.2	0.2730	5.7086	112.2	0.2710	5.2281	112.2	0.2691	100
110	7.1175	114.0	0.2784	6.4003	114.0	0.2762	5.8135	114.0	0.2741	5.3244	114.0	0.2723	110
120	7.2453	115.9	0.2816	6.5154	115.8	0.2793	5.9183	115.8	0.2773	5.4207	115.8	0.2754	120
130	7.3729	117.7	0.2847	6.6305	117.7	0.2825	6.0231	117.6	0.2804	5.5169	117.6	0.2786	130
140	7.5005	119.5	0.2878	6.7455	119.5	0.2856	6.1278	119.5	0.2835	5.6130	119.4	0.2817	140
150	7.6280	121.4	0.2909	6.8604	121.4	0.2887	6.2324	121.3	0.2866	5.7090	121.3	0.2848	150
160	7.7555	123.3	0.2940	6.9753	123.3	0.2917	6.3370	123.2	0.2897	5.8050	123.2	0.2878	160
170	7.8828	125.2	0.2970	7.0901	125.2	0.2948	6.4415	125.1	0.2927	5.9010	125.1	0.2909	170
180	8.0102	127.1	0.3000	7.2048	127.1	0.2978	6.5459	127.0	0.2958	5.9968	127.0	0.2939	180
190	8.1375	129.0	0.3030	7.3195	129.0	0.3008	6.6503	129.0	0.2988	6.0926	129.0	0.2969	190
200	8.2647	131.0	0.3060	7.4342	131.0	0.3038	6.7547	130.9	0.3017	6.1884	130.9	0.2999	200
210	8.3919	132.9	0.3090	7.5488	132.9	0.3067	6.8590	132.9	0.3047	6.2841	132.9	0.3028	210
220	8.5190	134.9	0.3119	7.6633	134.9	0.3097	6.9632	134.9	0.3076	6.3798	134.9	0.3058	220
230	8.6461	136.9	0.3148	7.7778	136.9	0.3126	7.0674	136.9	0.3106	6.4754	136.9	0.3087	230
240	8.7732	138.9	0.3177	7.8923	138.9	0.3155	7.1716	138.9	0.3135	6.5710	138.9	0.3116	240
250	—	—	—	—	—	—	7.2757	140.9	0.3163	6.6665	140.9	0.3145	250

TEMP. °F	13.00			14.00			14.696			15.00			TEMP. °F
	(-53.31°F)			(-50.58°F)			(-48.77°F)			(-48.00°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(3.4407)	(86.8)	(0.2147)	(3.2108)	(87.2)	(0.2141)	(3.0686)	(87.4)	(0.2137)	(3.0105)	(87.5)	(0.2135)	
-50	3.4710	87.3	0.2160	3.2158	87.2	0.2143	—	—	—	—	—	—	-50
-40	3.5622	88.8	0.2196	3.3008	88.8	0.2180	3.1398	88.7	0.2169	3.0742	88.7	0.2165	-40
-30	3.6533	90.4	0.2233	3.3856	90.3	0.2217	3.2208	90.3	0.2206	3.1537	90.3	0.2201	-30
-20	3.7441	91.9	0.2269	3.4702	91.9	0.2253	3.3016	91.9	0.2242	3.2329	91.8	0.2238	-20
-10	3.8347	93.5	0.2304	3.5546	93.5	0.2288	3.3822	93.4	0.2278	3.3119	93.4	0.2273	-10
0	3.9251	95.1	0.2340	3.6388	95.1	0.2324	3.4625	95.0	0.2313	3.3907	95.0	0.2309	0
10	4.0153	96.7	0.2375	3.7228	96.7	0.2358	3.5427	96.7	0.2348	3.4693	96.7	0.2343	10
20	4.1054	98.4	0.2409	3.8067	98.3	0.2393	3.6228	98.3	0.2382	3.5478	98.3	0.2378	20
30	4.1953	100.0	0.2443	3.8904	100.0	0.2427	3.7027	100.0	0.2417	3.6261	100.0	0.2412	30
40	4.2851	101.7	0.2477	3.9740	101.7	0.2461	3.7824	101.6	0.2451	3.7043	101.6	0.2446	40
50	4.3748	103.4	0.2511	4.0574	103.4	0.2495	3.8620	103.3	0.2484	3.7824	103.3	0.2480	50
60	4.4644	105.1	0.2544	4.1408	105.1	0.2528	3.9416	105.0	0.2517	3.8603	105.0	0.2513	60
70	4.5538	106.8	0.2577	4.2240	106.8	0.2561	4.0210	106.8	0.2550	3.9382	106.8	0.2546	70
80	4.6432	108.6	0.2609	4.3071	108.5	0.2593	4.1002	108.5	0.2583	4.0159	108.5	0.2579	80
90	4.7324	110.3	0.2642	4.3902	110.3	0.2626	4.1794	110.3	0.2615	4.0935	110.3	0.2611	90
100	4.8216	112.1	0.2674	4.4731	112.1	0.2658	4.2586	112.1	0.2647	4.1711	112.1	0.2643	100
110	4.9106	113.9	0.2706	4.5560	113.9	0.2690	4.3376	113.9	0.2679	4.2486	113.9	0.2675	110
120	4.9996	115.7	0.2737	4.6387	115.7	0.2721	4.4165	115.7	0.2711	4.3259	115.7	0.2707	120
130	5.0886	117.6	0.2769	4.7214	117.5	0.2753	4.4954	117.5	0.2742	4.4032	117.5	0.2738	130
140	5.1774	119.4	0.2800	4.8041	119.4	0.2784	4.5742	119.4	0.2773	4.4805	119.4	0.2769	140
150	5.2662	121.3	0.2831	4.8866	121.3	0.2815	4.6529	121.2	0.2804	4.5577	121.2	0.2800	150
160	5.3549	123.2	0.2861	4.9691	123.1	0.2845	4.7316	123.1	0.2835	4.6348	123.1	0.2831	160
170	5.4436	125.1	0.2892	5.0516	125.1	0.2876	4.8102	125.0	0.2866	4.7118	125.0	0.2861	170
180	5.5322	127.0	0.2922	5.1339	127.0	0.2906	4.8888	127.0	0.2896	4.7888	126.9	0.2891	180
190	5.6208	128.9	0.2952	5.2163	128.9	0.2936	4.9672	128.9	0.2926	4.8657	128.9	0.2921	190
200	5.7093	130.9	0.2982	5.2986	130.9	0.2966	5.0457	130.8	0.2956	4.9426	130.8	0.2951	200
210	5.7977	132.9	0.3011	5.3808	132.8	0.2996	5.1241	132.8	0.2985	5.0194	132.8	0.2981	210
220	5.8861	134.8	0.3041	5.4630	134.8	0.3025	5.2024	134.8	0.3015	5.0962	134.8	0.3010	220
230	5.9745	136.8	0.3070	5.5451	136.8	0.3054	5.2807	136.8	0.3044	5.1730	136.8	0.3040	230
240	6.0628	138.9	0.3099	5.6272	138.8	0.3083	5.3590	138.8	0.3073	5.2497	138.8	0.3069	240
250	6.1511	140.9	0.3128	5.7093	140.9	0.3112	5.4372	140.9	0.3102	5.3263	140.9	0.3098	250
260	—	—	—	—	—	—	5.5154	142.9	0.3131	5.4030	142.9	0.3126	260

Table 2 (continued)
Suva® HP81 Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia													
TEMP. °F	16.00			17.00			18.00			19.00			TEMP. °F
	(-45.55°F)			(-43.22°F)			(-40.99°F)			(-38.86°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(2.8344)	(87.8)	(0.2130)	(2.6782)	(88.1)	(0.2125)	(2.5387)	(88.4)	(0.2121)	(2.4134)	(88.7)	(0.2116)	
-40	2.8759	88.7	0.2151	2.7009	88.6	0.2137	2.5454	88.6	0.2124	—	—	—	-40
-30	2.9507	90.2	0.2187	2.7715	90.2	0.2174	2.6123	90.1	0.2161	2.4698	90.1	0.2149	-30
-20	3.0252	91.8	0.2223	2.8419	91.8	0.2210	2.6789	91.7	0.2197	2.5331	91.7	0.2185	-20
-10	3.0995	93.4	0.2259	2.9120	93.3	0.2246	2.7454	93.3	0.2233	2.5963	93.3	0.2221	-10
0	3.1736	95.0	0.2294	2.9820	95.0	0.2281	2.8117	94.9	0.2268	2.6593	94.9	0.2257	0
10	3.2475	96.6	0.2329	3.0518	96.6	0.2316	2.8778	96.5	0.2304	2.7221	96.5	0.2292	10
20	3.3213	98.3	0.2364	3.1214	98.2	0.2351	2.9437	98.2	0.2338	2.7847	98.1	0.2326	20
30	3.3949	99.9	0.2398	3.1908	99.9	0.2385	3.0094	99.8	0.2372	2.8471	99.8	0.2361	30
40	3.4684	101.6	0.2432	3.2601	101.6	0.2419	3.0751	101.5	0.2406	2.9094	101.5	0.2395	40
50	3.5417	103.3	0.2466	3.3293	103.3	0.2452	3.1406	103.2	0.2440	2.9716	103.2	0.2428	50
60	3.6149	105.0	0.2499	3.3984	105.0	0.2486	3.2059	104.9	0.2473	3.0337	104.9	0.2462	60
70	3.6881	106.7	0.2532	3.4674	106.7	0.2519	3.2712	106.7	0.2506	3.0957	106.6	0.2495	70
80	3.7611	108.5	0.2565	3.5362	108.4	0.2551	3.3364	108.4	0.2539	3.1575	108.4	0.2527	80
90	3.8340	110.2	0.2597	3.6050	110.2	0.2584	3.4014	110.2	0.2572	3.2193	110.2	0.2560	90
100	3.9068	112.0	0.2629	3.6737	112.0	0.2616	3.4664	112.0	0.2604	3.2809	111.9	0.2592	100
110	3.9796	113.8	0.2661	3.7422	113.8	0.2648	3.5313	113.8	0.2636	3.3425	113.7	0.2624	110
120	4.0522	115.6	0.2693	3.8107	115.6	0.2680	3.5961	115.6	0.2667	3.4040	115.6	0.2656	120
130	4.1248	117.5	0.2724	3.8792	117.5	0.2711	3.6608	117.4	0.2699	3.4654	117.4	0.2687	130
140	4.1974	119.3	0.2755	3.9475	119.3	0.2742	3.7255	119.3	0.2730	3.5268	119.3	0.2718	140
150	4.2698	121.2	0.2786	4.0158	121.2	0.2773	3.7900	121.2	0.2761	3.5880	121.1	0.2749	150
160	4.3422	123.1	0.2817	4.0840	123.1	0.2804	3.8546	123.0	0.2792	3.6492	123.0	0.2780	160
170	4.4145	125.0	0.2847	4.1522	125.0	0.2834	3.9190	124.9	0.2822	3.7104	124.9	0.2810	170
180	4.4868	126.9	0.2878	4.2203	126.9	0.2865	3.9834	126.9	0.2852	3.7715	126.8	0.2841	180
190	4.5590	128.8	0.2908	4.2884	128.8	0.2895	4.0478	128.8	0.2882	3.8325	128.8	0.2871	190
200	4.6312	130.8	0.2938	4.3563	130.8	0.2925	4.1121	130.8	0.2912	3.8935	130.7	0.2901	200
210	4.7033	132.8	0.2967	4.4243	132.8	0.2954	4.1763	132.7	0.2942	3.9544	132.7	0.2930	210
220	4.7753	134.8	0.2997	4.4922	134.7	0.2984	4.2405	134.7	0.2971	4.0153	134.7	0.2960	220
230	4.8474	136.8	0.3026	4.5601	136.8	0.3013	4.3047	136.7	0.3001	4.0762	136.7	0.2989	230
240	4.9193	138.8	0.3055	4.6279	138.8	0.3042	4.3688	138.7	0.3030	4.1370	138.7	0.3018	240
250	4.9913	140.8	0.3084	4.6957	140.8	0.3071	4.4329	140.8	0.3059	4.1977	140.8	0.3047	250
260	5.0632	142.9	0.3112	4.7634	142.9	0.3100	4.4969	142.8	0.3087	4.2585	142.8	0.3076	260
270	—	—	—	—	—	—	—	—	—	4.3192	144.9	0.3104	270

