
















RSO	24 $\frac{1}{4}$	28 $\frac{1}{4}$	32 $\frac{1}{4}$	36	40			
OSM (mm)	600	700	800	900	1000			
OSM	23 $\frac{5}{8}$	27 $\frac{9}{16}$	31 $\frac{1}{2}$	35 $\frac{7}{16}$	39 $\frac{3}{8}$			
Glass	18 $\frac{11}{16}$	22 $\frac{5}{8}$	26 $\frac{9}{16}$	30 $\frac{1}{2}$	34 $\frac{7}{16}$			
28 $\frac{1}{4}$	20 $\frac{1}{2}$	500	14 $\frac{3}{4}$	①  LCA 0605	④  LCA 0705	⑦  LCA 0805	⑩  LCA 0905	⑬  LCA 1005
24 $\frac{1}{4}$	600	19 $\frac{11}{16}$	18 $\frac{11}{16}$	②  LCA 0606	⑤  LCA 0706	⑧  LCA 0806	⑪  LCA 0906	⑭  LCA 1006
700	27 $\frac{9}{16}$	22 $\frac{5}{8}$	22 $\frac{5}{8}$	③  LCA 0607	⑥  LCA 0707	⑨  LCA 0807	⑫  LCA 0907	⑮  LCA 1007

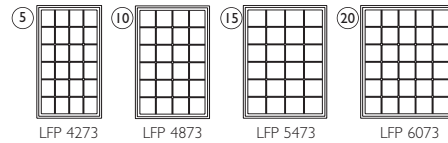
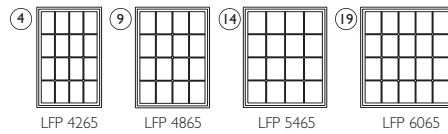
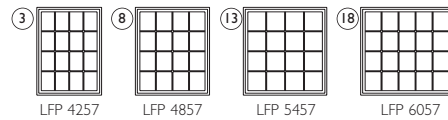
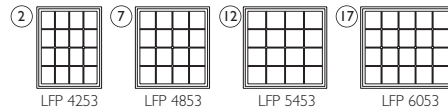
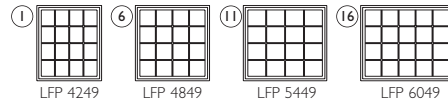
Masonry Opening - Add $\frac{1}{2}$ " to OSM Width and add $\frac{3}{4}$ " to OSM Height.

 Awnings are hinged at top of window.

Liberty LTW Transoms and Picture Windows in Sash

RSO	22¼	26¼	30¼	34¼	38¼	42¼	48¼	54¼	60¼
OSM (mm)	546	648	749	851	953	1054	1207	1359	1511
OSM	21½	25½	29½	33½	37½	41½	47½	53½	59½
Glass	16⅙	20⅙	24⅙	28⅙	32⅙	36⅙	42⅙	48⅙	54⅙
















































16¼	400	15¾	10⅓⅙
49	1226	48¼	43⅙
53	1327	52¼	47⅙
57	1429	56¼	51⅙
65	1632	64¼	59⅙
73	1835	72¼	67⅙



Grills are drawn even split, true LFP has grills offset to match LTW.

Masonry Opening - Add ½" to OSM Width and add ¾" to OSM Height.

