TURNER
ENGINEERING &
CONSULTING, INC.

1239 Jabara Ave.
North Port, FL 34288
Ph. 941-380-1574
Fax 941-584-8591

1.0 Product Manufacturer: Coral Architectural Products
3010 Rice Mine Road
Tuscaloosa, AL 35406

2.0 Product Model: FL550 Storefront

3.0 Operator Type: Glazed Wall Window Wall O-O

4.0 Simulations Performed: Thermal simulations were performed in accordance with AAMA 507-07, *Standard Practice for Determining the Thermal Performance Characteristics of Fenestration Systems Installed in Commercial Buildings*, using NFRC-approved simulation programs WINDOW6.3 and THERM6.3, and current versions of NFRC 100-2010 and NFRC 200-2010.

5.0 Framing Type: Painted aluminum (AL) all members.

6.0 Sash Type: N/A

7.0 Grilles: N/A

8.0 Weatherstripping: N/A

9.0 Hardware: N/A

10.0 Edge-of-Glass Construction: Glazed in pockets with interior and exterior EPDM gaskets.

11.0 I.G. Spacer Type: Generic aluminum box spacer, with 0.01" PIB primary seals between spacer and glass, and .181" depth silicone secondary sealant, was utilized for all simulations.

12.0 Grouping: N/A

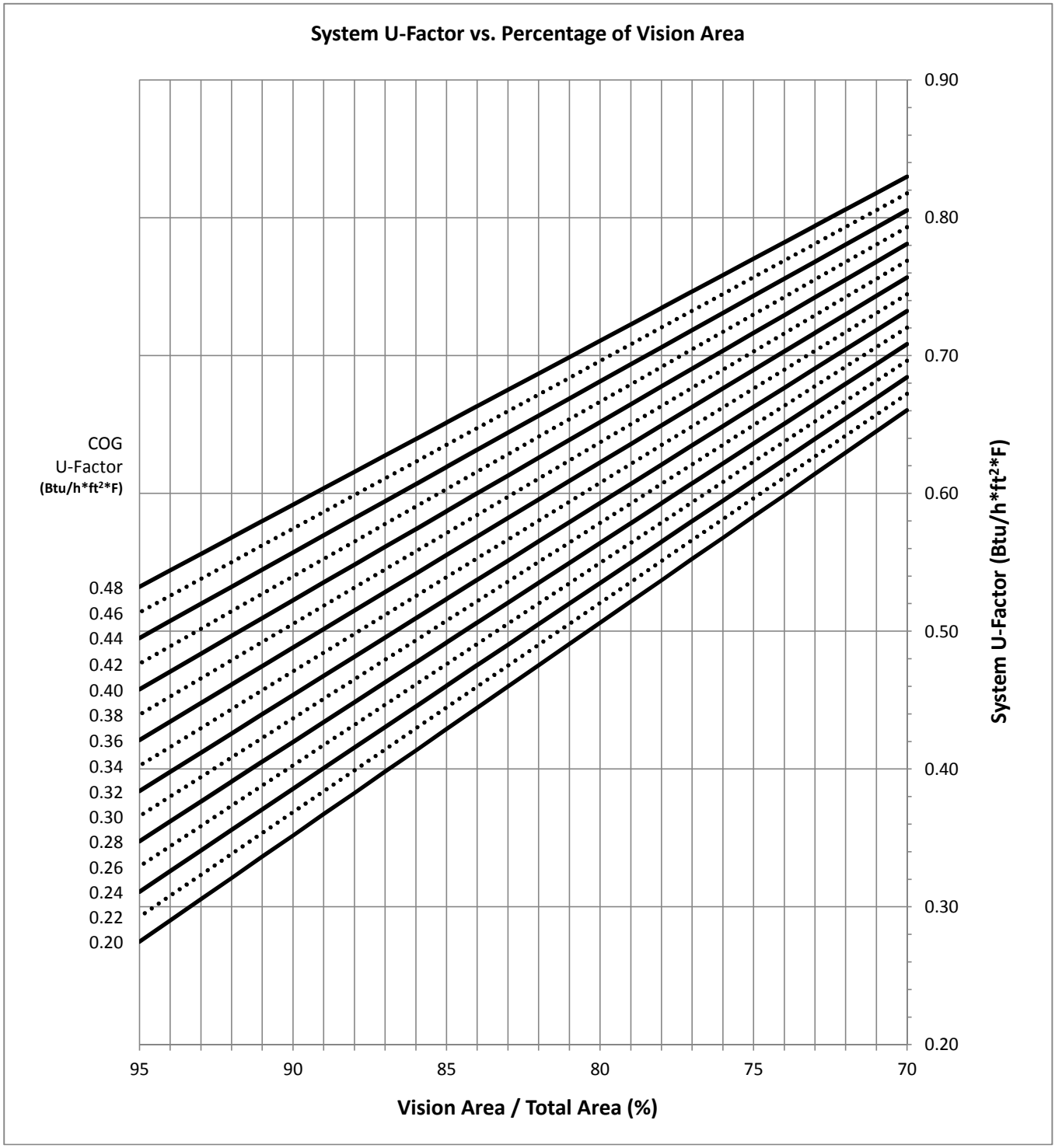
13.0 Simulation Software: Simulations were performed using NFRC-approved simulation programs WINDOW6.3 and THERM6.3, in accordance with current versions of NFRC 100-2010, NFRC 200-2010, and NFRC 500-2010.

