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MONTREAL/MIRABEL INT'L A, QC, Canada

WMO#: **716278**

Lat: **45.67N** Long: **74.03W** Elev: **82** StdP: **100.34** 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	-26.0	-23.1	-32.5	0.2	-25.3	-29.7	0.2	-22.5	10.2	-6.1	9.2	-7.8	2.4	260	(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	10.4	29.5	22.0	27.9	20.8	26.4	19.9	23.0	27.9	21.9	26.4	20.9	25.0	3.6	220	(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)	21.3	16.2	26.1	20.3	15.1	24.7	19.4	14.3	23.5	68.7	28.0	64.5	26.3	60.9	25.0	713	(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)	8.5	7.3	6.4	27.2	-29.4	32.0	3.4	1.6	-31.9	33.1	-33.8	34.1	-35.7	35.0	-38.2	36.1	(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		5.7	-10.7	-9.5	-3.2	5.7	12.6	17.6	20.0	18.9	14.2	7.3	0.9	-6.9	(5)
(6)		Sd			7.30	6.36	6.05	4.66	4.14	3.78	2.88	3.26	4.12	4.23	4.87	6.46	(6)
(7)		HDD10.0		2675	642	546	408	143	19	1	0	0	9	107	275	524	(7)
(8)		HDD18.3		4794	901	779	666	378	183	57	16	33	133	342	524	783	(8)
(9)		CDD10.0		1092	0	0	0	15	101	230	309	276	137	24	1	0	(9)
(10)		CDD18.3		171	0	0	0	1	6	37	66	51	11	1	0	0	(10)
(11)		CDH23.3		1329	0	0	0	11	81	308	481	365	82	2	0	0	(11)
(12)		CDH26.7		291	0	0	0	2	16	72	106	77	19	0	0	0	(12)
(13)	Precipitation	PrecAvg		1024	75	66	71	77	80	94	91	101	93	88	99	92	(13)
(14)		PrecMax		1332	150	148	118	153	155	178	161	196	189	212	183	170	(14)
(15)		PrecMin		816	23	12	19	19	40	36	54	42	30	20	44	41	(15)
(16)		PrecSD		98.9	29.0	30.8	27.4	30.5	31.9	32.4	28.5	33.4	36.1	38.8	31.6	32.6	(16)
(17)	Monthly Design Dry Bulb and Mean Coincident Wet Bulb Temperatures	0.4%	DB		6.1	6.2	12.9	24.8	28.6	31.1	31.6	30.9	29.4	22.9	15.7	7.7	(17)
(18)			MCWB		5.2	3.6	7.7	15.9	19.4	22.8	23.6	22.8	20.8	17.2	12.9	6.5	(18)
(19)		2%	DB		3.3	3.5	9.4	20.0	25.5	28.8	29.3	28.7	25.5	19.3	12.7	4.8	(19)
(20)			MCWB		2.1	1.9	5.7	12.1	16.9	21.1	22.3	21.5	19.8	15.0	10.7	3.3	(20)
(21)		5%	DB		1.5	1.9	6.5	16.6	23.1	26.8	27.6	27.0	23.2	16.4	9.8	2.7	(21)
(22)			MCWB		0.6	0.7	3.5	9.9	15.5	19.9	21.0	20.7	18.1	13.0	7.8	1.5	(22)
(23)		10%	DB		-0.1	0.2	4.5	13.6	20.6	24.9	26.0	25.3	21.3	14.0	7.4	1.2	(23)
(24)			MCWB		-0.9	-0.9	2.1	8.0	14.1	18.4	20.1	19.7	17.0	11.1	5.8	0.2	(24)
(25)	Monthly Design Wet Bulb and Mean Coincident Dry Bulb Temperatures	0.4%	WB		5.7	4.2	9.4	17.0	20.8	24.2	24.8	24.0	22.0	18.1	13.6	6.6	(25)
(26)			MCDB		6.1	5.3	11.4	23.1	26.7	29.3	30.2	29.3	27.1	21.5	14.8	7.4	(26)
(27)		2%	WB		2.3	2.1	6.1	13.8	18.5	22.2	23.2	22.5	20.4	15.6	10.9	3.5	(27)
(28)			MCDB		2.9	3.2	8.8	18.4	23.4	27.2	28.0	27.0	24.6	18.4	12.6	4.4	(28)
(29)		5%	WB		0.6	0.7	3.9	10.7	16.8	20.8	22.0	21.5	19.1	13.4	8.0	1.7	(29)
(30)			MCDB		1.4	1.8	6.1	14.8	21.2	25.1	26.3	25.6	22.4	16.0	9.2	2.6	(30)
(31)		10%	WB		-1.1	-1.0	2.3	8.7	15.1	19.6	20.9	20.5	17.7	11.6	5.9	0.4	(31)
(32)			MCDB		0.0	0.3	4.1	13.0	19.2	23.6	24.8	24.3	20.6	13.5	7.1	1.1	(32)
(33)	Mean Daily Temperature Range		MDBR		8.8	9.6	8.9	9.9	11.2	10.8	10.4	10.7	10.6	9.2	7.4	7.8	(33)
(34)		5% DB	MCDBR		9.7	8.6	10.5	15.5	15.2	13.1	12.0	12.0	12.9	12.7	10.9	7.9	(34)
(35)			MCWBR		9.4	8.0	7.7	9.5	8.4	7.3	6.5	6.5	7.8	8.8	9.3	7.3	(35)
(36)		5% WB	MCDBR		9.6	8.5	10.0	13.7	12.7	11.4	10.8	10.8	11.5	11.6	10.5	7.8	(36)
(37)			MCWBR		9.4	8.0	7.9	9.4	7.9	7.0	6.4	6.3	7.6	8.7	9.5	7.4	(37)
(38)	Clear Sky Solar Irradiance	taub			0.267	0.282	0.305	0.339	0.370	0.393	0.365	0.390	0.366	0.322	0.299	0.277	(38)
(39)		taud			2.437	2.346	2.353	2.357	2.306	2.217	2.338	2.291	2.387	2.541	2.610	2.502	(39)
(40)		Ebn,noon			853	902	928	919	896	873	895	857	849	851	817	805	(40)
(41)		Edh,noon			68	91	105	115	126	138	121	122	102	76	59	59	(41)

Nomenclature: See separate page