Appendix F.3
Appendix E window

Office + Heat +Light
2+2+4 8

Office	4 Bulb FI2							120000					
Merc	6 Bulb FI2												
Apart	1850 Bulb FI2												
		Btu/h Ft	W/M/h	SHGC	VT	LSG	FHR	E.15					
	Single-Glazed (Clear)	1.3											
	Double-Glazed (Clear)	0.64		0.65	0.62								

		Jan.	Feb.	Mar.	April	May	June	July	Aug	Sep	Oct	Nov	Dec
q = u x T	u (Closed)	0.016666666											
	u (Open)	0.2											
	a	51240											
	T High		29	33.5	45.8	58.6	70.1	79.6	83.7	81.8	74.8	63.3	48.4	34
	T Low		12.9	17.2	28.5	38.6	47.7	57.5	62.6	61.6	53.9	42.2	31.6	19.1
	T Ave.		21	25.4	37.2	48.8	58.9	68.6	73.2	71.7	64.4	52.8	40	26.6
	T (w)	65												
	T (s)	75												

		Jan.	Feb.	Mar.	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Extreme	Qn U A T ((Closed))	44493.3822	40821.18367	31170.98753	12545.591	14774.19		6404.997438	7429.397028	5807.197677	9479.196208	19471.19221	28523.589	39198.5483
	Solar Radiation													
	Office Heat	120000	120000	120000	120000	120000		120000	120000	120000	120000	120000	120000	120000
Total Required BTU's		-75506.6178	-79178.81633	-88829.01247	-97454.409	-105226		-113595.0026	-112570.203	-114192.8023	-110520.6038	-100528.8078	-91476.411	-80801.416
Extreme	Qn U A T ((Open))	533920.8	489854.4	284894.4	270547.2	177290.4		47140.8	89157.6	69686.4	113752.8	233654.4	342283.2	470383.2
	Solar Radiation													
	Office Heat	120000	120000	120000	120000	120000		120000	120000	120000	120000	120000	120000	120000
Total Required BTU's		413920.8	369854.4	164894.4	150547.2	57290.4		-72859.2	-30842.4	-50313.6	-6247.2	113654.4	222283.2	350383.2

Facade SF

	East	West	South	North	Total	Roof
Res SF	7128	7128	0	12960	27216	48600
Ret SF	7218	7218	3180	1680	19296	
Office SF	22464	22464	11520	0	56448	228640

Qn U A T ((Closed))
Res SF

	Jan. 8:00AM	Jan. 9:00AM	Jan. 12:00PM	Jan. 3:00PM	Jan. 6:00PM	Jan. 9:00PM
Internal Temp	72	72	72	72	72	67
Exterior Temp	21	21	21	29	21	12.9
Solar Gain S (DF)	580	1600	2600	1600	0	0
Solar Gain E (DF)	760	1400	240	110	0	0
Solar Gain W (DF)	5	110	240	1400	0	0
Total Solar Gain (Res)	**34028098**	**107919840**	**94214440**	**14743280**	**0**	**0**
Total Solar Gain (Ret)	**6557165**	**13769530**	**9756480**	**5771510**	**0**	**0**
Total Solar Gain (Off)	**23754245**	**49883720**	**35343600**	**20904440**	**0**	**0**
Office Gain	0	381888	763776	763776	606528	0
Retail Gain	0	673920	673920	673920	786240	786240
Residential Gain	59130	0	0	0	3285	6570
Residential						
Closed BTU	98508.96	157638.96	157638.96	132951.28	116899.16	106502.936
Open BTU	-5160088.8	-10413118.8	-10696478.8	-10466528.4	314170.2	366784.92
Fully Vented BTU	1403244	1462374	1462374	1232982	1315719	1544805.4
Retail						
Closed BTU	58678.56	-615241.44	-615241.44	-624445.92	-733314.24	-723994.7
Open BTU	-9261569.8	-14247814.8	-14550048.8	-14280126.4	-6098218.8	-5787558.68
Fully Vented BTU	918846	977976	977976	824568	878811	1030851.6
Commercial						
Closed BTU	157638.96	-224249.04	-606137.04	-630864.72	-464343.84	167220.936
Open BTU	-25596606.04	-50105959.04	-35949737.04	-21533304.72	-464343.84	167220.936
Fully Vented BTU	98508.96	157638.96	157638.96	132951.28	116899.16	106502.936
Total	**0**	**0**	**0**	**0**	**0**	**0**