Liberty Tudor - Casement

RSO		16½	20¼	24¼	28¼	32¼	36		
OSM (mm)		400	500	600	700	800	900		
OSM		15¾	19½	23⅝	27⅙	31½	35⅙		
Glass		10 ¹³ / ₁₆	14¾	18 ¹¹ / ₁₆	22 ⁵ / ₈	26 ⁹ / ₁₆	30½		
32¼	800	31½	26 ⁹ / ₁₆	①  LTU 0408	⑨  LTU 0508	⑰  LTU 0608	⑳  LTU 0708 ††	㉑  LTU 0808 **	㉙  LTU 0908 **
36¼	900	35⅙	30½	②  LTU 0409	⑩  LTU 0509	⑱  LTU 0609	㉒  LTU 0709 **	㉔  LTU 0809 **	㉚  LTU 0909 **
40	1000	39⅞	34 ⁷ / ₁₆	③  LTU 0410	⑪  LTU 0510	⑲  LTU 0610	㉓  LTU 0710 **	㉕  LTU 0810 †	㉛  LTU 0910 **
48	1200	47¼	42 ⁵ / ₁₆	④  LTU 0412	⑫  LTU 0512	⑳  LTU 0612 **	㉔  LTU 0712 †	㉖  LTU 0812 **	㉜  LTU 0912 **
55¼	1400	55⅝	50 ³ / ₁₆	⑤  LTU 0414	⑬  LTU 0514	㉑  LTU 0614 **	㉗  LTU 0714 †	㉘  LTU 0814 **	㉝  LTU 0914 **
59¾	1500	59⅙	54½	⑥  LTU 0415	⑭  LTU 0515	㉒  LTU 0615 **	㉙  LTU 0715 †	㉚  LTU 0815 **	㉞  LTU 0915 **
63¾	1600	63	58⅙	⑦  LTU 0416	⑮  LTU 0516	㉓  LTU 0616 **	㉜  LTU 0716 †	㉟  LTU 0816 **	㉟  LTU 0916 **
71½	1800	70⅞	65 ¹⁵ / ₁₆	⑧  LTU 0418	⑯  LTU 0518	㉔  LTU 0618 **	㉞  LTU 0718 †	㉡  LTU 0818 **	

* These products meet all BOCA/IBC egress requirements.

** These products meet egress requirements of OBC/NBC.

Check with your local building authority for egress requirements in your area.

† These products meet all BOCA/IBC egress requirements with installation of "egress hinge".

†† These products meet all OBC/NBC egress requirements with installation of "egress hinge".

Masonry Opening - Add ½" to OSM Width and add ¾" to OSM Height.

Hinging - is determined as viewed from outside.





Liberty E Series Twintilt (LTW) - Double Hung

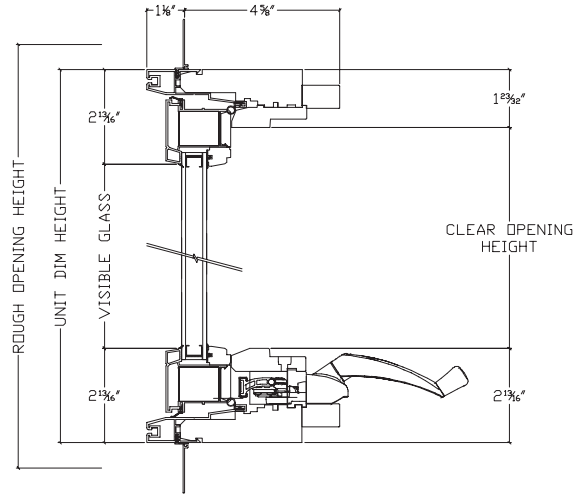
RSO	22¼	26¼	30¼	34¼	38¼	42¼			
OSM (mm)	546	648	749	851	953	1054			
OSM	21½	25½	29½	33½	37½	41½			
Glass	15 15¾	19 19¾	23 23¾	27 27¾	31 31¾	35 35¾			
37	921	36¼	15½ 14¾	LTW 2237	LTW 2637	LTW 3037	LTW 3437	LTW 3837	LTW 4237
41	1022	40¼	17½ 16¾	LTW 2241	LTW 2641	LTW 3041	LTW 3441	LTW 3841**	LTW 4241**
49	1226	48¼	21½ 20¾	LTW 2249	LTW 2649	LTW 3049	LTW 3449**	LTW 3849**	LTW 4249**
53	1327	52¼	23½ 22¾	LTW 2253	LTW 2653	LTW 3053**	LTW 3453**	LTW 3853**	LTW 4253**
57	1429	56¼	25½ 24¾	LTW 2257	LTW 2657	LTW 3057**	LTW 3457**	LTW 3857**	LTW 4257**
65	1632	64¼	29½ 28¾	LTW 2265	LTW 2665**	LTW 3065**	LTW 3465**	LTW 3865**	LTW 4265**
73	1835	72¼	33½ 32¾	LTW 2273**	LTW 2673**	LTW 3073**	LTW 3473**	LTW 3873**	LTW 4273**
65	1632	64¼	33½ 24¾	LTWC 2265	LTWC 2665	LTWC 3065**	LTWC 3465**	LTWC 3865**	LTWC 4265**
73	1835	72¼	37½ 28¾	LTWC 2273	LTWC 2673**	LTWC 3073**	LTWC 3473**	LTWC 3873**	LTWC 4273**