14.0 Drawings: This report is incomplete if not accompanied by component and assembly drawings of the indicated product, provided by Coral, totaling 6 pages, bearing the initialed stamp of Turner Engineering & Consulting, Inc.

15.0 Simulation Results: Please see the following charts and tables.

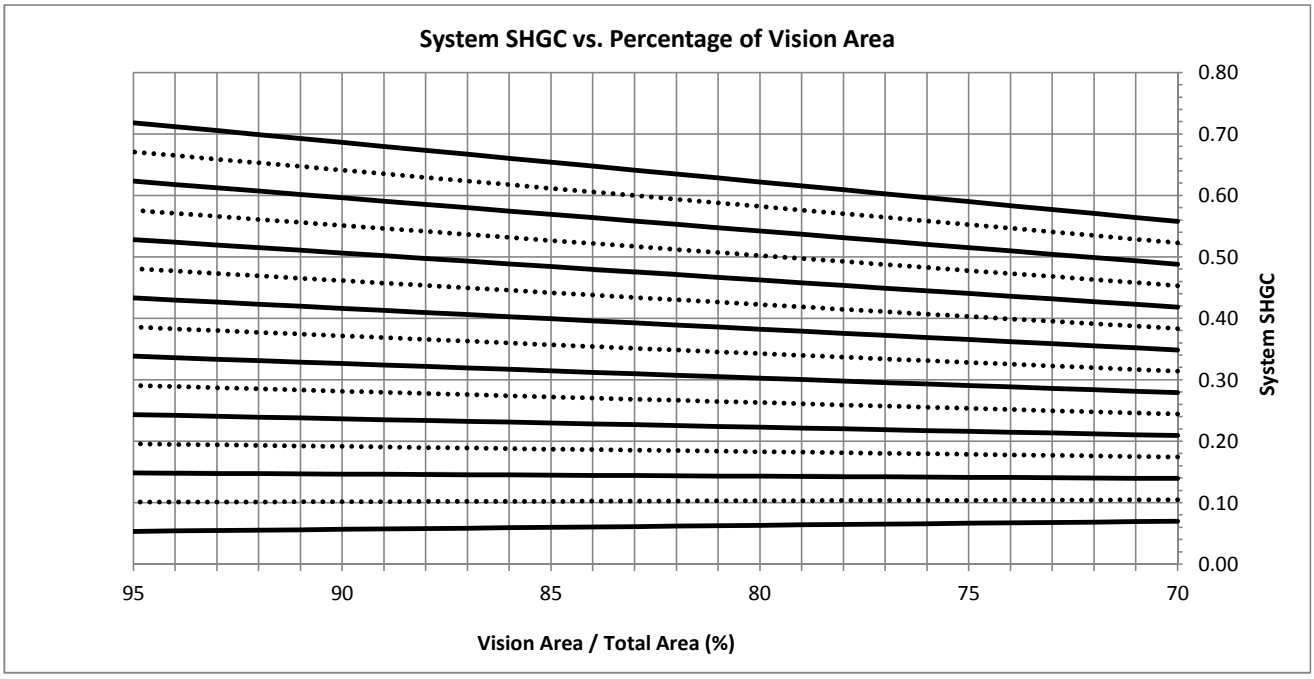
TURNER
ENGINEERING &
CONSULTING, INC.