	Jan. 8:00AM	Jan. 9:00AM	Jan. 12:00PM	Jan. 3:00PM	Jan. 6:00PM	Jan. 9:00PM
Total Solar Gain						
BTU's	35764330	74414500	48521520	37439220	0	0
Total Head Load						
Closed BTU	314826.48	-681851.52	-1063739.52	-1122399.36	-1058758.9	-1061121.83
Open BTU	-151182664.64	-747651124.64	-492540020.44	-363823149.52	-75999944	-44749.824
Fully Vented BTU	2420598.96	2597988.96	2597988.96	2190461.28	2333429.2	2736195.94

	Feb. 8:00AM	Feb. 9:00AM	Feb. 12:00PM	Feb. 3:00PM	Feb. 6:00PM	Feb. 9:00PM
Internal Temp	72	72	72	72	72	67
Exterior Temp	25.4	25.4	25.4	32.5	25.4	17.2
Solar Gain S (DF)	890	1,600	2,500	1,600	0	0
Solar Gain E (DF)	1,500	1,800	290	160	0	0
Solar Gain W (DF)	91	160	290	1,800	10	0
Total Solar Gain (Res)	**11340648**	**13970880**	**6134240**	**13970880**	**71280**	**0**
Total Solar Gain (Ret)	**1231791**	**1663990**	**974880**	**6081960**	**10**	**0**
Total Solar Gain (Off)	**4394891**	**5886790**	**3551485O**	**22028040**	**10**	**0**
Office Gain	0	381888	763776	763776	606528	0
Retail Gain	0	673920	673920	673920	786240	786240
Residential Gain	59130	0	0	0	3285	6570
Residential						
Closed BTU	84908.736	144038.736	144038.736	122092.92	125298.936	147353.808
Open BTU	-11979182.64	-68109.264	-38128464.58	-18498228.48	2125245.6	4577339.52
Fully Vented BTU	127078.4	1336208.4	1336208.4	1132623	1189553.4	1421395.2
Retail						
Closed BTU	53616.096	-620301.904	-620301.904	-628472.88	-738376.704	-728942.11
Open BTU	-11953070.68	-16745159.68	-10240779.68	-6040388.6	-628705.68	-595247.04
Fully Vented BTU	834471.6	895601.6	895601.6	757452	794436.6	948394.8
Commercial						
Closed BTU	144038.736	-237849.264	-619737.264	-641683.08	-477944.064	153929.808
Open BTU	-63804052.26	-59105209.26	-35916587.26	-22669723.08	-477964.064	153929.808
Fully Vented BTU	84908.736	144038.736	144038.736	122092.92	125298.936	147353.808
Total	**0**	**0**	**0**	**0**	**0**	**0**

	Feb. 8:00AM	Feb. 9:00AM	Feb. 12:00PM	Feb. 3:00PM	Feb. 6:00PM	Feb. 9:00PM
Total Solar Gain						
BTU's	67421330	89088200	49197670	42080880	71300	0
Total Head Load						
Closed BTU	-282563.568	-714114.432	-1096002.432	-1148063.04	-1093021.8	-427632.5
Open BTU	-668361035.02	-89499653.02	-44993211.02	-42972395.28	-8921314.82	-1042027.47
Fully Vented BTU	2196458.736	2378848.736	2378848.736	2011357.92	2105288.9	2527149.81