TEMP. °F	20.00			21.00			22.00			23.00			TEMP. °F
	(-36.82°F)			(-34.85°F)			(-32.96°F)			(-31.13°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(2.3002)	(89.0)	(0.2113)	(2.1973)	(89.2)	(0.2109)	(2.1035)	(89.5)	(0.2105)	(2.0175)	(89.7)	(0.2102)	
-30	2.3415	90.0	0.2138	2.2254	90.0	0.2127	2.1199	89.9	0.2116	2.0235	89.9	0.2106	-30
-20	2.4019	91.6	0.2174	2.2832	91.6	0.2163	2.1752	91.5	0.2152	2.0766	91.5	0.2142	-20
-10	2.4621	93.2	0.2210	2.3407	93.2	0.2199	2.2303	93.1	0.2188	2.1295	93.1	0.2178	-10
0	2.5221	94.8	0.2245	2.3980	94.8	0.2234	2.2852	94.7	0.2224	2.1821	94.7	0.2214	0
10	2.5819	96.5	0.2280	2.4551	96.4	0.2269	2.3398	96.4	0.2259	2.2346	96.3	0.2249	10
20	2.6416	98.1	0.2315	2.5121	98.1	0.2304	2.3943	98.0	0.2294	2.2869	98.0	0.2284	20
30	2.7010	99.8	0.2349	2.5689	99.7	0.2339	2.4487	99.7	0.2328	2.3390	99.6	0.2318	30
40	2.7604	101.4	0.2383	2.6255	101.4	0.2373	2.5029	101.4	0.2362	2.3910	101.3	0.2353	40
50	2.8196	103.1	0.2417	2.6821	103.1	0.2406	2.5570	103.1	0.2396	2.4428	103.0	0.2386	50
60	2.8787	104.9	0.2450	2.7385	104.8	0.2440	2.6110	104.8	0.2429	2.4945	104.8	0.2420	60
70	2.9377	106.6	0.2483	2.7947	106.6	0.2473	2.6648	106.5	0.2463	2.5461	106.5	0.2453	70
80	2.9966	108.3	0.2516	2.8509	108.3	0.2506	2.7185	108.3	0.2495	2.5976	108.3	0.2486	80
90	3.0553	110.1	0.2549	2.9070	110.1	0.2538	2.7722	110.1	0.2528	2.6490	110.0	0.2518	90
100	3.1140	111.9	0.2581	2.9630	111.9	0.2570	2.8257	111.8	0.2560	2.7003	111.8	0.2550	100
110	3.1726	113.7	0.2613	3.0189	113.7	0.2602	2.8792	113.7	0.2592	2.7516	113.6	0.2582	110
120	3.2311	115.5	0.2645	3.0747	115.5	0.2634	2.9325	115.5	0.2624	2.8027	115.4	0.2614	120
130	3.2896	117.4	0.2676	3.1305	117.3	0.2665	2.9858	117.3	0.2655	2.8538	117.3	0.2646	130
140	3.3479	119.2	0.2707	3.1861	119.2	0.2697	3.0390	119.2	0.2687	2.9047	119.1	0.2677	140
150	3.4062	121.1	0.2738	3.2417	121.1	0.2728	3.0922	121.0	0.2718	2.9556	121.0	0.2708	150
160	3.4645	123.0	0.2769	3.2973	123.0	0.2758	3.1453	122.9	0.2748	3.0065	122.9	0.2739	160
170	3.5226	124.9	0.2799	3.3527	124.9	0.2789	3.1983	124.8	0.2779	3.0573	124.8	0.2769	170
180	3.5807	126.8	0.2830	3.4082	126.8	0.2819	3.2513	126.8	0.2809	3.1080	126.7	0.2800	180
190	3.6388	128.8	0.2860	3.4635	128.7	0.2849	3.3042	128.7	0.2839	3.1587	128.7	0.2830	190
200	3.6968	130.7	0.2890	3.5188	130.7	0.2879	3.3570	130.7	0.2869	3.2093	130.6	0.2860	200
210	3.7548	132.7	0.2919	3.5741	132.7	0.2909	3.4098	132.6	0.2899	3.2599	132.6	0.2889	210
220	3.8127	134.7	0.2949	3.6293	134.7	0.2938	3.4626	134.6	0.2928	3.3104	134.6	0.2919	220
230	3.8705	136.7	0.2978	3.6845	136.7	0.2968	3.5153	136.6	0.2958	3.3609	136.6	0.2948	230
240	3.9284	138.7	0.3007	3.7396	138.7	0.2997	3.5680	138.7	0.2987	3.4113	138.6	0.2977	240
250	3.9861	140.7	0.3036	3.7947	140.7	0.3026	3.6206	140.7	0.3016	3.4617	140.7	0.3006	250
260	4.0439	142.8	0.3065	3.8497	142.8	0.3054	3.6732	142.8	0.3044	3.5121	142.7	0.3035	260
270	4.1016	144.9	0.3093	3.9047	144.8	0.3083	3.7258	144.8	0.3073	3.5624	144.8	0.3064	270

Table 2 (continued)
Suva® HP81 Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia													
TEMP. °F	24.00			25.00			26.00			27.00			TEMP. °F
	(-29.36°F)			(-27.65°F)			(-25.99°F)			(-24.37°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(1.9385)	(89.9)	(0.2099)	(1.8655)	(90.2)	(0.2096)	(1.7979)	(90.4)	(0.2093)	(1.7352)	(90.6)	(0.2090)	
-20	1.9862	91.4	0.2133	1.9031	91.4	0.2124	1.8263	91.3	0.2115	1.7552	91.3	0.2106	-20
-10	2.0370	93.0	0.2169	1.9520	93.0	0.2160	1.8735	92.9	0.2151	1.8008	92.9	0.2142	-10
0	2.0877	94.7	0.2204	2.0007	94.6	0.2195	1.9205	94.6	0.2186	1.8462	94.5	0.2178	0
10	2.1381	96.3	0.2240	2.0493	96.2	0.2231	1.9673	96.2	0.2222	1.8914	96.2	0.2213	10
20	2.1883	97.9	0.2275	2.0976	97.9	0.2265	2.0139	97.9	0.2257	1.9364	97.8	0.2248	20
30	2.2384	99.6	0.2309	2.1458	99.6	0.2300	2.0604	99.5	0.2291	1.9813	99.5	0.2283	30
40	2.2883	101.3	0.2343	2.1939	101.3	0.2334	2.1067	101.2	0.2325	2.0260	101.2	0.2317	40
50	2.3381	103.0	0.2377	2.2418	103.0	0.2368	2.1529	102.9	0.2359	2.0706	102.9	0.2351	50
60	2.3878	104.7	0.2410	2.2896	104.7	0.2401	2.1990	104.7	0.2393	2.1150	104.6	0.2384	60
70	2.4374	106.5	0.2443	2.3373	106.4	0.2434	2.2449	106.4	0.2426	2.1594	106.4	0.2417	70
80	2.4868	108.2	0.2476	2.3849	108.2	0.2467	2.2907	108.2	0.2459	2.2036	108.1	0.2450	80
90	2.5362	110.0	0.2509	2.4323	110.0	0.2500	2.3365	109.9	0.2491	2.2477	109.9	0.2483	90
100	2.5854	111.8	0.2541	2.4797	111.8	0.2532	2.3821	111.7	0.2524	2.2917	111.7	0.2515	100
110	2.6346	113.6	0.2573	2.5270	113.6	0.2564	2.4277	113.5	0.2556	2.3357	113.5	0.2547	110
120	2.6837	115.4	0.2605	2.5742	115.4	0.2596	2.4731	115.4	0.2587	2.3795	115.3	0.2579	120
130	2.7327	117.3	0.2636	2.6213	117.2	0.2628	2.5185	117.2	0.2619	2.4233	117.2	0.2611	130
140	2.7816	119.1	0.2668	2.6684	119.1	0.2659	2.5638	119.1	0.2650	2.4670	119.0	0.2642	140
150	2.8305	121.0	0.2699	2.7153	121.0	0.2690	2.6090	120.9	0.2681	2.5106	120.9	0.2673	150
160	2.8793	122.9	0.2730	2.7622	122.9	0.2721	2.6542	122.8	0.2712	2.5542	122.8	0.2704	160
170	2.9280	124.8	0.2760	2.8091	124.8	0.2751	2.6993	124.7	0.2743	2.5977	124.7	0.2735	170
180	2.9767	126.7	0.2790	2.8559	126.7	0.2782	2.7444	126.7	0.2773	2.6411	126.6	0.2765	180
190	3.0253	128.7	0.2821	2.9026	128.6	0.2812	2.7894	128.6	0.2803	2.6845	128.6	0.2795	190
200	3.0739	130.6	0.2850	2.9493	130.6	0.2842	2.8343	130.6	0.2833	2.7278	130.6	0.2825	200
210	3.1224	132.6	0.2880	2.9959	132.6	0.2871	2.8792	132.6	0.2863	2.7711	132.5	0.2855	210
220	3.1709	134.6	0.2910	3.0425	134.6	0.2901	2.9240	134.5	0.2892	2.8143	134.5	0.2884	220
230	3.2193	136.6	0.2939	3.0890	136.6	0.2930	2.9688	136.6	0.2922	2.8575	136.5	0.2914	230
240	3.2677	138.6	0.2968	3.1355	138.6	0.2959	3.0136	138.6	0.2951	2.9006	138.6	0.2943	240
250	3.3160	140.7	0.2997	3.1820	140.6	0.2988	3.0583	140.6	0.2980	2.9437	140.6	0.2972	250
260	3.3643	142.7	0.3026	3.2284	142.7	0.3017	3.1030	142.7	0.3009	2.9868	142.7	0.3001	260
270	3.4126	144.8	0.3054	3.2748	144.8	0.3046	3.1476	144.7	0.3037	3.0298	144.7	0.3029	270
280	3.4608	146.9	0.3083	3.3211	146.8	0.3074	3.1922	146.8	0.3066	3.0728	146.8	0.3057	280