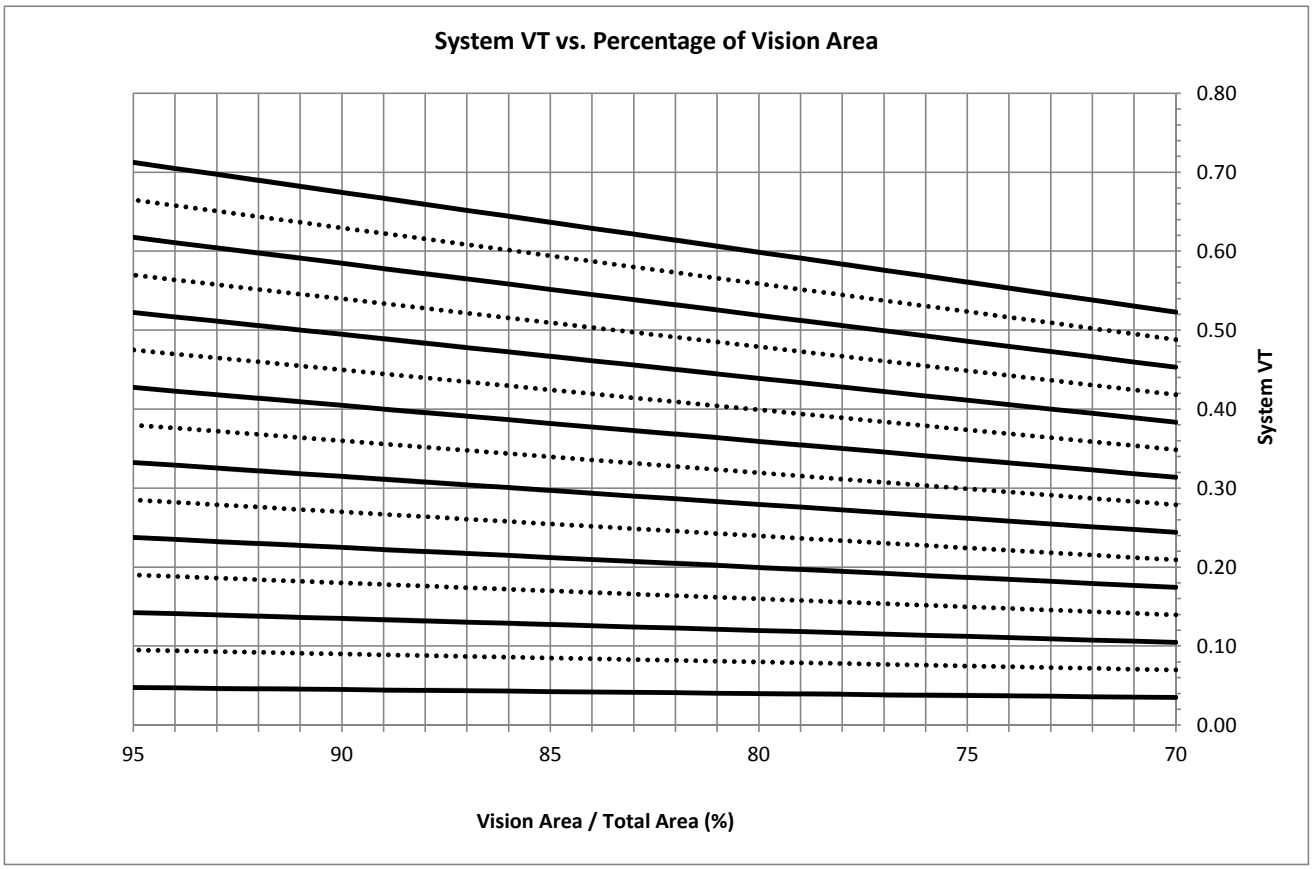
1239 Jabara Ave.
North Port, FL 34288
Ph. 941-380-1574
Fax 941-584-8591



TURNER
ENGINEERING &
CONSULTING, INC.

1239 Jabara Ave.
North Port, FL 34288
Ph. 941-380-1574
Fax 941-584-8591





TURNER
ENGINEERING &
CONSULTING, INC.