* These products meet all BOCA/IBC egress requirements.
 ** These products meet egress requirements of OBC/NBC.
 Check with your local building authority for egress requirements in your area.

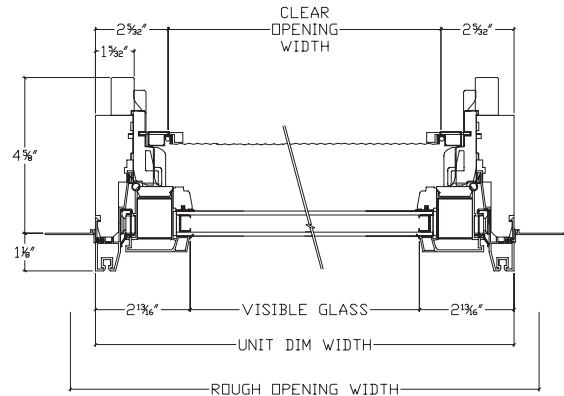
Masonry Opening - Add ½" to OSM Width and add ¾" to OSM Height.

PRODUCT	CLEAR OPENING	VENTILATION SQ. FT.	VIS. GLASS SQ. FT.
LCA 0605	17 3/16 X 15 3/16	2.1	1.8
LCA 0606	17 3/16 X 19 1/8	2.7	2.3
LCA 0607	17 3/16 X 23 1/16	3.2	2.7
LCA 0705	21 1/8 X 15 3/16	2.5	2.1
LCA 0706	21 1/8 X 19 1/8	3.2	2.7
LCA 0707	21 1/8 X 23 1/16	3.9	3.3
LCA 0805	25 1/16 X 15 3/16	3.0	2.5
LCA 0806	25 1/16 X 19 1/8	3.7	3.2
LCA 0807	25 1/16 X 23 1/16	4.5	3.9
LCA 0905	29 X 15 3/16	3.4	2.9
LCA 0906	29 X 19 1/8	4.2	3.7
LCA 0907	29 X 23 1/16	5.1	4.5
LCA 1005	32 15/16 X 15 3/16	3.8	3.3
LCA 1006	32 15/16 X 19 1/8	4.8	4.2
LCA 1007	32 15/16 X 23 1/16	5.8	5.1