TEMP. °F	28.00			29.00			30.00			31.00			TEMP. °F
	(-22.81°F)			(-21.29°F)			(-19.80°F)			(-18.36°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(1.6767)	(90.8)	(0.2088)	(1.6221)	(91.0)	(0.2085)	(1.5711)	(91.2)	(0.2083)	(1.5232)	(91.4)	(0.2080)	
-20	1.6892	91.2	0.2098	1.6277	91.2	0.2090	—	—	—	—	—	—	-20
-10	1.7333	92.9	0.2134	1.6704	92.8	0.2126	1.6117	92.8	0.2118	1.5568	92.7	0.2111	-10
0	1.7772	94.5	0.2170	1.7130	94.4	0.2162	1.6530	94.4	0.2154	1.5969	94.3	0.2146	0
10	1.8209	96.1	0.2205	1.7553	96.1	0.2197	1.6940	96.0	0.2189	1.6367	96.0	0.2182	10
20	1.8645	97.8	0.2240	1.7974	97.7	0.2232	1.7349	97.7	0.2224	1.6764	97.7	0.2217	20
30	1.9078	99.5	0.2275	1.8394	99.4	0.2267	1.7756	99.4	0.2259	1.7158	99.3	0.2252	30
40	1.9511	101.1	0.2309	1.8813	101.1	0.2301	1.8161	101.1	0.2293	1.7552	101.0	0.2286	40
50	1.9941	102.9	0.2343	1.9230	102.8	0.2335	1.8565	102.8	0.2327	1.7944	102.7	0.2320	50
60	2.0371	104.6	0.2376	1.9645	104.5	0.2368	1.8968	104.5	0.2361	1.8334	104.5	0.2353	60
70	2.0799	106.3	0.2409	2.0060	106.3	0.2402	1.9370	106.3	0.2394	1.8724	106.2	0.2387	70
80	2.1227	108.1	0.2442	2.0473	108.1	0.2435	1.9770	108.0	0.2427	1.9112	108.0	0.2420	80
90	2.1653	109.9	0.2475	2.0886	109.8	0.2467	2.0169	109.8	0.2460	1.9499	109.8	0.2452	90
100	2.2078	111.7	0.2507	2.1297	111.6	0.2500	2.0568	111.6	0.2492	1.9886	111.6	0.2485	100
110	2.2503	113.5	0.2539	2.1707	113.4	0.2532	2.0965	113.4	0.2524	2.0271	113.4	0.2517	110
120	2.2926	115.3	0.2571	2.2117	115.3	0.2564	2.1362	115.2	0.2556	2.0655	115.2	0.2549	120
130	2.3349	117.1	0.2603	2.2526	117.1	0.2595	2.1758	117.1	0.2588	2.1039	117.1	0.2580	130
140	2.3771	119.0	0.2634	2.2934	119.0	0.2626	2.2153	118.9	0.2619	2.1422	118.9	0.2612	140
150	2.4192	120.9	0.2665	2.3341	120.9	0.2658	2.2547	120.8	0.2650	2.1804	120.8	0.2643	150
160	2.4613	122.8	0.2696	2.3748	122.8	0.2688	2.2941	122.7	0.2681	2.2186	122.7	0.2674	160
170	2.5033	124.7	0.2727	2.4154	124.7	0.2719	2.3334	124.6	0.2712	2.2566	124.6	0.2704	170
180	2.5452	126.6	0.2757	2.4559	126.6	0.2749	2.3726	126.6	0.2742	2.2947	126.5	0.2735	180
190	2.5871	128.6	0.2787	2.4964	128.5	0.2780	2.4118	128.5	0.2772	2.3326	128.5	0.2765	190
200	2.6289	130.5	0.2817	2.5369	130.5	0.2810	2.4509	130.5	0.2802	2.3706	130.5	0.2795	200
210	2.6707	132.5	0.2847	2.5773	132.5	0.2839	2.4900	132.5	0.2832	2.4084	132.4	0.2825	210
220	2.7124	134.5	0.2876	2.6176	134.5	0.2869	2.5291	134.5	0.2862	2.4462	134.4	0.2854	220
230	2.7541	136.5	0.2906	2.6579	136.5	0.2898	2.5681	136.5	0.2891	2.4840	136.4	0.2884	230
240	2.7958	138.5	0.2935	2.6981	138.5	0.2927	2.6070	138.5	0.2920	2.5217	138.5	0.2913	240
250	2.8374	140.6	0.2964	2.7383	140.6	0.2956	2.6459	140.5	0.2949	2.5594	140.5	0.2942	250
260	2.8789	142.6	0.2993	2.7785	142.6	0.2985	2.6848	142.6	0.2978	2.5971	142.6	0.2971	260
270	2.9205	144.7	0.3021	2.8186	144.7	0.3014	2.7236	144.7	0.3006	2.6347	144.6	0.2999	270
280	2.9619	146.8	0.3050	2.8587	146.8	0.3042	2.7624	146.7	0.3035	2.6723	146.7	0.3028	280
290	—	—	—	—	—	—	2.8011	148.9	0.3063	2.7098	148.8	0.3056	290

Table 2 (continued)
Suva® HP81 Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia													
TEMP. °F	32.00			33.00			34.00			35.00			TEMP. °F
	(-16.95°F)			(-15.57°F)			(-14.23°F)			(-12.91°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(1.4782)	(91.5)	(0.2078)	(1.4358)	(91.7)	(0.2076)	(1.3958)	(91.9)	(0.2074)	(1.3580)	(92.1)	(0.2072)	
-10	1.5053	92.7	0.2103	1.4570	92.6	0.2096	1.4114	92.6	0.2089	1.3685	92.5	0.2082	-10
0	1.5443	94.3	0.2139	1.4948	94.3	0.2132	1.4483	94.2	0.2125	1.4044	94.2	0.2118	0
10	1.5830	96.0	0.2175	1.5325	95.9	0.2168	1.4849	95.9	0.2161	1.4401	95.8	0.2154	10
20	1.6215	97.6	0.2210	1.5699	97.6	0.2203	1.5214	97.5	0.2196	1.4756	97.5	0.2189	20
30	1.6598	99.3	0.2244	1.6072	99.3	0.2237	1.5577	99.2	0.2231	1.5110	99.2	0.2224	30
40	1.6980	101.0	0.2279	1.6444	101.0	0.2272	1.5938	100.9	0.2265	1.5462	100.9	0.2258	40
50	1.7361	102.7	0.2313	1.6814	102.7	0.2306	1.6298	102.6	0.2299	1.5812	102.6	0.2292	50
60	1.7740	104.4	0.2346	1.7182	104.4	0.2339	1.6657	104.4	0.2333	1.6161	104.3	0.2326	60
70	1.8118	106.2	0.2380	1.7549	106.2	0.2373	1.7014	106.1	0.2366	1.6509	106.1	0.2360	70
80	1.8495	108.0	0.2413	1.7916	107.9	0.2406	1.7370	107.9	0.2399	1.6856	107.8	0.2393	80
90	1.8871	109.7	0.2445	1.8281	109.7	0.2439	1.7725	109.7	0.2432	1.7202	109.6	0.2425	90
100	1.9246	111.5	0.2478	1.8645	111.5	0.2471	1.8080	111.5	0.2464	1.7546	111.4	0.2458	100
110	1.9620	113.3	0.2510	1.9008	113.3	0.2503	1.8433	113.3	0.2497	1.7890	113.3	0.2490	110
120	1.9993	115.2	0.2542	1.9371	115.1	0.2535	1.8785	115.1	0.2528	1.8233	115.1	0.2522	120
130	2.0365	117.0	0.2573	1.9732	117.0	0.2567	1.9137	117.0	0.2560	1.8575	116.9	0.2554	130
140	2.0737	118.9	0.2605	2.0093	118.9	0.2598	1.9487	118.8	0.2591	1.8916	118.8	0.2585	140
150	2.1108	120.8	0.2636	2.0453	120.7	0.2629	1.9837	120.7	0.2623	1.9257	120.7	0.2616	150
160	2.1478	122.7	0.2667	2.0813	122.6	0.2660	2.0187	122.6	0.2654	1.9596	122.6	0.2647	160
170	2.1847	124.6	0.2698	2.1171	124.6	0.2691	2.0535	124.5	0.2684	1.9936	124.5	0.2678	170
180	2.2216	126.5	0.2728	2.1529	126.5	0.2721	2.0883	126.5	0.2715	2.0274	126.4	0.2708	180
190	2.2584	128.5	0.2758	2.1887	128.4	0.2751	2.1231	128.4	0.2745	2.0612	128.4	0.2739	190
200	2.2952	130.4	0.2788	2.2244	130.4	0.2781	2.1578	130.4	0.2775	2.0950	130.4	0.2769	200
210	2.3319	132.4	0.2818	2.2601	132.4	0.2811	2.1924	132.4	0.2805	2.1287	132.3	0.2798	210
220	2.3686	134.4	0.2848	2.2957	134.4	0.2841	2.2270	134.4	0.2834	2.1623	134.3	0.2828	220
230	2.4052	136.4	0.2877	2.3312	136.4	0.2870	2.2616	136.4	0.2864	2.1959	136.4	0.2857	230
240	2.4418	138.4	0.2906	2.3667	138.4	0.2899	2.2961	138.4	0.2893	2.2295	138.4	0.2887	240
250	2.4784	140.5	0.2935	2.4022	140.5	0.2928	2.3305	140.4	0.2922	2.2630	140.4	0.2916	250
260	2.5149	142.5	0.2964	2.4377	142.5	0.2957	2.3650	142.5	0.2951	2.2964	142.5	0.2944	260
270	2.5513	144.6	0.2992	2.4731	144.6	0.2986	2.3994	144.6	0.2979	2.3299	144.6	0.2973	270
280	2.5878	146.7	0.3021	2.5084	146.7	0.3014	2.4337	146.7	0.3008	2.3633	146.7	0.3002	280
290	2.6242	148.8	0.3049	2.5437	148.8	0.3043	2.4680	148.8	0.3036	2.3966	148.8	0.3030	290

TEMP. °F	36.00			37.00			38.00			39.00			TEMP. °F
	(-11.63°F)			(-10.37°F)			(-9.14°F)			(-7.93°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(1.3222)	(92.2)	(0.2070)	(1.2882)	(92.4)	(0.2068)	(1.2560)	(92.5)	(0.2066)	(1.2254)	(92.7)	(0.2064)	
-10	1.3279	92.5	0.2076	1.2895	92.4	0.2069	—	—	—	—	—	—	-10
0	1.3630	94.1	0.2112	1.3237	94.1	0.2105	1.2866	94.0	0.2099	1.2513	94.0	0.2093	0
10	1.3978	95.8	0.2148	1.3577	95.7	0.2141	1.3198	95.7	0.2135	1.2838	95.6	0.2129	10
20	1.4324	97.5	0.2183	1.3915	97.4	0.2176	1.3528	97.4	0.2170	1.3160	97.3	0.2164	20
30	1.4669	99.1	0.2218	1.4251	99.1	0.2211	1.3856	99.1	0.2205	1.3481	99.0	0.2199	30
40	1.5012	100.8	0.2252	1.4586	100.8	0.2246	1.4183	100.8	0.2240	1.3800	100.7	0.2234	40
50	1.5353	102.6	0.2286	1.4919	102.5	0.2280	1.4508	102.5	0.2274	1.4118	102.4	0.2268	50
60	1.5694	104.3	0.2320	1.5251	104.3	0.2314	1.4832	104.2	0.2308	1.4434	104.2	0.2302	60
70	1.6033	106.0	0.2353	1.5581	106.0	0.2347	1.5154	106.0	0.2341	1.4749	105.9	0.2335	70
80	1.6370	107.8	0.2386	1.5911	107.8	0.2380	1.5475	107.7	0.2374	1.5062	107.7	0.2368	80
90	1.6707	109.6	0.2419	1.6239	109.6	0.2413	1.5796	109.5	0.2407	1.5375	109.5	0.2401	90
100	1.7043	111.4	0.2452	1.6566	111.4	0.2445	1.6115	111.3	0.2439	1.5687	111.3	0.2434	100
110	1.7377	113.2	0.2484	1.6893	113.2	0.2478	1.6433	113.2	0.2472	1.5997	113.1	0.2466	110
120	1.7711	115.1	0.2516	1.7218	115.0	0.2510	1.6751	115.0	0.2504	1.6307	115.0	0.2498	120
130	1.8044	116.9	0.2547	1.7542	116.9	0.2541	1.7067	116.9	0.2535	1.6616	116.8	0.2530	130
140	1.8377	118.8	0.2579	1.7866	118.8	0.2573	1.7383	118.7	0.2567	1.6924	118.7	0.2561	140
150	1.8708	120.7	0.2610	1.8189	120.6	0.2604	1.7698	120.6	0.2598	1.7232	120.6	0.2592	150
160	1.9039	122.6	0.2641	1.8512	122.5	0.2635	1.8012	122.5	0.2629	1.7538	122.5	0.2623	160
170	1.9369	124.5	0.2672	1.8833	124.5	0.2666	1.8326	124.4	0.2660	1.7844	124.4	0.2654	170
180	1.9699	126.4	0.2702	1.9155	126.4	0.2696	1.8639	126.4	0.2690	1.8150	126.3	0.2685	180
190	2.0028	128.4	0.2732	1.9475	128.3	0.2726	1.8951	128.3	0.2721	1.8455	128.3	0.2715	190
200	2.0356	130.3	0.2762	1.9795	130.3	0.2756	1.9263	130.3	0.2751	1.8759	130.3	0.2745	200
210	2.0684	132.3	0.2792	2.0115	132.3	0.2786	1.9575	132.3	0.2780	1.9063	132.2	0.2775	210
220	2.1012	134.3	0.2822	2.0434	134.3	0.2816	1.9886	134.3	0.2810	1.9366	134.2	0.2804	220
230	2.1339	136.3	0.2851	2.0752	136.3	0.2845	2.0196	136.3	0.2840	1.9669	136.3	0.2834	230
240	2.1665	138.4	0.2881	2.1070	138.3	0.2875	2.0506	138.3	0.2869	1.9971	138.3	0.2863	240
250	2.1991	140.4	0.2910	2.1388	140.4	0.2904	2.0816	140.4	0.2898	2.0273	140.3	0.2892	250
260	2.2317	142.5	0.2938	2.1705	142.4	0.2932	2.1125	142.4	0.2927	2.0575	142.4	0.2921	260
270	2.2643	144.5	0.2967	2.2022	144.5	0.2961	2.1434	144.5	0.2955	2.0876	144.5	0.2950	270
280	2.2968	146.6	0.2995	2.2338	146.6	0.2990	2.1742	146.6	0.2984	2.1177	146.6	0.2978	280
290	2.3292	148.7	0.3024	2.2655	148.7	0.3018	2.2050	148.7	0.3012	2.1477	148.7	0.3006	290
300	—	—	—	—	—	—	2.2358	150.8	0.3040	2.1777	150.8	0.3034	300