1239 Jabara Ave.
North Port, FL 34288
Ph. 941-380-1574
Fax 941-584-8591

Size-Specific U-Factor (Btu/h-ft2-F) Matrix: NFRC Standard Size (78.740'' x 78.740'')

Glazing Option	Center-of-Glass U-Factor	Overall U-Factor
1	0.48	0.64
2	0.46	0.62
3	0.44	0.61
4	0.42	0.59
5	0.40	0.58
6	0.38	0.56
7	0.36	0.54
8	0.34	0.53
9	0.32	0.51
10	0.30	0.50
11	0.28	0.48
12	0.26	0.47
13	0.24	0.45
14	0.22	0.43
15	0.20	0.42

Size-Specific SHGC Matrix:
NFRC Standard Size (78.740'' x 78.740'')

Center-of-Glass SHGC	Overall SHGC
0.75	0.66
0.70	0.62
0.65	0.57
0.60	0.53
0.55	0.49
0.50	0.45
0.45	0.40
0.40	0.36
0.35	0.32
0.30	0.27
0.25	0.23
0.20	0.19
0.15	0.15
0.10	0.10
0.05	0.06

Size-Specific VT Matrix:
NFRC Standard Size (78.740'' x 78.740'')

Center-of-Glass VT	Overall VT
0.75	0.64
0.70	0.60
0.65	0.56
0.60	0.51
0.55	0.47
0.50	0.43
0.45	0.39
0.40	0.34
0.35	0.30
0.30	0.26
0.25	0.21
0.20	0.17
0.15	0.13
0.10	0.09
0.05	0.04

TURNER
ENGINEERING &
CONSULTING, INC.

1239 Jabara Ave.
North Port, FL 34288
Ph. 941-380-1574
Fax 941-584-8591

Glazing Option	NFRC COG U-Factor (Btu/h-ft2-F) *	NFRC COG Temperature (F) *	Frame Section	Frame Width (in.)	Frame U-factor (Btu/h-ft2-F)	Edge U-Factor (Btu/h-ft2-F)	Size Specific Data **		
							70% Vision Area	NFRC 100 Standard Size (85.8% Vision Area)	95% Vision Area
							35.316" x 35.316"	78.740" x 78.740"	229.805" x 229.805"
1	**0.48**	44.0	L Head	2.7546	1.2545	0.4990	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.5046	1.8704	0.5043	0.4820	0.4678	0.4729
			L Sill	2.8796	1.4788	0.5030	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.7546	1.2545	0.4990	**0.83**	**0.64**	**0.53**
			R Jamb	1.5046	1.8455	0.5048			
			R Sill	2.8796	1.4788	0.5030			
			Int. Vert.	3.0092	1.8580	0.5045			
2	**0.46**	45.0	L Head	2.7546	1.2542	0.4851	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.5046	1.8703	0.4906	0.4619	0.4487	0.4529
			L Sill	2.8796	1.4789	0.4894	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.7546	1.2542	0.4851	**0.82**	**0.62**	**0.51**
			R Jamb	1.5046	1.8455	0.4912			
			R Sill	2.8796	1.4789	0.4894			
			Int. Vert.	3.0092	1.8579	0.4909			
3	**0.44**	46.1	L Head	2.7546	1.2538	0.4708	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.5046	1.8704	0.4764	0.4417	0.4298	0.4329
			L Sill	2.8796	1.4790	0.4753	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.7546	1.2538	0.4708	**0.81**	**0.61**	**0.50**
			R Jamb	1.5046	1.8456	0.4770			
			R Sill	2.8796	1.4790	0.4753			
			Int. Vert.	3.0092	1.8580	0.4767			
4	**0.42**	47.1	L Head	2.7546	1.2535	0.4565	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.5046	1.8704	0.4623	0.4215	0.4107	0.4130
			L Sill	2.8796	1.4791	0.4613	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.7546	1.2535	0.4565	**0.79**	**0.59**	**0.48**
			R Jamb	1.5046	1.8457	0.4630			
			R Sill	2.8796	1.4791	0.4613			
			Int. Vert.	3.0092	1.8581	0.4626			
5	**0.40**	48.1	L Head	2.7546	1.2532	0.4423	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.5046	1.8705	0.4482	0.4014	0.3914	0.3929
			L Sill	2.8796	1.4793	0.4473	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.7546	1.2532	0.4423	**0.78**	**0.58**	**0.46**
			R Jamb	1.5046	1.8459	0.4490			
			R Sill	2.8796	1.4793	0.4473			
			Int. Vert.	3.0092	1.8582	0.4486			

* NFRC COG U-factor and Temperature are calculated at the standard NFRC size of 1 meter glazing height. The Size Specific COG U-factors are calculated at the actual product height.
** All product sizes and areas calculated using NFRC centerline approach on verticals.

