

**Errata to**  
***Load Calculation Applications Manual, 2nd Edition (I-P edition)***  
**(2014)**

**January 23, 2018**

*Shaded items have been added since the previously published errata sheet dated June 30, 2016.*

- Page xi:** The third bullet point, instead of “TC 4.1 and TC 5.10, Kitchen Ventilation, and their contractors (RP-1326)...”, should read “TC 4.1 and TC 5.10, Kitchen Ventilation, and their contractors (RP-**1362**)”.
- Page 24:** In Table 3.2 under “Effective Emittance,” instead of “1.5 in. Air Space” and “3.5 in. Air Space”, the heading should read “**0.5 in Air Space**” and “**0.75 in Air Space**”.
- Page 27:** Table 3.3b was inadvertently omitted from the first printing of this book. Please see **Table 3.3b** below.

**Table 3.3b Solar Absorptance Values of Various Surfaces**

Surface	Absorptance
Brick, red (Purdue) <sup>a</sup>	0.63
Paint, cardinal red <sup>b</sup>	0.63
Paint, matte black <sup>b</sup>	0.94
Paint, sandstone <sup>b</sup>	0.50
Paint, white acrylic <sup>a</sup>	0.26
Sheet metal, galvanized, new <sup>a</sup>	0.65
Sheet metal, galvanized, weathered <sup>a</sup>	0.80
Shingles, Aspen Gray <sup>b</sup>	0.82
Shingles, Autumn Brown <sup>b</sup>	0.91
Shingles, Onyx Black <sup>b</sup>	0.97
Shingles, Generic White <sup>b</sup>	0.75
Concrete <sup>a,c</sup>	0.60–0.83

<sup>a</sup> Incropera and DeWitt (1990).

<sup>b</sup> Parker et al. (2000).

<sup>c</sup> Miller (1971).

- Page 99:** The title for Table 4.7 indicates the data are for New York, but the information for Seattle was erroneously included. Attached is the correct information for New York.

- Supplemental Files:** The supplemental file named “B-1\_RTSM\_IP.xlsx” has been updated to correct a bug. It is replaced with the file named “B-1\_RTSM\_IP\_rev2c.xlsx,” which is available on the supplemental files web page.

**Table 4.7 Design Conditions for New York City, New York**

(Source: ASHRAE Handbook—Fundamentals [2013], accompanying CD)

2013 ASHRAE Handbook - Fundamentals (IP)

© 2013 ASHRAE, Inc.

**NEW YORK/JOHN F. KE, NY, USA**

WMO#: 744860

Lat: **40.66N** Long: **73.80W** Elev: **23** StdP: **14.68** Time Zone: **-5 (NAE)** Period: **86-10** WBAN: **94789**

**Annual Heating and Humidification Design Conditions**

Coldest Month	Heating DB		Humidification DP/MCDB and HR						Coldest month WS/MCDB				MCWS/PCWD to 99.6% DB	
	99.6%	99%	99.6%			99%			0.4%		1%		MCWS	PCWD
			DP	HR	MCDB	DP	HR	MCDB	WS	MCDB	WS	MCDB		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
<b>1</b>	<b>13.8</b>	<b>17.8</b>	<b>-5.6</b>	<b>4.1</b>	<b>16.8</b>	<b>-1.7</b>	<b>5.0</b>	<b>20.8</b>	<b>31.7</b>	<b>29.7</b>	<b>28.6</b>	<b>30.5</b>	<b>16.6</b>	<b>310</b>

**Annual Cooling, Dehumidification, and Enthalpy Design Conditions**

Hottest Month	Hottest Month DB Range	Cooling DB/MCWB						Evaporation WB/MCDB						MCWS/PCWD to 0.4% DB	
		0.4%		1%		2%		0.4%		1%		2%		MCWS	PCWD
		DB	MCWB	DB	MCWB	DB	MCWB	WB	MCDB	WB	MCDB	WB	MCDB		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
<b>7</b>	<b>13.3</b>	<b>89.8</b>	<b>72.9</b>	<b>86.5</b>	<b>71.8</b>	<b>83.7</b>	<b>71.1</b>	<b>76.7</b>	<b>83.8</b>	<b>75.4</b>	<b>81.6</b>	<b>74.3</b>	<b>80.0</b>	<b>13.0</b>	<b>230</b>

Dehumidification DP/MCDB and HR									Enthalpy/MCDB						Hours 8 to 4 & 55/69
0.4%			1%			2%			0.4%		1%		2%		
DP	HR	MCDB	DP	HR	MCDB	DP	HR	MCDB	Enth	MCDB	Enth	MCDB	Enth	MCDB	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
<b>74.6</b>	<b>129.4</b>	<b>80.1</b>	<b>73.4</b>	<b>124.2</b>	<b>78.6</b>	<b>72.3</b>	<b>119.7</b>	<b>77.6</b>	<b>40.0</b>	<b>84.3</b>	<b>38.8</b>	<b>82.1</b>	<b>37.6</b>	<b>79.8</b>	<b>753</b>

**Extreme Annual Design Conditions**

Extreme Annual WS			Extreme Max WB	Extreme Annual DB				n-Year Return Period Values of Extreme DB							
1%	2.5%	5%		Mean		Standard deviation		n=5 years		n=10 years		n=20 years		n=50 years	
				Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
<b>27.2</b>	<b>24.6</b>	<b>21.6</b>	<b>82.4</b>	<b>8.8</b>	<b>95.7</b>	<b>4.5</b>	<b>3.2</b>	<b>5.6</b>	<b>98.0</b>	<b>2.9</b>	<b>99.9</b>	<b>0.4</b>	<b>101.6</b>	<b>-2.8</b>	<b>103.9</b>