Table 2 (continued)
Suva® HP81 Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia													TEMP. °F
TEMP. °F	40.00			41.00			42.00			43.00			
	(-6.75°F)			(-5.59°F)			(-4.45°F)			(-3.33°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
(1.1963)	(92.8)	(0.2063)	(1.1685)	(93.0)	(0.2061)	(1.1420)	(93.1)	(0.2060)	(1.1166)	(93.2)	(0.2058)		
0	1.2178	93.9	0.2087	1.1859	93.9	0.2081	1.1556	93.8	0.2076	1.1266	93.8	0.2070	0
10	1.2496	95.6	0.2123	1.2170	95.6	0.2117	1.1860	95.5	0.2112	1.1564	95.5	0.2106	10
20	1.2811	97.3	0.2158	1.2479	97.2	0.2153	1.2162	97.2	0.2147	1.1860	97.2	0.2141	20
30	1.3124	99.0	0.2193	1.2785	98.9	0.2188	1.2462	98.9	0.2182	1.2154	98.9	0.2177	30
40	1.3436	100.7	0.2228	1.3090	100.6	0.2222	1.2761	100.6	0.2217	1.2447	100.6	0.2211	40
50	1.3747	102.4	0.2262	1.3394	102.4	0.2256	1.3058	102.3	0.2251	1.2738	102.3	0.2245	50
60	1.4056	104.1	0.2296	1.3696	104.1	0.2290	1.3354	104.1	0.2285	1.3027	104.0	0.2279	60
70	1.4363	105.9	0.2329	1.3997	105.9	0.2324	1.3648	105.8	0.2318	1.3315	105.8	0.2313	70
80	1.4670	107.7	0.2363	1.4297	107.6	0.2357	1.3941	107.6	0.2351	1.3602	107.6	0.2346	80
90	1.4975	109.5	0.2395	1.4595	109.4	0.2390	1.4233	109.4	0.2384	1.3888	109.4	0.2379	90
100	1.5280	111.3	0.2428	1.4893	111.2	0.2422	1.4524	111.2	0.2417	1.4173	111.2	0.2412	100
110	1.5583	113.1	0.2460	1.5189	113.1	0.2455	1.4814	113.0	0.2449	1.4456	113.0	0.2444	110
120	1.5886	114.9	0.2492	1.5485	114.9	0.2487	1.5103	114.9	0.2481	1.4739	114.8	0.2476	120
130	1.6187	116.8	0.2524	1.5780	116.8	0.2518	1.5392	116.7	0.2513	1.5021	116.7	0.2508	130
140	1.6488	118.7	0.2555	1.6074	118.6	0.2550	1.5679	118.6	0.2545	1.5303	118.6	0.2539	140
150	1.6789	120.6	0.2587	1.6367	120.5	0.2581	1.5966	120.5	0.2576	1.5583	120.5	0.2571	150
160	1.7088	122.5	0.2618	1.6660	122.4	0.2612	1.6252	122.4	0.2607	1.5863	122.4	0.2602	160
170	1.7387	124.4	0.2648	1.6952	124.4	0.2643	1.6537	124.3	0.2638	1.6142	124.3	0.2632	170
180	1.7685	126.3	0.2679	1.7243	126.3	0.2674	1.6822	126.3	0.2668	1.6420	126.2	0.2663	180
190	1.7983	128.3	0.2709	1.7534	128.2	0.2704	1.7106	128.2	0.2699	1.6698	128.2	0.2693	190
200	1.8280	130.2	0.2739	1.7824	130.2	0.2734	1.7390	130.2	0.2729	1.6976	130.2	0.2723	200
210	1.8576	132.2	0.2769	1.8113	132.2	0.2764	1.7673	132.2	0.2758	1.7252	132.2	0.2753	210
220	1.8872	134.2	0.2799	1.8403	134.2	0.2793	1.7955	134.2	0.2788	1.7529	134.2	0.2783	220
230	1.9168	136.2	0.2828	1.8691	136.2	0.2823	1.8237	136.2	0.2818	1.7805	136.2	0.2812	230
240	1.9463	138.3	0.2858	1.8979	138.3	0.2852	1.8519	138.2	0.2847	1.8080	138.2	0.2842	240
250	1.9758	140.3	0.2887	1.9267	140.3	0.2881	1.8800	140.3	0.2876	1.8355	140.3	0.2871	250
260	2.0052	142.4	0.2915	1.9555	142.4	0.2910	1.9081	142.3	0.2905	1.8630	142.3	0.2900	260
270	2.0346	144.5	0.2944	1.9842	144.4	0.2939	1.9362	144.4	0.2933	1.8904	144.4	0.2928	270
280	2.0639	146.6	0.2973	2.0128	146.5	0.2967	1.9642	146.5	0.2962	1.9178	146.5	0.2957	280
290	2.0933	148.7	0.3001	2.0415	148.6	0.2996	1.9921	148.6	0.2990	1.9451	148.6	0.2985	290
300	2.1226	150.8	0.3029	2.0701	150.8	0.3024	2.0201	150.7	0.3018	1.9724	150.7	0.3013	300

ABSOLUTE PRESSURE, psia													TEMP. °F
TEMP. °F	44.00			45.00			46.00			47.00			
	(-2.23°F)			(-1.15°F)			(-0.09°F)			(0.96°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
(1.0924)	(93.4)	(0.2056)	(1.0692)	(93.5)	(0.2055)	(1.0470)	(93.6)	(0.2054)	(1.0257)	(93.8)	(0.2052)		
0	1.0990	93.8	0.2065	1.0726	93.7	0.2059	1.0473	93.7	0.2054	—	—	—	0
10	1.1282	95.4	0.2101	1.1012	95.4	0.2095	1.0754	95.3	0.2090	1.0507	95.3	0.2085	10
20	1.1572	97.1	0.2136	1.1297	97.1	0.2131	1.1033	97.0	0.2126	1.0781	97.0	0.2120	20
30	1.1860	98.8	0.2171	1.1579	98.8	0.2166	1.1310	98.7	0.2161	1.1053	98.7	0.2156	30
40	1.2147	100.5	0.2206	1.1860	100.5	0.2201	1.1586	100.4	0.2195	1.1323	100.4	0.2190	40
50	1.2432	102.3	0.2240	1.2139	102.2	0.2235	1.1860	102.2	0.2230	1.1592	102.1	0.2225	50
60	1.2715	104.0	0.2274	1.2417	104.0	0.2269	1.2132	103.9	0.2264	1.1859	103.9	0.2259	60
70	1.2997	105.8	0.2308	1.2694	105.7	0.2302	1.2403	105.7	0.2297	1.2125	105.7	0.2292	70
80	1.3278	107.5	0.2341	1.2969	107.5	0.2336	1.2673	107.5	0.2331	1.2390	107.4	0.2326	80
90	1.3558	109.3	0.2374	1.3243	109.3	0.2369	1.2942	109.3	0.2364	1.2654	109.2	0.2359	90
100	1.3837	111.1	0.2406	1.3517	111.1	0.2401	1.3210	111.1	0.2396	1.2916	111.1	0.2391	100
110	1.4115	113.0	0.2439	1.3789	112.9	0.2434	1.3477	112.9	0.2429	1.3178	112.9	0.2424	110
120	1.4392	114.8	0.2471	1.4060	114.8	0.2466	1.3742	114.8	0.2461	1.3438	114.7	0.2456	120
130	1.4668	116.7	0.2503	1.4330	116.6	0.2498	1.4007	116.6	0.2493	1.3698	116.6	0.2488	130
140	1.4943	118.6	0.2534	1.4600	118.5	0.2529	1.4271	118.5	0.2524	1.3957	118.5	0.2519	140
150	1.5218	120.4	0.2565	1.4869	120.4	0.2560	1.4535	120.4	0.2556	1.4215	120.4	0.2551	150
160	1.5492	122.4	0.2597	1.5137	122.3	0.2592	1.4797	122.3	0.2587	1.4472	122.3	0.2582	160
170	1.5765	124.3	0.2627	1.5404	124.3	0.2622	1.5059	124.2	0.2617	1.4729	124.2	0.2613	170
180	1.6037	126.2	0.2658	1.5671	126.2	0.2653	1.5321	126.2	0.2648	1.4985	126.1	0.2643	180
190	1.6309	128.2	0.2688	1.5937	128.1	0.2683	1.5582	128.1	0.2678	1.5241	128.1	0.2674	190
200	1.6580	130.1	0.2718	1.6203	130.1	0.2713	1.5842	130.1	0.2709	1.5496	130.1	0.2704	200
210	1.6851	132.1	0.2748	1.6468	132.1	0.2743	1.6101	132.1	0.2738	1.5750	132.1	0.2734	210
220	1.7122	134.1	0.2778	1.6733	134.1	0.2773	1.6361	134.1	0.2768	1.6004	134.1	0.2763	220
230	1.7392	136.2	0.2807	1.6997	136.1	0.2802	1.6619	136.1	0.2798	1.6258	136.1	0.2793	230
240	1.7661	138.2	0.2837	1.7261	138.2	0.2832	1.6877	138.1	0.2827	1.6511	138.1	0.2822	240
250	1.7930	140.2	0.2866	1.7524	140.2	0.2861	1.7135	140.2	0.2856	1.6763	140.2	0.2851	250
260	1.8199	142.3	0.2895	1.7787	142.3	0.2890	1.7393	142.3	0.2885	1.7015	142.2	0.2880	260
270	1.8467	144.4	0.2923	1.8049	144.4	0.2918	1.7650	144.3	0.2914	1.7267	144.3	0.2909	270
280	1.8735	146.5	0.2952	1.8311	146.5	0.2947	1.7906	146.4	0.2942	1.7519	146.4	0.2937	280
290	1.9002	148.6	0.2980	1.8573	148.6	0.2975	1.8163	148.5	0.2970	1.7770	148.5	0.2966	290
300	1.9269	150.7	0.3008	1.8834	150.7	0.3003	1.8419	150.7	0.2999	1.8021	150.6	0.2994	300
310	—	—	—	—	—	—	—	—	—	1.8271	152.8	0.3022	310