TURNER
ENGINEERING &
CONSULTING, INC.

1239 Jabara Ave.
North Port, FL 34288
Ph. 941-380-1574
Fax 941-584-8591

Glazing Option	NFRC COG U-Factor (Btu/h-ft2-F) *	NFRC COG Temperature (F) *	Frame Section	Frame Width (in.)	Frame U-factor (Btu/h-ft2-F)	Edge U-Factor (Btu/h-ft2-F)	Size Specific Data **		
							70% Vision Area	NFRC 100 Standard Size (85.8% Vision Area)	95% Vision Area
							35.316" x 35.316"	78.740" x 78.740"	229.805" x 229.805"
6	**0.38**	49.2	L Head	2.7546	1.2529	0.4281	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.5046	1.8706	0.4342	0.3813	0.3724	0.3732
			L Sill	2.8796	1.4794	0.4334	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.7546	1.2529	0.4281	**0.77**	**0.56**	**0.44**
			R Jamb	1.5046	1.8461	0.4351			
			R Sill	2.8796	1.4794	0.4334			
			Int. Vert.	3.0092	1.8583	0.4347			
7	**0.36**	50.2	L Head	2.7546	1.2526	0.4140	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.5046	1.8707	0.4203	0.3611	0.3532	0.3534
			L Sill	2.8796	1.4796	0.4196	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.7546	1.2526	0.4140	**0.76**	**0.54**	**0.42**
			R Jamb	1.5046	1.8462	0.4212			
			R Sill	2.8796	1.4796	0.4196			
			Int. Vert.	3.0092	1.8584	0.4208			
8	**0.34**	51.3	L Head	2.7546	1.2523	0.4000	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.5046	1.8708	0.4065	0.3410	0.3338	0.3335
			L Sill	2.8796	1.4774	0.4051	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.7546	1.2523	0.4000	**0.74**	**0.53**	**0.40**
			R Jamb	1.5046	1.8464	0.4074			
			R Sill	2.8796	1.4774	0.4051			
			Int. Vert.	3.0092	1.8586	0.4069			
9	**0.32**	52.3	L Head	2.7546	1.2521	0.3861	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.5046	1.8709	0.3927	0.3209	0.3145	0.3137
			L Sill	2.8796	1.4776	0.3914	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.7546	1.2521	0.3861	**0.73**	**0.51**	**0.38**
			R Jamb	1.5046	1.8466	0.3937			
			R Sill	2.8796	1.4776	0.3914			
			Int. Vert.	3.0092	1.8587	0.3932			
10	**0.30**	53.4	L Head	2.7546	1.2518	0.3722	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.5046	1.8710	0.3790	0.3008	0.2953	0.2942
			L Sill	2.8796	1.4777	0.3777	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.7546	1.2518	0.3722	**0.72**	**0.50**	**0.37**
			R Jamb	1.5046	1.8468	0.3800			
			R Sill	2.8796	1.4777	0.3777			
			Int. Vert.	3.0092	1.8589	0.3795			

* NFRC COG U-factor and Temperature are calculated at the standard NFRC size of 1 meter glazing height. The Size Specific COG U-factors are calculated at the actual product height.
** All product sizes and areas calculated using NFRC centerline approach on verticals.

TURNER
ENGINEERING &
CONSULTING, INC.