**Monthly Climatic Design Conditions**

		Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
		(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	
(5)	Temperatures, Degree-Days and Degree-Hours	Tavg	33.5	34.6	41.6	51.1	60.4	70.2	75.6	74.8	68.1	56.9	47.4	37.6	
(6)		Sd	9.09	7.78	7.77	6.52	6.47	5.94	4.80	4.80	5.73	6.86	7.29	8.13	
(7)	Mean Coincident Wet Bulb Temperatures	HDD50	1824	514	432	277	61	0	0	0	0	16	133	390	
(8)		HDD65	4843	977	851	725	420	176	20	0	1	33	264	848	
(9)		CDD50	3441	2	2	17	93	323	606	794	768	543	231	55	7
(10)		CDD65	984	0	0	0	3	33	175	329	304	126	14	0	0
(11)	Precipitation	CDH74	6142	0	0	4	27	222	1016	2358	1972	500	43	0	0
(12)		CDH80	1658	0	0	0	6	62	290	718	497	78	7	0	0
(13)		PrecAvg	41.6	3.2	3.0	3.6	3.9	3.8	3.7	3.8	3.4	3.3	2.9	3.7	3.4
(14)		PrecMax	56.7	8.4	4.9	8.2	7.5	6.5	7.1	8.5	8.3	9.7	5.0	9.5	6.1
(15)	Monthly Design Dry Bulb and Mean Coincident Wet Bulb Temperatures	PrecMin	25.6	0.6	1.1	1.3	1.3	0.6	0.2	0.6	0.4	0.9	0.2	0.3	0.9
(16)		PrecSD	7.3	2.0	1.1	1.5	1.7	1.5	1.7	2.3	2.2	2.3	1.2	2.4	1.7
(17)	Monthly Design Wet Bulb and Mean Coincident Dry Bulb Temperatures	0.4%	DB	56.4	59.5	69.1	77.7	87.0	91.8	95.6	92.6	86.7	79.7	67.4	61.0
(18)			MCWB	51.3	47.9	54.7	60.0	69.1	73.1	76.4	74.5	70.7	67.4	59.2	53.9
(19)		2%	DB	52.3	51.9	60.6	70.3	80.0	87.4	90.2	88.1	81.9	73.4	63.3	55.4
(20)			MCWB	49.4	45.1	49.6	56.2	65.6	71.5	73.4	72.9	68.9	65.0	57.5	51.5
(21)		5%	DB	48.9	48.4	55.6	65.2	74.8	82.9	86.9	84.9	79.2	70.3	60.8	52.3
(22)			MCWB	45.3	43.3	47.4	53.1	62.9	69.3	72.0	72.5	68.6	63.3	56.5	48.9
(23)		10%	DB	45.7	45.6	52.1	61.2	71.0	79.6	83.7	82.3	76.6	67.4	58.4	49.3
(24)			MCWB	41.7	41.1	46.1	51.1	61.0	68.2	71.5	71.2	67.9	61.3	54.5	45.2
(25)	Monthly Design Wet Bulb and Mean Coincident Dry Bulb Temperatures	0.4%	WB	53.5	51.1	57.5	63.0	71.7	76.2	78.7	78.3	75.5	70.6	62.7	56.3
(26)			MCDB	54.8	54.2	64.3	73.3	82.2	86.4	88.7	86.8	79.6	75.0	64.3	58.9
(27)		2%	WB	50.3	47.3	52.5	59.0	68.1	74.0	77.0	76.6	73.6	68.1	59.8	52.7
(28)			MCDB	51.9	50.2	56.8	66.4	76.7	82.6	84.6	82.9	77.1	71.9	61.7	54.6
(29)		5%	WB	46.2	44.4	50.0	55.8	65.4	72.3	75.6	75.4	72.3	65.4	57.6	49.8
(30)			MCDB	48.3	47.2	54.1	62.0	72.4	79.4	82.4	80.9	75.8	68.8	60.0	52.0
(31)		10%	WB	42.4	41.6	47.2	53.3	62.8	70.6	74.2	74.4	70.6	62.7	55.3	46.0
(32)			MCDB	45.1	45.3	50.8	58.1	68.8	76.7	80.5	79.5	74.6	66.0	57.9	48.4
(33)	Mean Daily Temperature Range	5% DB	MDBR	12.0	12.8	13.9	14.4	14.7	14.2	13.3	13.0	13.3	13.7	12.5	11.6
(34)			MCDBR	14.6	15.9	19.1	21.1	21.2	19.2	17.0	15.4	15.0	16.0	14.3	14.9
(35)		5% WB	MCWBR	12.6	12.5	11.9	10.9	10.5	8.7	7.4	7.6	8.0	10.5	11.9	13.9
(36)			MDBR	14.4	15.2	17.3	17.8	19.4	16.7	14.2	12.8	12.1	13.9	12.8	14.1
(37)		MCWBR	14.0	13.7	13.1	11.2	11.0	8.9	7.0	7.0	8.1	10.9	12.4	15.1	
(38)		Clear Sky Solar Irradiance	taub	0.339	0.333	0.363	0.391	0.418	0.458	0.434	0.439	0.403	0.352	0.329	0.325
(39)	taud		2.470	2.481	2.402	2.297	2.179	2.079	2.188	2.197	2.331	2.498	2.567	2.568	
(40)	Ebn,noon		258	280	282	280	273	261	267	262	264	269	262	256	
(41)	Edh,noon		25	28	34	40	46	51	46	44	36	27	22	21	

[Nomenclature:](#)

See separate page