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TORONTO LESTER B. PEARSON INT, ON, Canada

WMO#: **716240**

Lat: **43.68N** Long: **79.63W** Elev: **173** StdP: **99.26** Time Zone: **-5.00 (NAE)** Period: **86-10** WBAN: **99999**

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%			0.4%		1%				
		99.6%	99%	DP	HR	MCDB	DP	HR	MCDB	WS	MCDB	WS	MCDB	MCWS	PCWD	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	
(1)	1	-18.1	-15.6	-23.3	0.5	-17.6	-20.4	0.6	-15.2	14.2	-4.7	12.7	-4.1	4.8	0	(1)

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%				
			DB	MCWB	DB	MCWB	DB	MCWB	WB	MCDB	WB	MCDB	WB	MCDB	MCWS	PCWD	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	
(2)	7	9.9	31.4	22.4	29.6	21.4	27.9	20.6	23.7	29.1	22.7	27.8	21.7	26.3	5.8	270	(2)

	Dehumidification DP/MCDB and HR									Enthalpy/MCDB						Hours 8 to 4 & 12.8/20.6	
	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)	
(3)	22.1	17.1	26.7	21.0	16.0	25.6	20.1	15.1	24.6	71.9	29.2	68.0	28.1	64.2	26.2	692	(3)

Extreme Annual Design Conditions

	Extreme Annual WS			Extreme Max WB	Extreme Annual DB				n-Year Return Period Values of Extreme DB								
					Mean		Standard deviation		n=5 years		n=10 years		n=20 years		n=50 years		
	1%	2.5%	5%		Min	Max	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)	
(4)	12.1	10.5	9.3	28.5	-21.6	33.9	3.3	1.9	-24.0	35.3	-25.9	36.4	-27.7	37.5	-30.1	38.9	(4)

Monthly Climatic Design Conditions

				Annual (d)	Jan (e)	Feb (f)	Mar (g)	Apr (h)	May (i)	Jun (j)	Jul (k)	Aug (l)	Sep (m)	Oct (n)	Nov (o)	Dec (p)	
(5)	Temperatures, Degree-Days and Degree-Hours	Tavg		8.5	-4.7	-4.5	0.4	7.2	13.4	18.9	21.6	20.7	16.4	9.7	3.9	-2.0	(5)
(6)		Sd			6.11	5.23	5.62	4.78	4.53	3.93	3.20	3.29	4.15	4.37	4.47	5.14	(6)
(7)		HDD10.0		1915	457	407	302	110	16	0	0	0	3	61	189	371	(7)
(8)		HDD18.3		3892	715	640	557	336	167	39	6	13	85	271	434	629	(8)
(9)		CDD10.0		1357	0	0	3	26	120	268	358	332	194	50	6	1	(9)
(10)		CDD18.3		292	0	0	0	1	13	57	107	87	26	2	0	0	(10)
(11)		CDH23.3		2268	0	0	1	17	124	468	861	619	166	13	0	0	(11)
(12)		CDH26.7		639	0	0	0	3	26	139	268	166	37	1	0	0	(12)
(13)	Precipitation	PrecAvg		780	46	45	57	64	66	69	77	84	74	63	70	65	(13)
(14)		PrecMax		1002	82	107	121	112	140	151	182	164	154	125	143	102	(14)
(15)		PrecMin		600	11	9	12	25	12	25	15	15	6	9	12	17	(15)
(16)		PrecSD		96.9	18.9	25.8	28.7	23.0	33.0	32.1	35.6	38.5	38.5	31.1	29.8	22.3	(16)
(17)	Monthly Design Dry Bulb and Mean Coincident Wet Bulb Temperatures	0.4%	DB		11.3	9.6	19.9	26.0	29.5	32.6	34.0	33.3	30.4	25.1	18.0	12.4	(17)
(18)			MCWB		9.8	6.9	13.3	17.6	20.2	22.5	23.6	23.4	21.5	17.7	13.8	10.4	(18)
(19)		2%	DB		7.8	6.7	14.8	20.9	26.8	30.3	31.5	30.3	27.2	21.7	15.0	8.7	(19)
(20)			MCWB		5.9	4.3	10.3	13.6	18.6	21.1	22.7	22.4	20.2	16.6	12.3	6.6	(20)
(21)		5%	DB		4.9	4.2	11.2	17.6	24.1	28.1	29.6	28.3	25.0	19.0	12.8	6.4	(21)
(22)			MCWB		3.5	2.4	7.5	11.5	17.4	20.4	21.7	21.2	18.9	14.7	10.5	4.6	(22)
(23)		10%	DB		3.0	2.5	8.2	14.9	21.4	26.0	27.7	26.7	23.2	16.6	10.5	4.4	(23)
(24)			MCWB		1.8	1.0	5.2	9.7	15.4	19.2	20.7	20.3	18.2	13.2	8.3	2.9	(24)
(25)	Monthly Design Wet Bulb and Mean Coincident Dry Bulb Temperatures	0.4%	WB		10.1	7.5	14.7	17.8	22.0	23.9	25.6	25.1	22.6	19.7	14.7	10.6	(25)
(26)			MCDB		10.9	9.2	18.5	24.3	27.9	30.6	31.5	30.1	27.9	22.7	16.9	12.3	(26)
(27)		2%	WB		6.2	4.6	10.8	14.9	20.0	22.6	24.0	23.4	21.4	17.0	12.7	7.1	(27)
(28)			MCDB		7.4	6.4	14.2	19.5	25.2	28.5	29.1	28.6	25.5	20.9	14.9	8.3	(28)
(29)		5%	WB		3.7	2.6	8.0	12.5	18.1	21.3	22.9	22.4	20.1	15.4	10.7	4.7	(29)
(30)			MCDB		4.7	3.9	10.8	16.8	23.4	26.5	27.9	27.0	23.4	18.4	12.6	6.2	(30)
(31)		10%	WB		1.8	1.1	5.4	10.1	16.1	20.1	21.7	21.3	19.0	13.6	8.6	3.0	(31)
(32)			MCDB		2.9	2.4	7.9	14.0	20.9	24.7	26.2	25.3	22.2	16.2	10.3	4.3	(32)
(33)	Mean Daily Temperature Range		MDBR		7.0	7.5	8.3	9.2	10.2	10.0	9.9	9.7	9.7	8.6	7.0	6.4	(33)
(34)		5% DB	MCDBR		7.7	8.7	12.6	13.7	13.1	12.4	11.5	11.2	11.5	11.6	9.9	8.0	(34)
(35)			MCWBR		7.0	7.5	9.3	8.9	7.7	6.6	5.5	5.5	6.2	7.7	8.1	6.9	(35)
(36)		5% WB	MCDBR		7.6	8.2	12.4	12.3	12.4	11.0	10.0	10.0	9.9	10.9	9.6	7.8	(36)
(37)			MCWBR		7.4	7.5	9.8	8.9	7.9	6.6	5.6	5.6	6.2	7.8	8.3	7.2	(37)
(38)	Clear Sky Solar Irradiance	taub			0.294	0.308	0.328	0.377	0.388	0.407	0.386	0.393	0.387	0.340	0.318	0.289	(38)
(39)		taud			2.414	2.348	2.384	2.292	2.245	2.193	2.282	2.297	2.333	2.477	2.546	2.557	(39)
(40)		Ebn,noon			836	885	912	887	883	864	879	860	835	839	808	820	(40)
(41)		Edh,noon			75	95	105	125	135	143	129	123	110	84	67	60	(41)

Nomenclature: See separate page