	Mar. 8:00AM	Mar. 9:00AM	Mar. 12:00PM	Mar. 3:00PM	Mar. 6:00PM	Mar. 9:00PM
Internal Temp	72	72	72	72	72	67
Exterior Temp	37.2	37.2	37.2	45.8	37.2	28.5
Solar Gain S (DF)	970	1,700	2,600	1,700	7	0
Solar Gain E (DF)	1,400	1,300	410	250	4	0
Solar Gain W (DF)	180	250	410	2,300	100	0
Total Solar Gain (Res)	**18190240**	**18174400**	**5849960**	**18178400**	**741312**	**0**
Total Solar Gain (Ret)	**1796730**	**1964850**	**1083820**	**6958550**	**47364**	**0**
Total Solar Gain (Off)	**6508180**	**7125490**	**3916260**	**25202300**	**170996**	**0**
Office Gain	0	381888	763776	763776	606528	0
Retail Gain	0	673920	673920	673920	786240	786240
Residential Gain	59130	0	0	0	3285	6570
Residential						
Closed BTU	48435.408	107565.408	107565.408	80983.152	88825.608	112431.96
Open BTU	-18292928.24	-17956238.24	-16404798.24	-17995588.56	-538941.24	259120.2
Fully Vented BTU	918725.2	997855.2	997855.2	751258.8	851200.2	1097379
Retail						
Closed BTU	40039.488	-633880.512	-633880.512	-643775.328	-751953.312	-741945.44
Open BTU	-17831715.04	-20209605.04	-11351275.04	-7531987.76	-729135.04	-638564.8
Fully Vented BTU	608194.8	667324.8	667324.8	502411.2	568159.8	731706
Commercial						
Closed BTU	107565.408	-274322.592	-656210.592	-682792.848	-514417.392	119031.96
Open BTU	-64989614.59	-71535772.59	-39818860.59	-25885092.85	-685013.392	119031.96
Fully Vented BTU	48435.408	107565.408	107565.408	80983.152	88825.608	112431.96
Total	**0**	**0**	**0**	**0**	**0**	**0**

	Mar. 8:00AM	Mar. 9:00AM	Mar. 12:00PM	Mar. 3:00PM	Mar. 6:00PM	Mar. 9:00PM
Total Solar Gain						
BTU's	101445600	109096400	55818430	50337250	959072	0
Total Head Load						
Closed BTU	196040.304	-800637.696	-1182525.696	-1245585.024	-1177545.1	-510529.52
Open BTU	-101023537.9	-109673315.9	-56774933.87	-51412669.17	-19433069.7	-2604556.64
Fully Vented BTU	1959355.408	1772740.408	1772740.408	1334653.152	1506185.6	1943116.96

	Apr. 8:00AM	Apr. 9:00AM	Apr. 12:00PM	Apr. 3:00PM	Apr. 6:00PM	Apr. 9:00PM
Internal Temp	72	72	72	72	70	67
Exterior Temp	48.6	48.6	48.6	58.6	48.6	38.6
Solar Gain S (DF)	590	1,100	1,900	1,100	50	0
Solar Gain E (DF)	2,400	2,200	460	310	80	0
Solar Gain W (DF)	240	310	460	2,200	770	0
Total Solar Gain (Res)	**18017920**	**17491280**	**6557760**	**17891280**	**5810448**	**0**
Total Solar Gain (Ret)	**1675840**	**1734850**	**1734850**	**8899920**	**5422310**	**695016**
Total Solar Gain (Off)	**6073040**	**6298510**	**32221900**	**19638040**	**1610114**	**0**
Office Gain	0	381888	763776	763776	606528	0
Retail Gain	0	673920	673920	673920	786240	786240
Residential Gain	59130	0	0	0	3285	6570
Residential						
Closed BTU	11198.464	72128.464	72128.464	61418.864	62861.544	81213.264
Open BTU	-18715561.92	-17720791.92	-8196271.92	-17798803.92	-5672047.32	-1894424.08
Fully Vented BTU	611841.6	670971.6	670971.6	384231.6	610338.6	807791.6
Retail						
Closed BTU	20922.104	-646996.896	-646996.896	-658502.496	-761618.016	-753564.1
Open BTU	-16669096.32	-17724686.32	-9479096.32	-16045038.32	-5149182.72	-977320.32
Fully Vented BTU	389588.4	448718.4	448718.4	256958.4	407081.4	538028.4
Commercial						
Closed BTU	72128.464	-309593.536	-691447.536	-722557.136	-540381.456	83783.264
Open BTU	-60426511.44	-61462668.56	-32813437.14	-20560597.14	-2155485.456	83783.264
Fully Vented BTU	11198.464	72128.464	72128.464	61418.864	62861.544	81213.264
Total	**0**	**0**	**0**	**0**	**0**	**0**