NONE OF THESE PRODUCTS MEET EGRESS



VERTICAL SECTION



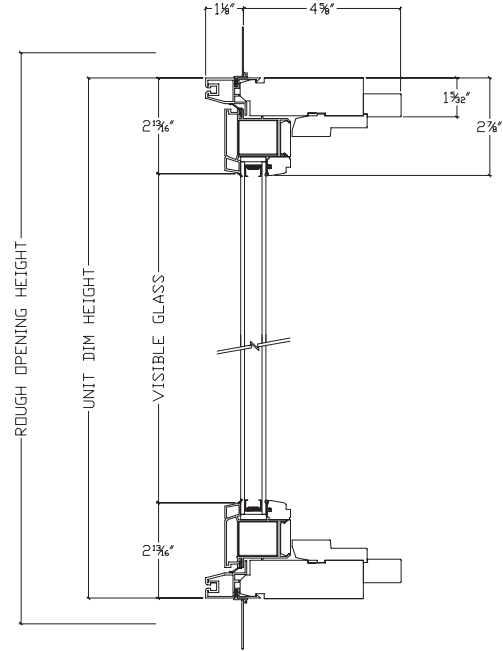
HORIZONTAL SECTION

Liberty Collection	CAN A440-M90				AAMA/NWWDA 101/I.S. 2-97		Energy Rating W/m ²	NFRC Rating BTU/hr/ft ² /°F
	Air	Water	Wind	Forced Entry	Grade	Air CFM/ft ² (m ³ /hr/m ²)		
Caribbean	A3	B7	C4	F2	AP R55 DP55	.02 (0.34)	- 10	0.34

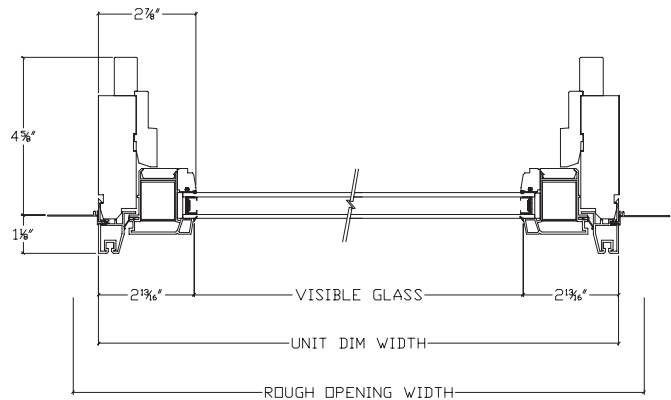
- All test results have been achieved through independent testing.
- NFRC Results are expressed as an overall U-Value and include Powerpane Plus glazing. These results are for comparison purposes only, at this time we do not participate in this program.

- Energy rating has been calculated using frame 4.0 and Vision 4 computer simulation programs and Powerpane Plus glazing. A lower negative number indicates better insulating performance.

PRODUCT	VIS. GLASS SQ. FT.	PRODUCT	VIS. GLASS SQ. FT.
LFL 0404	0.7	LFL 0807	3.9
LFL 0405	1.0	LFL 0808	4.7
LFL 0406	1.3	LFL 0809	5.4
LFL 0407	1.5	LFL 0810	6.1
LFL 0408	1.8	LFL 0812	7.5
LFL 0409	2.1	LFL 0814	8.9
LFL 0410	2.4	LFL 0815	9.6
LFL 0412	2.9	LFL 0816	10.3
LFL 0414	3.5	LFL 0818	11.7
LFL 0415	3.8	LFL 0904	2.1
LFL 0416	4.0	LFL 0905	2.9
LFL 0418	4.6	LFL 0906	3.7
LFL 0504	1.0	LFL 0907	4.5
LFL 0505	1.4	LFL 0908	5.4
LFL 0506	1.8	LFL 0909	6.2
LFL 0507	2.1	LFL 0910	7.0
LFL 0508	2.5	LFL 0912	8.6
LFL 0509	2.9	LFL 0914	10.3
LFL 0510	3.3	LFL 0915	11.1
LFL 0512	4.1	LFL 0916	11.9
LFL 0514	4.8	LFL 0918	13.5
LFL 0515	5.2	LFL 1004	2.4
LFL 0516	5.6	LFL 1005	3.3
LFL 0518	6.4	LFL 1006	4.2
LFL 0604	1.3	LFL 1007	5.1
LFL 0605	1.8	LFL 1008	6.1
LFL 0606	2.3	LFL 1009	7.0
LFL 0607	2.7	LFL 1010	7.9
LFL 0608	3.2	LFL 1012	9.8
LFL 0609	3.7	LFL 1014	11.6
LFL 0610	4.2	LFL 1015	12.5
LFL 0612	5.2	LFL 1016	13.5
LFL 0614	6.2	LFL 1018	15.3
LFL 0615	6.7	LFL 1204	2.9
LFL 0616	7.2	LFL 1205	4.1
LFL 0618	8.2	LFL 1206	5.2
LFL 0704	1.5	LFL 1207	6.3
LFL 0705	2.1	LFL 1208	7.5
LFL 0706	2.7	LFL 1209	8.6
LFL 0707	3.3	LFL 1210	9.8
LFL 0708	3.9	LFL 1212	12.0
LFL 0709	4.5	LFL 1214	14.3
LFL 0710	5.1	LFL 1215	15.5
LFL 0712	6.3	LFL 1216	16.6
LFL 0714	7.5	LFL 1218	18.9
LFL 0715	8.1		
LFL 0716	8.7		
LFL 0718	9.9		
LFL 0804	1.8		
LFL 0805	2.5		
LFL 0806	3.2		