Table 2 (continued)
Suva® HP81 Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia													
TEMP. °F	48.00			49.00			50.00			55.00			TEMP. °F
	(1.98°F)			(2.99°F)			(3.99°F)			(8.77°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(1.0052)	(93.9)	(0.2051)	(0.9856)	(94.0)	(0.2049)	(0.9667)	(94.1)	(0.2048)	(0.8821)	(94.7)	(0.2042)	
10	1.0270	95.3	0.2080	1.0042	95.2	0.2075	0.9824	95.2	0.2070	0.8851	94.9	0.2047	10
20	1.0539	96.9	0.2115	1.0307	96.9	0.2111	1.0084	96.9	0.2106	0.9091	96.6	0.2083	20
30	1.0806	98.6	0.2151	1.0569	98.6	0.2146	1.0342	98.6	0.2141	0.9329	98.4	0.2118	30
40	1.1072	100.4	0.2185	1.0830	100.3	0.2181	1.0598	100.3	0.2176	0.9565	100.1	0.2153	40
50	1.1335	102.1	0.2220	1.1089	102.1	0.2215	1.0853	102.0	0.2210	0.9800	101.8	0.2188	50
60	1.1598	103.9	0.2254	1.1347	103.8	0.2249	1.1106	103.8	0.2244	1.0032	103.6	0.2222	60
70	1.1859	105.6	0.2288	1.1603	105.6	0.2283	1.1358	105.6	0.2278	1.0264	105.4	0.2256	70
80	1.2119	107.4	0.2321	1.1858	107.4	0.2316	1.1608	107.3	0.2311	1.0494	107.2	0.2289	80
90	1.2377	109.2	0.2354	1.2112	109.2	0.2349	1.1857	109.1	0.2345	1.0723	109.0	0.2322	90
100	1.2635	111.0	0.2387	1.2365	111.0	0.2382	1.2106	111.0	0.2377	1.0951	110.8	0.2355	100
110	1.2891	112.8	0.2419	1.2617	112.8	0.2414	1.2353	112.8	0.2410	1.1178	112.6	0.2388	110
120	1.3147	114.7	0.2451	1.2867	114.7	0.2446	1.2599	114.6	0.2442	1.1403	114.5	0.2420	120
130	1.3402	116.6	0.2483	1.3117	116.5	0.2478	1.2844	116.5	0.2474	1.1628	116.4	0.2452	130
140	1.3656	118.4	0.2515	1.3366	118.4	0.2510	1.3089	118.4	0.2505	1.1852	118.2	0.2484	140
150	1.3909	120.3	0.2546	1.3615	120.3	0.2541	1.3333	120.3	0.2537	1.2076	120.1	0.2515	150
160	1.4161	122.2	0.2577	1.3862	122.2	0.2572	1.3576	122.2	0.2568	1.2298	122.1	0.2546	160
170	1.4413	124.2	0.2608	1.4109	124.1	0.2603	1.3818	124.1	0.2599	1.2520	124.0	0.2577	170
180	1.4664	126.1	0.2639	1.4356	126.1	0.2634	1.4060	126.1	0.2629	1.2741	125.9	0.2608	180
190	1.4915	128.1	0.2669	1.4601	128.0	0.2664	1.4301	128.0	0.2660	1.2962	127.9	0.2639	190
200	1.5164	130.0	0.2699	1.4847	130.0	0.2694	1.4541	130.0	0.2690	1.3182	129.9	0.2669	200
210	1.5414	132.0	0.2729	1.5091	132.0	0.2724	1.4781	132.0	0.2720	1.3401	131.9	0.2699	210
220	1.5663	134.0	0.2759	1.5335	134.0	0.2754	1.5021	134.0	0.2750	1.3620	133.9	0.2729	220
230	1.5911	136.1	0.2788	1.5579	136.0	0.2784	1.5260	136.0	0.2779	1.3839	135.9	0.2758	230
240	1.6159	138.1	0.2818	1.5822	138.1	0.2813	1.5499	138.1	0.2809	1.4057	137.9	0.2787	240
250	1.6407	140.2	0.2847	1.6065	140.1	0.2842	1.5737	140.1	0.2838	1.4274	140.0	0.2817	250
260	1.6654	142.2	0.2876	1.6307	142.2	0.2871	1.5974	142.2	0.2867	1.4492	142.1	0.2846	260
270	1.6901	144.3	0.2904	1.6549	144.3	0.2900	1.6212	144.3	0.2895	1.4708	144.2	0.2874	270
280	1.7147	146.4	0.2933	1.6791	146.4	0.2928	1.6449	146.4	0.2924	1.4925	146.3	0.2903	280
290	1.7393	148.5	0.2961	1.7032	148.5	0.2957	1.6685	148.5	0.2952	1.5141	148.4	0.2931	290
300	1.7639	150.6	0.2989	1.7273	150.6	0.2985	1.6922	150.6	0.2980	1.5357	150.5	0.2960	300
310	1.7884	152.8	0.3017	1.7514	152.7	0.3013	1.7158	152.7	0.3008	1.5572	152.6	0.2988	310

TEMP. °F	60.00			65.00			70.00			75.00			TEMP. °F
	(13.24°F)			(17.43°F)			(21.38°F)			(25.13°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.8112)	(95.3)	(0.2037)	(0.7507)	(95.7)	(0.2032)	(0.6985)	(96.2)	(0.2028)	(0.6530)	(96.6)	(0.2024)	
20	0.8263	96.4	0.2061	0.7561	96.2	0.2041	—	—	—	—	—	—	20
30	0.8484	98.1	0.2097	0.7768	97.9	0.2077	0.7154	97.7	0.2059	0.6621	97.5	0.2041	30
40	0.8704	99.9	0.2132	0.7974	99.7	0.2113	0.7347	99.5	0.2094	0.6804	99.3	0.2077	40
50	0.8921	101.6	0.2167	0.8177	101.4	0.2147	0.7539	101.2	0.2129	0.6986	101.0	0.2112	50
60	0.9137	103.4	0.2201	0.8379	103.2	0.2182	0.7729	103.0	0.2164	0.7165	102.8	0.2147	60
70	0.9352	105.2	0.2235	0.8580	105.0	0.2216	0.7918	104.8	0.2198	0.7343	104.6	0.2181	70
80	0.9565	107.0	0.2269	0.8779	106.8	0.2250	0.8105	106.6	0.2232	0.7520	106.4	0.2215	80
90	0.9777	108.8	0.2302	0.8977	108.6	0.2283	0.8290	108.5	0.2266	0.7695	108.3	0.2249	90
100	0.9988	110.6	0.2335	0.9173	110.5	0.2316	0.8475	110.3	0.2299	0.7869	110.1	0.2282	100
110	1.0198	112.5	0.2368	0.9369	112.3	0.2349	0.8658	112.1	0.2332	0.8041	112.0	0.2315	110
120	1.0407	114.3	0.2400	0.9563	114.2	0.2381	0.8840	114.0	0.2364	0.8213	113.9	0.2348	120
130	1.0615	116.2	0.2432	0.9757	116.1	0.2414	0.9021	115.9	0.2396	0.8384	115.7	0.2380	130
140	1.0822	118.1	0.2464	0.9950	117.9	0.2445	0.9202	117.8	0.2428	0.8553	117.7	0.2412	140
150	1.1028	120.0	0.2495	1.0141	119.9	0.2477	0.9381	119.7	0.2460	0.8722	119.6	0.2444	150
160	1.1234	121.9	0.2527	1.0332	121.8	0.2508	0.9560	121.6	0.2491	0.8890	121.5	0.2475	160
170	1.1438	123.9	0.2558	1.0523	123.7	0.2539	0.9738	123.6	0.2522	0.9058	123.5	0.2506	170
180	1.1642	125.8	0.2588	1.0713	125.7	0.2570	0.9915	125.5	0.2553	0.9224	125.4	0.2537	180
190	1.1846	127.8	0.2619	1.0902	127.6	0.2601	1.0092	127.5	0.2584	0.9390	127.4	0.2568	190
200	1.2049	129.8	0.2649	1.1090	129.6	0.2631	1.0268	129.5	0.2614	0.9556	129.4	0.2599	200
210	1.2251	131.8	0.2679	1.1278	131.6	0.2661	1.0444	131.5	0.2644	0.9721	131.4	0.2629	210
220	1.2453	133.8	0.2709	1.1465	133.7	0.2691	1.0619	133.5	0.2674	0.9885	133.4	0.2659	220
230	1.2654	135.8	0.2739	1.1652	135.7	0.2721	1.0793	135.6	0.2704	1.0049	135.5	0.2688	230
240	1.2855	137.8	0.2768	1.1839	137.7	0.2750	1.0967	137.6	0.2734	1.0212	137.5	0.2718	240
250	1.3056	139.9	0.2797	1.2025	139.8	0.2779	1.1141	139.7	0.2763	1.0375	139.6	0.2747	250
260	1.3256	142.0	0.2826	1.2210	141.9	0.2809	1.1314	141.8	0.2792	1.0537	141.7	0.2776	260
270	1.3456	144.1	0.2855	1.2395	144.0	0.2837	1.1487	143.9	0.2821	1.0699	143.7	0.2805	270
280	1.3655	146.2	0.2884	1.2580	146.1	0.2866	1.1659	146.0	0.2850	1.0861	145.9	0.2834	280
290	1.3854	148.3	0.2912	1.2765	148.2	0.2894	1.1831	148.1	0.2878	1.1022	148.0	0.2863	290
300	1.4052	150.4	0.2940	1.2949	150.3	0.2923	1.2003	150.2	0.2906	1.1183	150.1	0.2891	300
310	1.4251	152.5	0.2968	1.3132	152.5	0.2951	1.2174	152.4	0.2934	1.1343	152.3	0.2919	310
320	1.4448	154.7	0.2996	1.3316	154.6	0.2979	1.2345	154.5	0.2962	1.1504	154.4	0.2947	320
330	—	—	—	—	—	—	1.2516	156.7	0.2990	1.1664	156.6	0.2975	330

Table 2 (continued)
Suva® HP81 Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia													TEMP. °F
TEMP. °F	80.00			85.00			90.00			95.00			
	(28.68°F)			(32.08°F)			(35.32°F)			(38.44°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
(0.6130)	(97.0)	(0.2020)	(0.5775)	(97.4)	(0.2016)	(0.5458)	(97.8)	(0.2013)	(0.5173)	(98.1)	(0.2009)		
30	0.6153	97.3	0.2024	—	—	—	—	—	—	—	—	—	30
40	0.6328	99.0	0.2060	0.5907	98.8	0.2045	0.5533	98.6	0.2030	0.5197	98.4	0.2015	40
50	0.6501	100.8	0.2096	0.6072	100.6	0.2080	0.5691	100.4	0.2065	0.5349	100.2	0.2051	50
60	0.6671	102.6	0.2131	0.6235	102.4	0.2115	0.5847	102.2	0.2101	0.5499	102.0	0.2087	60
70	0.6840	104.4	0.2165	0.6396	104.2	0.2150	0.6001	104.1	0.2136	0.5647	103.9	0.2122	70
80	0.7008	106.3	0.2199	0.6555	106.1	0.2184	0.6153	105.9	0.2170	0.5793	105.7	0.2156	80
90	0.7174	108.1	0.2233	0.6713	107.9	0.2218	0.6304	107.7	0.2204	0.5938	107.6	0.2190	90
100	0.7338	110.0	0.2267	0.6870	109.8	0.2252	0.6454	109.6	0.2238	0.6081	109.4	0.2224	100
110	0.7502	111.8	0.2300	0.7026	111.7	0.2285	0.6602	111.5	0.2271	0.6223	111.3	0.2258	110
120	0.7664	113.7	0.2332	0.7180	113.5	0.2318	0.6749	113.4	0.2304	0.6363	113.2	0.2291	120
130	0.7826	115.6	0.2365	0.7333	115.4	0.2350	0.6895	115.3	0.2336	0.6503	115.1	0.2323	130
140	0.7986	117.5	0.2397	0.7485	117.4	0.2382	0.7040	117.2	0.2369	0.6642	117.1	0.2356	140
150	0.8146	119.4	0.2429	0.7637	119.3	0.2414	0.7184	119.1	0.2401	0.6779	119.0	0.2388	150
160	0.8304	121.4	0.2460	0.7787	121.2	0.2446	0.7327	121.1	0.2432	0.6916	120.9	0.2419	160
170	0.8462	123.3	0.2491	0.7937	123.2	0.2477	0.7470	123.0	0.2464	0.7052	122.9	0.2451	170
180	0.8620	125.3	0.2522	0.8086	125.2	0.2508	0.7612	125.0	0.2495	0.7187	124.9	0.2482	180
190	0.8776	127.3	0.2553	0.8235	127.1	0.2539	0.7753	127.0	0.2526	0.7322	126.9	0.2513	190
200	0.8932	129.3	0.2584	0.8382	129.1	0.2570	0.7893	129.0	0.2556	0.7456	128.9	0.2544	200
210	0.9088	131.3	0.2614	0.8530	131.2	0.2600	0.8033	131.0	0.2587	0.7589	130.9	0.2574	210
220	0.9243	133.3	0.2644	0.8676	133.2	0.2630	0.8172	133.1	0.2617	0.7722	132.9	0.2604	220
230	0.9397	135.3	0.2674	0.8822	135.2	0.2660	0.8311	135.1	0.2647	0.7854	135.0	0.2634	230
240	0.9551	137.4	0.2703	0.8968	137.3	0.2690	0.8449	137.2	0.2676	0.7986	137.1	0.2664	240
250	0.9704	139.5	0.2733	0.9113	139.4	0.2719	0.8587	139.2	0.2706	0.8117	139.1	0.2693	250
260	0.9857	141.5	0.2762	0.9258	141.4	0.2748	0.8725	141.3	0.2735	0.8248	141.2	0.2723	260
270	1.0010	143.6	0.2791	0.9402	143.5	0.2777	0.8861	143.4	0.2764	0.8378	143.3	0.2752	270
280	1.0162	145.8	0.2820	0.9546	145.7	0.2806	0.8998	145.6	0.2793	0.8508	145.5	0.2781	280
290	1.0314	147.9	0.2848	0.9689	147.8	0.2834	0.9134	147.7	0.2822	0.8637	147.6	0.2809	290
300	1.0466	150.0	0.2876	0.9833	149.9	0.2863	0.9270	149.8	0.2850	0.8766	149.7	0.2838	300
310	1.0617	152.2	0.2905	0.9975	152.1	0.2891	0.9405	152.0	0.2878	0.8895	151.9	0.2866	310
320	1.0767	154.3	0.2933	1.0118	154.3	0.2919	0.9540	154.2	0.2906	0.9024	154.1	0.2894	320
330	1.0918	156.5	0.2960	1.0260	156.4	0.2947	0.9675	156.3	0.2934	0.9152	156.3	0.2922	330
340	—	—	—	1.0402	158.6	0.2974	0.9810	158.5	0.2962	0.9280	158.5	0.2950	340