	Apr. 8:00AM	Apr. 9:00AM	Apr. 12:00PM	Apr. 3:00PM	Apr. 6:00PM	Apr. 9:00PM
Total Solar Gain						
BTU's	96287400	97124900	47674580	42951830	7871578	0
Total Head Load						
Closed BTU	112450.032	-884227.968	-1266115.968	-1339440.768	-1239137.9	-584567.37
Open BTU	-96022969.78	-97857147.78	-46768715.78	-44226219.18	-8957725.5	-4001132.98
Fully Vented BTU	1014628.464	1192018.464	1192018.464	682608.864	1082181.3	1427013.26

	May 8:00AM	May 9:00AM	May 12:00PM	May 3:00PM	May 6:00PM	May 9:00PM
Internal Temp	72	72	72	72	67	60
Exterior Temp	58.9	58.9	58.9	70.1	58.9	47.7
Solar Gain S (DF)	480	890	1,800	890	140	0
Solar Gain E (DF)	2,900	1,700	610	400	140	0
Solar Gain W (DF)	360	430	610	2,700	1,800	0
Total Solar Gain (Res)	**23237280**	**22310640**	**8496160**	**22109640**	**13628320**	**0**
Total Solar Gain (Ret)	**19509660**	**19573330**	**9507220**	**5499330**	**1315140**	**0**
Total Solar Gain (Off)	**70675560**	**70996050**	**34439650**	**19915020**	**4729560**	**0**
Office Gain	0	381888	763776	763776	606528	0
Retail Gain	0	673920	673920	673920	786240	786240
Residential Gain	59130	0	0	0	3285	6570
Residential						
Closed BTU	-13638.424	40491.576	40491.576	5872.824	21751.776	11448.808
Open BTU	-23260004.28	-22220234.28	-8605754.28	-12229572.72	-13775705.28	78314.76
Fully Vented BTU	316499.4	375629.4	375629.4	54480.6	228974.4	340120.2
Retail						
Closed BTU	15072.336	-658847.664	-658847.664	-671753.936	-776920.464	-772088.11
Open BTU	-19459418.88	-20197008.88	-10130898.88	-6165963.12	-2070114.88	-739067.04
Fully Vented BTU	192075.6	251205.6	251205.6	36404.4	152040.6	226094.8
Commercial						
Closed BTU	40491.576	-341396.424	-723284.424	-757903.176	-581491.224	38118.808
Open BTU	-70655068.42	-71247936.42	-35162934.42	-19672923.18	-5342051.224	38118.808
Fully Vented BTU	-13638.424	40491.576	40491.576	5872.824	21751.776	11448.808
Total	**0**	**0**	**0**	**0**	**0**	**0**

	May 8:00AM	May 9:00AM	May 12:00PM	May 3:00PM	May 6:00PM	May 9:00PM
Total Solar Gain						
BTU's	113422500	112790000	52643030	47724990	19903020	0
Total Head Load						
Closed BTU	36925.488	-959752.512	-1341640.512	-1423764.288	-1336659.9	-702620.5
Open BTU	-113350491.6	-113664669.6	-53899587.84	-49195414.02	-21187071	-6127334.47
Fully Vented BTU	889936.576	667326.576	667326.576	96787.824	402766.78	606863.808