VERTICAL SECTION



HORIZONTAL SECTION

Liberty Collection	CAN A440-M90				AAMA/NWWDA 101/I.S. 2-97		Energy Rating W/m ²	NFRC Rating BTU/hr/ft ² /°F
	Air	Water	Wind	Forced Entry	Grade	Air CFM/ft ² (m ³ /hr/m ²)		
Fixed Lite	Fixed	B7	C5	N/A	F R90 DP90	.00 (0.05)	- 4	0.33

- All test results have been achieved through independent testing.
- NFRC Results are expressed as an overall U-Value and include Powerpane Plus glazing. These results are for comparison purposes only; at this time we do not participate in this program.

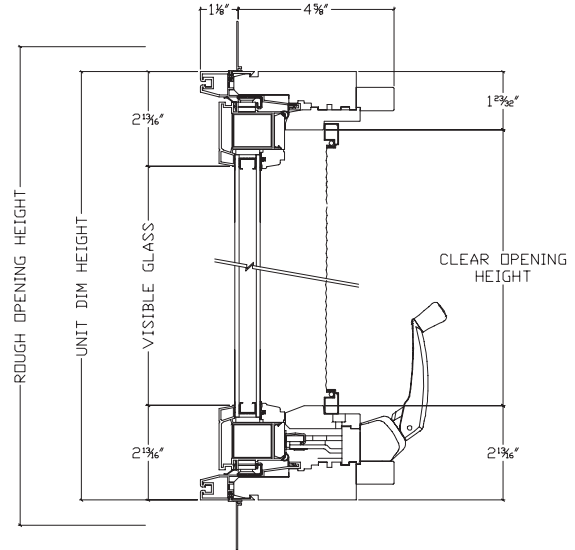
- Energy rating has been calculated using frame 4.0 and Vision 4 computer simulation programs and Powerpane Plus glazing. A lower negative number indicates better insulating performance.