TEMP. °F	100.00			110.00			120.00			130.00			TEMP. °F
	(41.43°F)			(47.09°F)			(52.37°F)			(57.33°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.4915)	(98.4)	(0.2006)	(0.4467)	(99.0)	(0.2001)	(0.4091)	(99.5)	(0.1995)	(0.3770)	(100.0)	(0.1991)	
50	0.5041	100.0	0.2037	0.4507	99.5	0.2011	—	—	—	—	—	—	50
60	0.5185	101.8	0.2073	0.4642	101.4	0.2047	0.4188	100.9	0.2023	0.3803	100.5	0.2000	60
70	0.5328	103.7	0.2108	0.4776	103.2	0.2083	0.4314	102.8	0.2059	0.3922	102.4	0.2037	70
80	0.5468	105.5	0.2143	0.4907	105.1	0.2118	0.4438	104.7	0.2095	0.4039	104.3	0.2073	80
90	0.5607	107.4	0.2177	0.5036	107.0	0.2153	0.4559	106.6	0.2130	0.4155	106.2	0.2108	90
100	0.5745	109.3	0.2211	0.5164	108.9	0.2187	0.4679	108.5	0.2164	0.4268	108.2	0.2143	100
110	0.5881	111.1	0.2245	0.5291	110.8	0.2221	0.4798	110.5	0.2198	0.4380	110.1	0.2177	110
120	0.6016	113.1	0.2278	0.5416	112.7	0.2254	0.4915	112.4	0.2232	0.4490	112.0	0.2211	120
130	0.6150	115.0	0.2311	0.5540	114.7	0.2287	0.5031	114.3	0.2265	0.4599	114.0	0.2244	130
140	0.6283	116.9	0.2343	0.5663	116.6	0.2320	0.5145	116.3	0.2298	0.4707	116.0	0.2277	140
150	0.6415	118.8	0.2375	0.5784	118.5	0.2352	0.5259	118.2	0.2330	0.4814	117.9	0.2310	150
160	0.6545	120.8	0.2407	0.5905	120.5	0.2384	0.5371	120.2	0.2362	0.4919	119.9	0.2342	160
170	0.6676	122.8	0.2439	0.6025	122.5	0.2416	0.5483	122.2	0.2394	0.5024	121.9	0.2374	170
180	0.6805	124.8	0.2470	0.6145	124.5	0.2447	0.5594	124.2	0.2426	0.5128	123.9	0.2406	180
190	0.6934	126.8	0.2501	0.6263	126.5	0.2478	0.5704	126.2	0.2457	0.5231	126.0	0.2437	190
200	0.7062	128.8	0.2532	0.6381	128.5	0.2509	0.5814	128.3	0.2488	0.5334	128.0	0.2468	200
210	0.7189	130.8	0.2562	0.6498	130.5	0.2540	0.5923	130.3	0.2519	0.5435	130.0	0.2499	210
220	0.7316	132.8	0.2592	0.6615	132.6	0.2570	0.6031	132.3	0.2549	0.5536	132.1	0.2530	220
230	0.7442	134.9	0.2622	0.6731	134.6	0.2600	0.6139	134.4	0.2579	0.5637	134.2	0.2560	230
240	0.7568	136.9	0.2652	0.6847	136.7	0.2630	0.6246	136.5	0.2609	0.5737	136.3	0.2590	240
250	0.7693	139.0	0.2682	0.6962	138.8	0.2659	0.6352	138.6	0.2639	0.5836	138.4	0.2620	250
260	0.7818	141.1	0.2711	0.7076	140.9	0.2689	0.6458	140.7	0.2668	0.5935	140.5	0.2650	260
270	0.7943	143.2	0.2740	0.7191	143.0	0.2718	0.6564	142.8	0.2698	0.6034	142.6	0.2679	270
280	0.8067	145.4	0.2769	0.7304	145.2	0.2747	0.6669	145.0	0.2727	0.6132	144.7	0.2708	280
290	0.8190	147.5	0.2798	0.7418	147.3	0.2776	0.6774	147.1	0.2756	0.6229	146.9	0.2737	290
300	0.8313	149.6	0.2826	0.7531	149.5	0.2804	0.6879	149.3	0.2784	0.6327	149.1	0.2766	300
310	0.8436	151.8	0.2854	0.7643	151.6	0.2833	0.6983	151.4	0.2813	0.6424	151.2	0.2794	310
320	0.8559	154.0	0.2882	0.7756	153.8	0.2861	0.7086	153.6	0.2841	0.6520	153.4	0.2822	320
330	0.8681	156.2	0.2910	0.7868	156.0	0.2889	0.7190	155.8	0.2869	0.6616	155.6	0.2850	330
340	0.8803	158.4	0.2938	0.7979	158.2	0.2916	0.7293	158.0	0.2897	0.6712	157.8	0.2878	340
350	0.8925	160.6	0.2966	0.8091	160.4	0.2944	0.7396	160.2	0.2924	0.6808	160.1	0.2906	350
360	—	—	—	—	—	—	0.7498	162.5	0.2952	0.6903	162.3	0.2933	360

Table 2 (continued)
Suva® HP81 Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia													
TEMP. °F	140.00			150.00			160.00			170.00			TEMP. °F
	(62.01°F)			(66.45°F)			(70.68°F)			(74.70°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.3493)	(100.4)	(0.1986)	(0.3252)	(100.8)	(0.1982)	(0.3039)	(101.2)	(0.1977)	(0.2851)	(101.5)	(0.1973)	
70	0.3585	102.0	0.2015	0.3291	101.5	0.1995	—	—	—	—	—	—	70
80	0.3697	103.9	0.2052	0.3399	103.5	0.2031	0.3137	103.0	0.2012	0.2904	102.6	0.1993	80
90	0.3807	105.8	0.2087	0.3504	105.4	0.2067	0.3239	105.0	0.2049	0.3003	104.6	0.2030	90
100	0.3915	107.8	0.2122	0.3608	107.4	0.2103	0.3338	107.0	0.2084	0.3100	106.6	0.2066	100
110	0.4021	109.7	0.2157	0.3709	109.4	0.2138	0.3436	109.0	0.2120	0.3194	108.6	0.2102	110
120	0.4126	111.7	0.2191	0.3809	111.3	0.2172	0.3532	111.0	0.2154	0.3286	110.6	0.2137	120
130	0.4229	113.7	0.2225	0.3908	113.3	0.2206	0.3626	113.0	0.2188	0.3377	112.6	0.2171	130
140	0.4331	115.6	0.2258	0.4005	115.3	0.2240	0.3719	115.0	0.2222	0.3466	114.6	0.2205	140
150	0.4432	117.6	0.2291	0.4100	117.3	0.2273	0.3810	117.0	0.2255	0.3554	116.7	0.2239	150
160	0.4532	119.6	0.2323	0.4195	119.3	0.2305	0.3901	119.0	0.2288	0.3640	118.7	0.2272	160
170	0.4630	121.6	0.2355	0.4289	121.3	0.2338	0.3990	121.1	0.2321	0.3726	120.8	0.2305	170
180	0.4728	123.7	0.2387	0.4382	123.4	0.2370	0.4078	123.1	0.2353	0.3810	122.8	0.2337	180
190	0.4825	125.7	0.2419	0.4474	125.4	0.2401	0.4166	125.1	0.2385	0.3894	124.9	0.2369	190
200	0.4922	127.7	0.2450	0.4565	127.5	0.2433	0.4252	127.2	0.2416	0.3976	126.9	0.2401	200
210	0.5017	129.8	0.2481	0.4655	129.5	0.2464	0.4338	129.3	0.2448	0.4058	129.0	0.2432	210
220	0.5112	131.9	0.2512	0.4745	131.6	0.2495	0.4423	131.4	0.2479	0.4139	131.1	0.2463	220
230	0.5207	133.9	0.2542	0.4834	133.7	0.2525	0.4508	133.5	0.2509	0.4220	133.2	0.2494	230
240	0.5301	136.0	0.2572	0.4923	135.8	0.2555	0.4592	135.6	0.2540	0.4300	135.3	0.2524	240
250	0.5394	138.1	0.2602	0.5011	137.9	0.2585	0.4675	137.7	0.2570	0.4379	137.5	0.2555	250
260	0.5487	140.3	0.2632	0.5098	140.0	0.2615	0.4758	139.8	0.2599	0.4458	139.6	0.2585	260
270	0.5579	142.4	0.2661	0.5185	142.2	0.2645	0.4840	142.0	0.2629	0.4536	141.8	0.2614	270
280	0.5671	144.5	0.2690	0.5272	144.3	0.2674	0.4922	144.1	0.2658	0.4614	143.9	0.2644	280
290	0.5762	146.7	0.2719	0.5358	146.5	0.2703	0.5004	146.3	0.2688	0.4691	146.1	0.2673	290
300	0.5854	148.9	0.2748	0.5444	148.7	0.2732	0.5085	148.5	0.2716	0.4768	148.3	0.2702	300
310	0.5944	151.1	0.2777	0.5529	150.9	0.2760	0.5165	150.7	0.2745	0.4845	150.5	0.2731	310
320	0.6035	153.2	0.2805	0.5614	153.1	0.2789	0.5246	152.9	0.2774	0.4921	152.7	0.2759	320
330	0.6125	155.5	0.2833	0.5699	155.3	0.2817	0.5326	155.1	0.2802	0.4997	154.9	0.2787	330
340	0.6214	157.7	0.2861	0.5783	157.5	0.2845	0.5405	157.3	0.2830	0.5072	157.1	0.2816	340
350	0.6304	159.9	0.2889	0.5867	159.7	0.2873	0.5485	159.6	0.2858	0.5148	159.4	0.2843	350
360	0.6393	162.1	0.2916	0.5951	162.0	0.2900	0.5564	161.8	0.2885	0.5223	161.6	0.2871	360
370	0.6482	164.4	0.2944	0.6034	164.2	0.2928	0.5643	164.1	0.2913	0.5297	163.9	0.2899	370
380	—	—	—	—	—	—	0.5721	166.4	0.2940	0.5372	166.2	0.2926	380