	Jun. 8:00AM	Jun. 9:00AM	Jun. 12:00PM	Jun. 3:00PM	Jun. 6:00PM	Jun. 9:00PM
Internal Temp	72	72	72	72	72	67
Exterior Temp	68.6	68.6	68.6	79.6	68.6	57.5
Solar Gain S (DF)	500	820	1,600	800	100	0
Solar Gain E (DF)	3,200	2,900	710	520	200	0
Solar Gain W (DF)	400	520	720	3,000	2,200	0
Total Solar Gain (Res)	**25874440**	**24377760**	**10193040**	**25090560**	**17107200**	**0**
Total Solar Gain (Ret)	**21433630**	**20527420**	**9491430**	**5771520**	**1846400**	**0**
Total Solar Gain (Off)	**77645230**	**74432120**	**34982160**	**19900380**	**6603800**	**0**
Office Gain	0	381888	763776	763776	606528	0
Retail Gain	0	673920	673920	673920	786240	786240
Residential Gain	59130	0	0	0	3285	6570
Residential						
Closed BTU	-48620.736	10509.264	10509.264	-14218.416	1042.344	1157.4
Open BTU	-25931505.92	-24354295.92	-10168575.92	-25122505.52	-17100823.32	10683
Fully Vented BTU	38361.6	97491.6	97491.6	-131905.4	36858.6	65115
Retail						
Closed BTU	3911.904	-670008.096	-670008.096	-679212.576	-784629.216	-783363.6
Open BTU	-21420590.32	-21188300.32	-10152310.32	-6465381.92	-2627470.72	-779652
Fully Vented BTU	6068.4	65198.4	65198.4	-88209.6	23561.4	41370
Commercial						
Closed BTU	10509.264	-371378.736	-753266.736	-777994.416	-602200.656	7727.4
Open BTU	-77642720.74	-74719496.74	-35154626.74	-21678274.42	-7286000.656	7727.4
Fully Vented BTU	-48620.736	10509.264	10509.264	-14218.416	1042.344	1157.4
Total	**0**	**0**	**0**	**-14218.416**	**0**	**0**

	Jul. 8:00AM	Jul. 9:00AM	Jul. 12:00PM	Jul. 3:00PM	Jul. 6:00PM	Jul. 9:00PM
Internal Temp	75	75	75	75	75	65
Exterior Temp	79.2	79.2	79.2	89.7	79.2	69.8
Solar Gain S (DF)	500	820	1,600	800	100	0
Solar Gain E (DF)	3,200	2,900	710	520	200	0
Solar Gain W (DF)	400	520	720	3,000	2,200	0
Total Solar Gain (Res)	**25874440**	**24377760**	**10193040**	**25090560**	**17107200**	**0**
Total Solar Gain (Ret)	**21433630**	**20527420**	**9491430**	**5771520**	**1846400**	**0**
Total Solar Gain (Off)	**77645230**	**74432120**	**34982160**	**19900380**	**6603800**	**0**
Office Gain	0	381888	763776	763776	606528	0
Retail Gain	0	673920	673920	673920	786240	786240
Residential Gain	59130	0	0	0	3285	6570
Residential						
Closed BTU	48435.408	107565.408	107565.408	80983.152	88825.608	112431.96
Open BTU	-18292928.24	-17956238.24	-16404798.24	-17995588.56	-538941.24	259120.2
Fully Vented BTU	918725.2	997855.2	997855.2	751258.8	851200.2	1097379
Retail						
Closed BTU	40039.488	-633880.512	-633880.512	-643775.328	-751953.312	-741945.44
Open BTU	-17831715.04	-20209605.04	-11351275.04	-7531987.76	-729135.04	-638564.8
Fully Vented BTU	608194.8	667324.8	667324.8	502411.2	568159.8	731706