Liberty Tudor (LTU) - Casement

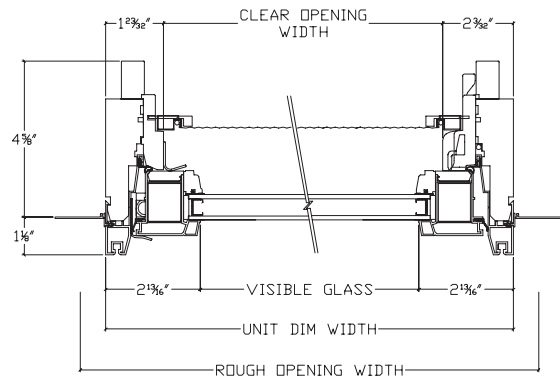
TECHNICAL INFORMATION

PRODUCT	CLEAR OPENING	VENTILATION SQ. FT.	EGRESS	VIS. GLASS SQ. FT.
LTU 0408	7 5/16 X 26 31/32	2.3		1.8
LTU 0409	7 5/16 X 30 29/32	2.6		2.1
LTU 0410	7 5/16 X 34 27/32	3.0		2.4
LTU 0412	7 5/16 X 42 23/32	3.7		2.9
LTU 0414	7 5/16 X 50 19/32	4.3		3.5
LTU 0415	7 5/16 X 54 17/32	4.7		3.8
LTU 0416	7 5/16 X 58 15/32	5.0		4.0
LTU 0418	7 5/16 X 66 11/32	5.7		4.6
LTU 0508	11 1/4 X 26 31/32	3.0		2.5
LTU 0509	11 1/4 X 30 29/32	3.5		2.9
LTU 0510	11 1/4 X 34 27/32	3.9		3.3
LTU 0512	11 1/4 X 42 23/32	4.8		4.1
LTU 0514	11 1/4 X 50 19/32	5.7		4.8
LTU 0515	11 1/4 X 54 17/32	6.2		5.2
LTU 0516	11 1/4 X 58 15/32	6.6		5.6
LTU 0518	11 1/4 X 66 11/32	7.5		6.4
LTU 0608	15 3/16 X 26 31/32	3.8		3.2
LTU 0609	15 3/16 X 30 29/32	4.3		3.7
LTU 0610	15 3/16 X 34 27/32	4.9		4.2
LTU 0612	15 3/16 X 42 23/32	6.0	●	5.2
LTU 0614	15 3/16 X 50 19/32	7.1	●	6.2
LTU 0615	15 3/16 X 54 17/32	7.6	●	6.7
LTU 0616	15 3/16 X 58 15/32	8.2	●	7.2
LTU 0618	15 3/16 X 66 11/32	9.3	●	8.2
LTU 0708	19 1/8 X 26 31/32	4.5	+	3.9
LTU 0709	19 1/8 X 30 29/32	5.2	●	4.5
LTU 0710	19 1/8 X 34 27/32	5.8	●	5.1
LTU 0712	19 1/8 X 42 23/32	7.2	● *	6.3
LTU 0714	19 1/8 X 50 19/32	8.5	● *	7.5
LTU 0715	19 1/8 X 54 17/32	9.1	● *	8.1
LTU 0716	19 1/8 X 58 15/32	9.8	● *	8.7
LTU 0718	19 1/8 X 66 11/32	11.1	● *	9.9
LTU 0808	23 1/16 X 26 31/32	5.3	●	4.7
LTU 0809	23 1/16 X 30 29/32	6.0	●	5.4
LTU 0810	23 1/16 X 34 27/32	6.8	● *	6.1
LTU 0812	23 1/16 X 42 23/32	8.3	● ▲	7.5
LTU 0814	23 1/16 X 50 19/32	9.9	● ▲	8.9
LTU 0815	23 1/16 X 54 17/32	10.6	● ▲	9.6
LTU 0816	23 1/16 X 58 15/32	11.4	● ▲	10.3
LTU 0818	23 1/16 X 66 11/32	12.9	● ▲	11.7
LTU 0908	27 X 26 31/32	6.0	●	5.4
LTU 0909	27 X 30 29/32	6.9	● ▲	6.2
LTU 0910	27 X 34 27/32	7.7	● ▲	7.0
LTU 0912	27 X 42 23/32	9.5	● ▲	8.6
LTU 0914	27 X 50 19/32	11.2	● ▲	10.3
LTU 0915	27 X 54 17/32	12.1	● ▲	11.1
LTU 0916	27 X 58 15/32	13.0	● ▲	11.9

- MEETS OBC/NBC REQUIREMENTS FOR EGRESS
- ▲ MEETS BOCA/IBC REQUIREMENTS FOR EGRESS
- * MEETS BOCA/IBC REQUIREMENTS FOR EGRESS WITH EGRESS HINGE
- + MEETS OBC/NBC REQUIREMENTS FOR EGRESS WITH EGRESS HINGE