TEMP. °F	180.00			190.00			200.00			220.00			TEMP. °F
	(78.56°F)			(82.26°F)			(85.81°F)			(92.54°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.2682)	(101.8)	(0.1969)	(0.2530)	(102.1)	(0.1965)	(0.2393)	(102.3)	(0.1962)	(0.2154)	(102.8)	(0.1954)	
80	0.2696	102.1	0.1975	—	—	—	—	—	—	—	—	—	80
90	0.2793	104.1	0.2012	0.2604	103.7	0.1995	0.2432	103.2	0.1978	—	—	—	90
100	0.2887	106.2	0.2049	0.2695	105.7	0.2032	0.2522	105.3	0.2016	0.2220	104.4	0.1983	100
110	0.2978	108.2	0.2085	0.2784	107.8	0.2069	0.2609	107.4	0.2052	0.2304	106.5	0.2021	110
120	0.3067	110.2	0.2120	0.2871	109.8	0.2104	0.2694	109.5	0.2089	0.2385	108.6	0.2058	120
130	0.3155	112.3	0.2155	0.2956	111.9	0.2139	0.2776	111.5	0.2124	0.2464	110.8	0.2095	130
140	0.3241	114.3	0.2189	0.3039	114.0	0.2174	0.2857	113.6	0.2159	0.2541	112.9	0.2130	140
150	0.3325	116.3	0.2223	0.3121	116.0	0.2208	0.2936	115.7	0.2193	0.2616	115.0	0.2165	150
160	0.3409	118.4	0.2257	0.3201	118.1	0.2242	0.3014	117.8	0.2227	0.2690	117.1	0.2199	160
170	0.3491	120.5	0.2289	0.3280	120.1	0.2275	0.3090	119.8	0.2260	0.2762	119.2	0.2233	170
180	0.3572	122.5	0.2322	0.3358	122.2	0.2307	0.3166	121.9	0.2293	0.2833	121.3	0.2266	180
190	0.3652	124.6	0.2354	0.3435	124.3	0.2340	0.3240	124.0	0.2326	0.2902	123.4	0.2299	190
200	0.3731	126.7	0.2386	0.3511	126.4	0.2372	0.3313	126.1	0.2358	0.2971	125.6	0.2332	200
210	0.3809	128.8	0.2417	0.3586	128.5	0.2403	0.3385	128.2	0.2390	0.3038	127.7	0.2364	210
220	0.3887	130.9	0.2449	0.3661	130.6	0.2435	0.3457	130.4	0.2421	0.3105	129.8	0.2396	220
230	0.3964	133.0	0.2479	0.3734	132.7	0.2466	0.3528	132.5	0.2452	0.3171	132.0	0.2427	230
240	0.4040	135.1	0.2510	0.3808	134.9	0.2496	0.3598	134.6	0.2483	0.3237	134.1	0.2458	240
250	0.4116	137.2	0.2540	0.3880	137.0	0.2527	0.3668	136.8	0.2514	0.3302	136.3	0.2489	250
260	0.4191	139.4	0.2570	0.3952	139.2	0.2557	0.3737	138.9	0.2544	0.3366	138.5	0.2519	260
270	0.4266	141.5	0.2600	0.4024	141.3	0.2587	0.3806	141.1	0.2574	0.3429	140.7	0.2549	270
280	0.4340	143.7	0.2630	0.4094	143.5	0.2616	0.3874	143.3	0.2603	0.3492	142.9	0.2579	280
290	0.4413	145.9	0.2659	0.4165	145.7	0.2646	0.3941	145.5	0.2633	0.3555	145.1	0.2609	290
300	0.4487	148.1	0.2688	0.4235	147.9	0.2675	0.4008	147.7	0.2662	0.3617	147.3	0.2638	300
310	0.4560	150.3	0.2717	0.4305	150.1	0.2704	0.4075	149.9	0.2691	0.3679	149.5	0.2667	310
320	0.4632	152.5	0.2745	0.4374	152.3	0.2732	0.4141	152.1	0.2720	0.3740	151.8	0.2696	320
330	0.4704	154.7	0.2774	0.4443	154.5	0.2761	0.4207	154.4	0.2748	0.3801	154.0	0.2725	330
340	0.4776	157.0	0.2802	0.4511	156.8	0.2789	0.4273	156.6	0.2777	0.3861	156.3	0.2753	340
350	0.4848	159.2	0.2830	0.4580	159.0	0.2817	0.4338	158.9	0.2805	0.3922	158.5	0.2781	350
360	0.4919	161.5	0.2858	0.4648	161.3	0.2845	0.4403	161.1	0.2832	0.3982	160.8	0.2809	360
370	0.4990	163.7	0.2885	0.4715	163.6	0.2872	0.4468	163.4	0.2860	0.4041	163.1	0.2837	370
380	0.5061	166.0	0.2913	0.4783	165.9	0.2900	0.4533	165.7	0.2888	0.4100	165.4	0.2865	380
390	—	—	—	0.4850	168.2	0.2927	0.4597	168.0	0.2915	0.4160	167.7	0.2892	390
400	—	—	—	—	—	—	—	—	—	0.4218	170.0	0.2919	400

Table 2 (continued)
Suva® HP81 Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

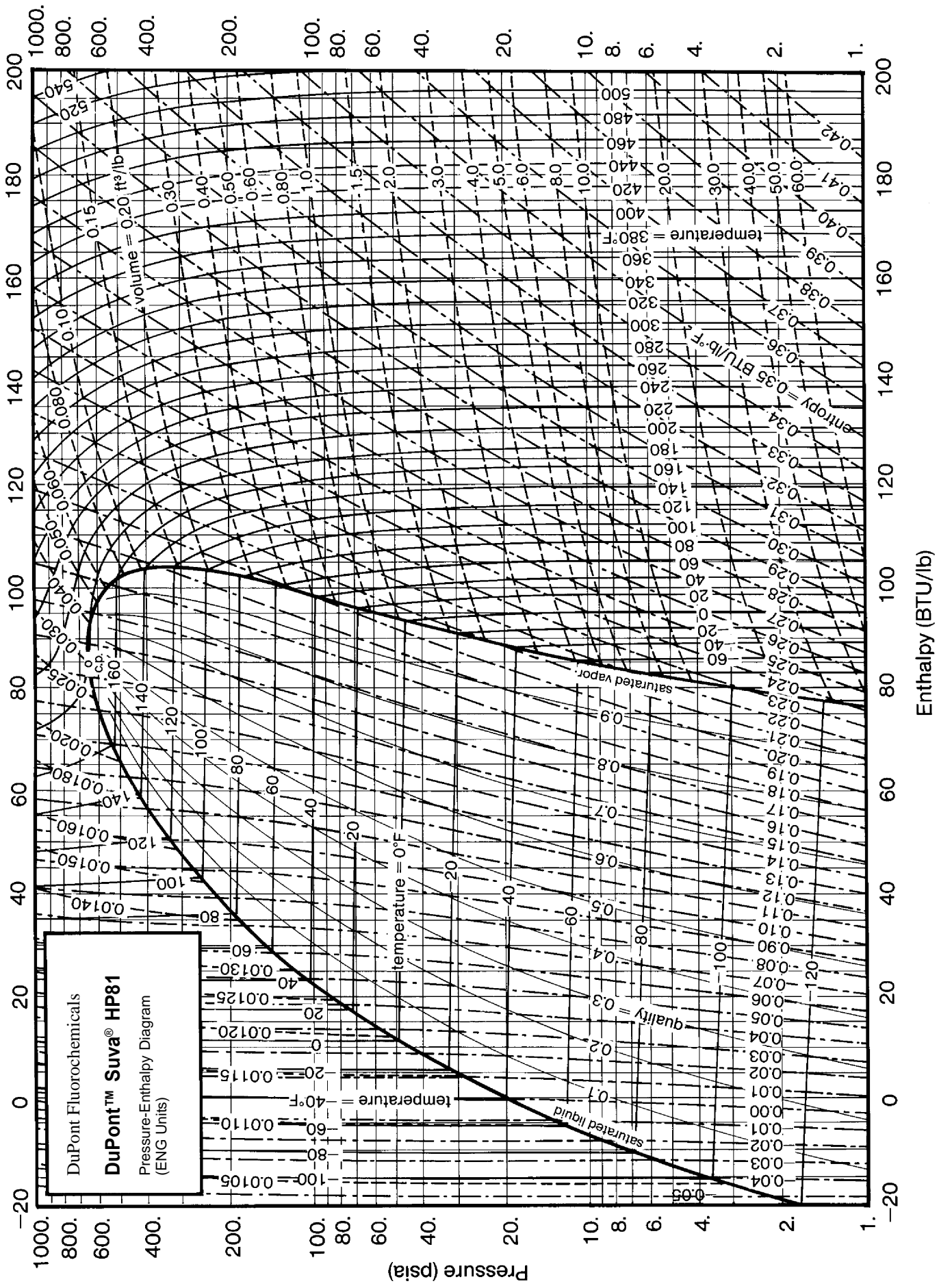
ABSOLUTE PRESSURE, psia													
TEMP. °F	240.00			260.00			280.00			300.00			TEMP. °F
	(98.83°F)			(104.74°F)			(110.31°F)			(115.60°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.1953)	(103.1)	(0.1947)	(0.1782)	(103.4)	(0.1940)	(0.1633)	(103.6)	(0.1932)	(0.1503)	(103.8)	(0.1925)	
100	0.1963	103.4	0.1952	—	—	—	—	—	—	—	—	—	100
110	0.2047	105.6	0.1991	0.1825	104.6	0.1961	—	—	—	—	—	—	110
120	0.2126	107.8	0.2029	0.1904	106.9	0.2000	0.1710	105.9	0.1972	0.1538	104.8	0.1944	120
130	0.2203	110.0	0.2066	0.1979	109.1	0.2039	0.1784	108.2	0.2012	0.1613	107.2	0.1985	130
140	0.2277	112.1	0.2103	0.2051	111.3	0.2076	0.1855	110.5	0.2050	0.1684	109.6	0.2024	140
150	0.2348	114.3	0.2138	0.2120	113.5	0.2112	0.1923	112.7	0.2087	0.1751	111.9	0.2063	150
160	0.2419	116.4	0.2173	0.2188	115.7	0.2148	0.1989	115.0	0.2124	0.1816	114.2	0.2100	160
170	0.2487	118.6	0.2207	0.2254	117.9	0.2183	0.2053	117.2	0.2159	0.1878	116.5	0.2136	170
180	0.2554	120.7	0.2241	0.2318	120.1	0.2217	0.2115	119.4	0.2194	0.1938	118.7	0.2172	180
190	0.2620	122.8	0.2274	0.2381	122.2	0.2251	0.2175	121.6	0.2228	0.1997	121.0	0.2206	190
200	0.2685	125.0	0.2307	0.2443	124.4	0.2284	0.2235	123.8	0.2262	0.2054	123.2	0.2241	200
210	0.2749	127.1	0.2340	0.2503	126.6	0.2317	0.2293	126.0	0.2295	0.2109	125.4	0.2274	210
220	0.2812	129.3	0.2372	0.2563	128.8	0.2349	0.2350	128.2	0.2328	0.2164	127.7	0.2307	220
230	0.2874	131.5	0.2403	0.2622	131.0	0.2381	0.2406	130.4	0.2360	0.2218	129.9	0.2340	230
240	0.2935	133.7	0.2435	0.2680	133.2	0.2413	0.2461	132.7	0.2392	0.2271	132.1	0.2372	240
250	0.2996	135.8	0.2466	0.2737	135.4	0.2444	0.2515	134.9	0.2423	0.2323	134.4	0.2404	250
260	0.3056	138.0	0.2496	0.2794	137.6	0.2475	0.2569	137.1	0.2455	0.2374	136.6	0.2435	260
270	0.3115	140.2	0.2527	0.2850	139.8	0.2505	0.2622	139.3	0.2485	0.2425	138.9	0.2466	270
280	0.3174	142.4	0.2557	0.2905	142.0	0.2536	0.2675	141.6	0.2516	0.2475	141.1	0.2497	280
290	0.3233	144.7	0.2587	0.2960	144.2	0.2566	0.2726	143.8	0.2546	0.2524	143.4	0.2527	290
300	0.3291	146.9	0.2616	0.3015	146.5	0.2595	0.2778	146.1	0.2576	0.2573	145.7	0.2557	300
310	0.3348	149.1	0.2645	0.3069	148.7	0.2625	0.2829	148.3	0.2606	0.2621	147.9	0.2587	310
320	0.3405	151.4	0.2674	0.3122	151.0	0.2654	0.2879	150.6	0.2635	0.2669	150.2	0.2617	320
330	0.3462	153.6	0.2703	0.3175	153.3	0.2683	0.2930	152.9	0.2664	0.2717	152.5	0.2646	330
340	0.3518	155.9	0.2732	0.3228	155.5	0.2712	0.2979	155.2	0.2693	0.2764	154.8	0.2675	340
350	0.3574	158.2	0.2760	0.3280	157.8	0.2740	0.3029	157.5	0.2721	0.2810	157.1	0.2704	350
360	0.3630	160.5	0.2788	0.3333	160.1	0.2768	0.3078	159.8	0.2750	0.2857	159.4	0.2732	360
370	0.3685	162.8	0.2816	0.3384	162.4	0.2796	0.3126	162.1	0.2778	0.2903	161.8	0.2760	370
380	0.3740	165.1	0.2844	0.3436	164.7	0.2824	0.3175	164.4	0.2806	0.2949	164.1	0.2788	380
390	0.3795	167.4	0.2871	0.3487	167.1	0.2852	0.3223	166.8	0.2833	0.2994	166.4	0.2816	390
400	0.3850	169.7	0.2898	0.3538	169.4	0.2879	0.3271	169.1	0.2861	0.3039	168.8	0.2843	400
410	—	—	—	0.3589	171.8	0.2906	0.3318	171.4	0.2888	0.3084	171.1	0.2871	410
420	—	—	—	—	—	—	0.3366	173.8	0.2915	0.3129	173.5	0.2898	420