VERTICAL SECTION



HORIZONTAL SECTION

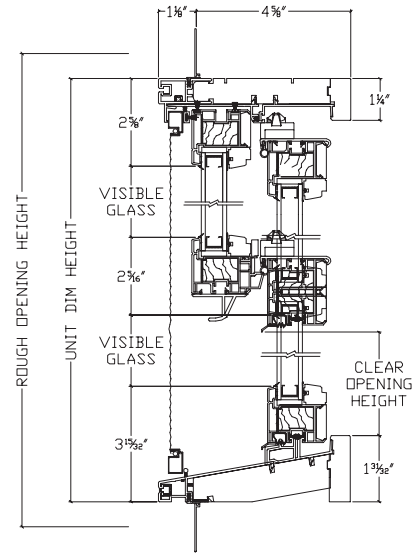
Liberty Collection	CAN A440-M90				AAMA/NWWDA 101/I.S. 2-97		Energy Rating W/m ²	NFRC Rating BTU/hr/ft ² /°F
	Air	Water	Wind	Forced Entry	Grade	Air CFM/ft ² (m ³ /hr/m ²)		
Tudor	A3	B7	C4	F2	C R55 DP55	.02 (0.34)	- 10	0.34

- All test results have been achieved through independent testing.
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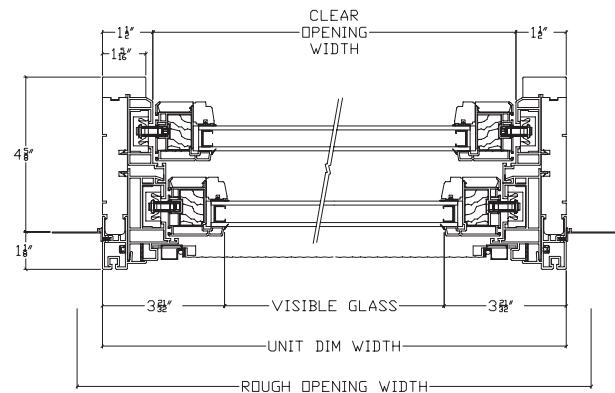
- Energy rating has been calculated using frame 4.0 and Vision 4 computer simulation programs and Powerpane Plus glazing. A lower negative number indicates better insulating performance.

PRODUCT	CLEAR OPENING	VENTILATION SQ. FT.	EGRESS	VIS. GLASS SQ. FT.
LTW 2237	17 7/8 X 13 31/32	1.7		2.7
LTW 2241	17 7/8 X 15 31/32	2.0		3.1
LTW 2249	17 7/8 X 19 31/32	2.5		3.9
LTW 2253	17 7/8 X 21 31/32	2.7		4.3
LTW 2257	17 7/8 X 23 31/32	3.0		4.7
LTW 2265	17 7/8 X 27 31/32	3.5		5.5
LTW 2273	17 7/8 X 31 31/32	4.0	●	6.3
LTWC 2265	17 7/8 X 23 31/32	3.0		5.6
LTWC 2273	17 7/8 X 27 31/32	3.5		6.4
LTW 2637	21 7/8 X 13 31/32	2.1		3.5
LTW 2641	21 7/8 X 15 31/32	2.4		4.0
LTW 2649	21 7/8 X 19 31/32	3.0		5.0
LTW 2653	21 7/8 X 21 31/32	3.3		5.6
LTW 2657	21 7/8 X 23 31/32	3.6		6.1
LTW 2665	21 7/8 X 27 31/32	4.3	●	7.1
LTW 2673	21 7/8 X 31 31/32	4.9	●	8.1
LTWC 2665	21 7/8 X 23 31/32	3.6		7.1
LTWC 2673	21 7/8 X 27 31/32	4.3	●	8.1
LTW 3037	25 7/8 X 13 31/32	2.5		4.3
LTW 3041	25 7/8 X 15 31/32	2.9		4.9
LTW 3049	25 7/8 X 19 31/32	3.6		6.1
LTW 3053	25 7/8 X 21 31/32	4.0	●	6.8
LTW 3057	25 7/8 X 23 31/32	4.3	●	7.4
LTW 3065	25 7/8 X 27 31/32	5.0	●	8.6
LTW 3073	25 7/8 X 31 31/32	5.7	●▲	9.9
LTWC 3065	25 7/8 X 23 31/32	4.3	●	8.6
LTWC 3073	25 7/8 X 27 31/32	5.0	●	9.9
LTW 3437	29 7/8 X 13 31/32	2.9		5.0
LTW 3441	29 7/8 X 15 31/32	3.3		5.8
LTW 3449	29 7/8 X 19 31/32	4.1	●	7.2
LTW 3453	29 7/8 X 21 31/32	4.6	●	8.0
LTW 3457	29 7/8 X 23 31/32	5.0	●	8.7
LTW 3465	29 7/8 X 27 31/32	5.8	●▲	10.2
LTW 3473	29 7/8 X 31 31/32	6.6	●▲	11.6
LTWC 3465	29 7/8 X 23 31/32	5.0	●	10.2
LTWC 3473	29 7/8 X 27 31/32	5.8	●▲	11.7
LTW 3837	34 7/8 X 13 31/32	3.3		5.8
LTW 3841	34 7/8 X 15 31/32	3.8	●	6.6
LTW 3849	34 7/8 X 19 31/32	4.7	●	8.3
LTW 3853	34 7/8 X 21 31/32	5.2	●	9.2
LTW 3857	34 7/8 X 23 31/32	5.6	●▲	10.0
LTW 3865	34 7/8 X 27 31/32	6.6	●▲	11.7
LTW 3873	34 7/8 X 31 31/32	7.5	●▲	13.4
LTWC 3865	34 7/8 X 23 31/32	5.6	●▲	11.7
LTWC 3873	34 7/8 X 27 31/32	6.6	●▲	13.4
LTW 4237	37 7/8 X 13 31/32	3.7		6.6
LTW 4241	37 7/8 X 15 31/32	4.2	●	7.5
LTW 4249	37 7/8 X 19 31/32	5.3	●	9.4
LTW 4253	37 7/8 X 21 31/32	5.8	●	10.4
LTW 4257	37 7/8 X 23 31/32	6.3	●▲	11.3
LTW 4265	37 7/8 X 27 31/32	7.4	●▲	13.3
LTW 4273	37 7/8 X 31 31/32	8.4	●▲	15.2
LTWC 4265	37 7/8 X 23 31/32	6.3	●▲	13.3
LTWC 4273	37 7/8 X 27 31/32	7.4	●▲	15.2

● MEETS OBC/NBC REQUIREMENTS FOR EGRESS
▲ MEETS BOCA REQUIREMENTS FOR EGRESS



VERTICAL SECTION



HORIZONTAL SECTION

Liberty Collection	CAN A440-00				AAMA/NWWDA 101/I.S. 2-97		Energy Rating W/m ²	NFRC Rating BTU/hr/ft ² /°F
	Air	Water	Wind	Forced Entry	Grade	Air CFM/ft ² (m ³ /hr/m ²)		
Twintilt	A2	B4	C4	F20	H R55 DP55	.14 (2.59)	-12	0.37

• All test results have been achieved through independent testing.
• NFRC Results are expressed as an overall U-Value and include Powerpane Plus glazing. These results are for comparison purposes only; at this time we do not participate in this program.

• Energy rating has been calculated using frame 4.0 and Vision 4 computer simulation programs and Powerpane Plus glazing. A lower negative number indicates better insulating performance.