TEMP. °F	320.00			340.00			360.00			380.00			TEMP. °F
	(120.63°F)			(125.43°F)			(130.02°F)			(134.42°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
	(0.1389)	(103.8)	(0.1917)	(0.1286)	(103.9)	(0.1909)	(0.1195)	(103.9)	(0.1901)	(0.1111)	(103.8)	(0.1893)	
130	0.1461	106.2	0.1958	0.1322	105.1	0.1930	—	—	—	—	—	—	130
140	0.1532	108.7	0.1999	0.1395	107.7	0.1973	0.1270	106.6	0.1947	0.1155	105.4	0.1920	140
150	0.1599	111.1	0.2038	0.1463	110.2	0.2014	0.1339	109.2	0.1990	0.1227	108.2	0.1965	150
160	0.1663	113.4	0.2077	0.1526	112.6	0.2054	0.1403	111.7	0.2031	0.1292	110.8	0.2008	160
170	0.1724	115.7	0.2114	0.1586	115.0	0.2092	0.1463	114.1	0.2070	0.1352	113.3	0.2048	170
180	0.1782	118.0	0.2150	0.1644	117.3	0.2129	0.1521	116.6	0.2108	0.1409	115.8	0.2087	180
190	0.1839	120.3	0.2185	0.1700	119.6	0.2165	0.1576	118.9	0.2145	0.1464	118.2	0.2125	190
200	0.1895	122.6	0.2220	0.1754	121.9	0.2200	0.1629	121.3	0.2181	0.1516	120.6	0.2161	200
210	0.1949	124.8	0.2254	0.1807	124.2	0.2235	0.1680	123.6	0.2216	0.1566	123.0	0.2197	210
220	0.2002	127.1	0.2288	0.1858	126.5	0.2269	0.1730	125.9	0.2250	0.1615	125.3	0.2232	220
230	0.2053	129.4	0.2321	0.1908	128.8	0.2302	0.1779	128.2	0.2284	0.1662	127.7	0.2266	230
240	0.2104	131.6	0.2353	0.1957	131.1	0.2335	0.1826	130.6	0.2317	0.1709	130.0	0.2300	240
250	0.2154	133.9	0.2385	0.2005	133.4	0.2367	0.1873	132.9	0.2350	0.1754	132.3	0.2333	250
260	0.2203	136.1	0.2417	0.2052	135.7	0.2399	0.1918	135.2	0.2382	0.1798	134.7	0.2366	260
270	0.2252	138.4	0.2448	0.2099	137.9	0.2431	0.1963	137.5	0.2414	0.1842	137.0	0.2398	270
280	0.2299	140.7	0.2479	0.2145	140.2	0.2462	0.2008	139.8	0.2445	0.1885	139.3	0.2429	280
290	0.2347	143.0	0.2510	0.2190	142.5	0.2493	0.2051	142.1	0.2476	0.1927	141.6	0.2461	290
300	0.2393	145.2	0.2540	0.2235	144.8	0.2523	0.2094	144.4	0.2507	0.1968	144.0	0.2491	300
310	0.2439	147.5	0.2570	0.2279	147.1	0.2553	0.2136	146.7	0.2537	0.2009	146.3	0.2522	310
320	0.2485	149.8	0.2599	0.2323	149.4	0.2583	0.2178	149.0	0.2567	0.2049	148.6	0.2552	320
330	0.2530	152.1	0.2629	0.2366	151.7	0.2613	0.2220	151.4	0.2597	0.2089	151.0	0.2582	330
340	0.2575	154.4	0.2658	0.2409	154.1	0.2642	0.2261	153.7	0.2626	0.2129	153.3	0.2611	340
350	0.2620	156.8	0.2687	0.2451	156.4	0.2671	0.2302	156.0	0.2655	0.2168	155.7	0.2641	350
360	0.2664	159.1	0.2715	0.2493	158.7	0.2699	0.2342	158.4	0.2684	0.2206	158.0	0.2670	360
370	0.2707	161.4	0.2744	0.2535	161.1	0.2728	0.2382	160.7	0.2713	0.2245	160.4	0.2698	370
380	0.2751	163.8	0.2772	0.2576	163.4	0.2756	0.2421	163.1	0.2741	0.2283	162.8	0.2727	380
390	0.2794	166.1	0.2800	0.2617	165.8	0.2784	0.2461	165.5	0.2769	0.2320	165.2	0.2755	390
400	0.2837	168.5	0.2827	0.2658	168.2	0.2812	0.2500	167.9	0.2797	0.2358	167.5	0.2783	400
410	0.2879	170.8	0.2855	0.2699	170.5	0.2839	0.2538	170.2	0.2825	0.2395	169.9	0.2811	410
420	0.2922	173.2	0.2882	0.2739	172.9	0.2867	0.2577	172.6	0.2852	0.2432	172.3	0.2838	420
430	0.2964	175.6	0.2909	0.2779	175.3	0.2894	0.2615	175.0	0.2879	0.2468	174.8	0.2865	430
440	—	—	—	—	—	—	0.2653	177.4	0.2906	0.2505	177.2	0.2892	440

Table 2 (continued)
Suva® HP81 Superheated Vapor—Constant Pressure Tables

V = Volume in ft³/lb H = Enthalpy in Btu/lb S = Entropy in Btu/(lb) (°R) (Saturation Properties in parentheses)

ABSOLUTE PRESSURE, psia													TEMP. °F
TEMP. °F	400.00			450.00			500.00			550.00			
	(138.65°F)			(148.58°F)			(157.69°F)			(166.13°F)			
	V	H	S	V	H	S	V	H	S	V	H	S	
(0.1036)	(103.7)	(0.1884)	(0.0872)	(103.1)	(0.1859)	(0.0734)	(102.0)	(0.1830)	(0.0614)	(100.4)	(0.1793)		
140	0.1047	104.1	0.1891	—	—	—	—	—	—	—	—	—	140
150	0.1122	107.0	0.1940	0.0884	103.6	0.1868	—	—	—	—	—	—	150
160	0.1189	109.8	0.1984	0.0963	106.9	0.1922	0.0758	103.1	0.1847	—	—	—	160
170	0.1251	112.4	0.2026	0.1030	109.9	0.1970	0.0840	106.9	0.1908	0.0660	102.6	0.1830	170
180	0.1308	115.0	0.2067	0.1090	112.7	0.2015	0.0907	110.2	0.1960	0.0746	107.0	0.1898	180
190	0.1362	117.4	0.2105	0.1145	115.4	0.2056	0.0965	113.2	0.2006	0.0812	110.5	0.1953	190
200	0.1414	119.9	0.2143	0.1196	118.0	0.2096	0.1018	116.0	0.2050	0.0868	113.7	0.2002	200
210	0.1463	122.3	0.2179	0.1245	120.6	0.2135	0.1067	118.7	0.2091	0.0919	116.7	0.2047	210
220	0.1511	124.7	0.2214	0.1291	123.1	0.2172	0.1113	121.4	0.2130	0.0966	119.5	0.2088	220
230	0.1558	127.1	0.2249	0.1336	125.6	0.2208	0.1157	124.0	0.2168	0.1009	122.2	0.2128	230
240	0.1603	129.4	0.2283	0.1379	128.0	0.2243	0.1199	126.5	0.2204	0.1050	124.9	0.2167	240
250	0.1647	131.8	0.2317	0.1421	130.4	0.2277	0.1239	129.0	0.2240	0.1090	127.5	0.2204	250
260	0.1690	134.2	0.2350	0.1461	132.9	0.2311	0.1278	131.5	0.2275	0.1127	130.1	0.2240	260
270	0.1732	136.5	0.2382	0.1501	135.3	0.2344	0.1316	134.0	0.2309	0.1164	132.7	0.2275	270
280	0.1774	138.8	0.2414	0.1540	137.7	0.2377	0.1353	136.4	0.2343	0.1199	135.2	0.2310	280
290	0.1815	141.2	0.2445	0.1578	140.1	0.2409	0.1389	138.9	0.2375	0.1234	137.7	0.2343	290
300	0.1855	143.5	0.2476	0.1615	142.4	0.2441	0.1424	141.3	0.2408	0.1267	140.2	0.2376	300
310	0.1894	145.9	0.2507	0.1652	144.8	0.2472	0.1458	143.8	0.2440	0.1300	142.7	0.2409	310
320	0.1933	148.2	0.2538	0.1688	147.2	0.2503	0.1492	146.2	0.2471	0.1332	145.1	0.2441	320
330	0.1972	150.6	0.2568	0.1724	149.6	0.2534	0.1525	148.6	0.2502	0.1363	147.6	0.2472	330
340	0.2010	153.0	0.2597	0.1759	152.0	0.2564	0.1558	151.0	0.2533	0.1394	150.1	0.2503	340
350	0.2047	155.3	0.2627	0.1793	154.4	0.2593	0.1590	153.5	0.2563	0.1424	152.5	0.2534	350
360	0.2085	157.7	0.2656	0.1827	156.8	0.2623	0.1622	155.9	0.2593	0.1454	155.0	0.2564	360
370	0.2121	160.1	0.2685	0.1861	159.2	0.2652	0.1654	158.3	0.2622	0.1484	157.5	0.2594	370
380	0.2158	162.4	0.2713	0.1895	161.6	0.2681	0.1685	160.8	0.2651	0.1513	159.9	0.2624	380
390	0.2194	164.8	0.2741	0.1928	164.0	0.2709	0.1715	163.2	0.2680	0.1542	162.4	0.2653	390
400	0.2230	167.2	0.2769	0.1961	166.4	0.2738	0.1746	165.7	0.2709	0.1570	164.9	0.2682	400
410	0.2266	169.6	0.2797	0.1993	168.9	0.2766	0.1776	168.1	0.2737	0.1598	167.3	0.2710	410
420	0.2301	172.0	0.2825	0.2026	171.3	0.2794	0.1805	170.6	0.2765	0.1626	169.8	0.2739	420
430	0.2336	174.5	0.2852	0.2057	173.7	0.2821	0.1835	173.0	0.2793	0.1653	172.3	0.2767	430
440	0.2371	176.9	0.2879	0.2089	176.2	0.2849	0.1864	175.5	0.2820	0.1680	174.8	0.2794	440
450	—	—	—	0.2121	178.6	0.2876	0.1893	178.0	0.2848	0.1707	177.3	0.2822	450
460	—	—	—	—	—	—	0.1922	180.4	0.2875	0.1734	179.8	0.2849	460



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