1239 Jabara Ave.
North Port, FL 34288
Ph. 941-380-1574
Fax 941-584-8591

Glazing Option	NFRC COG U-Factor (Btu/h-ft2-F) *	NFRC COG Temperature (F) *	Frame Section	Frame Width (in.)	Frame U-factor (Btu/h-ft2-F)	Edge U-Factor (Btu/h-ft2-F)	Size Specific Data **		
							70% Vision Area	NFRC 100 Standard Size (85.8% Vision Area)	95% Vision Area
							35.316" x 35.316"	78.740" x 78.740"	229.805" x 229.805"
11	**0.28**	54.4	L Head	2.7546	1.2516	0.3583	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.5046	1.8711	0.3653	0.2807	0.2759	0.2745
			L Sill	2.8796	1.4779	0.3641	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.7546	1.2516	0.3583	**0.71**	**0.48**	**0.35**
			R Jamb	1.5046	1.8470	0.3663			
			R Sill	2.8796	1.4779	0.3641			
			Int. Vert.	3.0092	1.8591	0.3658			
12	**0.26**	55.5	L Head	2.7546	1.2513	0.3445	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.5046	1.8713	0.3516	0.2606	0.2565	0.2549
			L Sill	2.8796	1.4781	0.3505	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.7546	1.2513	0.3445	**0.70**	**0.47**	**0.33**
			R Jamb	1.5046	1.8472	0.3527			
			R Sill	2.8796	1.4781	0.3505			
			Int. Vert.	3.0092	1.8592	0.3522			
13	**0.24**	56.5	L Head	2.7546	1.2511	0.3308	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.5046	1.8714	0.3380	0.2405	0.2370	0.2353
			L Sill	2.8796	1.4782	0.3369	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.7546	1.2511	0.3308	**0.68**	**0.45**	**0.31**
			R Jamb	1.5046	1.8474	0.3392			
			R Sill	2.8796	1.4782	0.3369			
			Int. Vert.	3.0092	1.8594	0.3386			
14	**0.22**	57.6	L Head	2.7546	1.2508	0.3171	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.5046	1.8715	0.3245	0.2204	0.2175	0.2157
			L Sill	2.8796	1.4784	0.3234	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.7546	1.2508	0.3171	**0.67**	**0.43**	**0.29**
			R Jamb	1.5046	1.8476	0.3257			
			R Sill	2.8796	1.4784	0.3234			
			Int. Vert.	3.0092	1.8596	0.3251			
15	**0.20**	58.7	L Head	2.7546	1.2507	0.3033	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.5046	1.8718	0.3109	0.2003	0.1979	0.1962
			L Sill	2.8796	1.4786	0.3098	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.7546	1.2507	0.3033	**0.66**	**0.42**	**0.27**
			R Jamb	1.5046	1.8479	0.3121			
			R Sill	2.8796	1.4786	0.3098			
			Int. Vert.	3.0092	1.8598	0.3115			

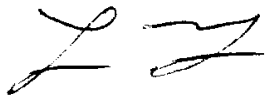
* NFRC COG U-factor and Temperature are calculated at the standard NFRC size of 1 meter glazing height. The Size Specific COG U-factors are calculated at the actual product height.
** All product sizes and areas calculated using NFRC centerline approach on verticals.

1239 Jabara Ave.
North Port, FL 34288
Ph. 941-380-1574
Fax 941-584-8591

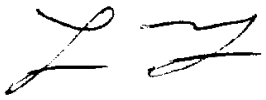
16.0 **Compliance and Disclaimer Statements:** This report shall not be reproduced, except in full, without the approval of TE&C. This report relates only to the fenestration products simulated. All rounding was performed per NFRC 601, NFRC Unit and Measurement Policy. The results obtained from this report are for controlled simulation conditions and do not include the effects of air movement through the specimen, solar radiation, and the thermal bridging that may occur due to the specific design and construction of the fenestration system opening. All simulations performed in this report were conducted in full compliance with all NFRC requirements by Turner Engineering & Consulting, Inc. TE&C does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products simulated or tested at TE&C. TE&C is not owned, operated or controlled by any company manufacturing or distributing products it simulates or tests. This report is only intended for the use of the entity named in section 1.0 of this report. A copy of this report will be retained at TE&C for a period of five (5) years.

17.0 **Simulator:** Lucas A. Turner, P.E.

18.0 **Simulator in Responsible Charge:** Lucas A. Turner, P.E., attests to the technical accuracy and content of this report.



Simulator Signature



Simulator in Responsible Charge Signature

TURNER
ENGINEERING &
CONSULTING, INC.

1239 Jabara Ave.
North Port, FL 34288
Ph. 941-380-1574
Fax 941-584-8591

Drawing Appendix

Following drawings and data provided by Client, totaling 6 pages

FL550 AAMA 507
NFRC CMAST SUBMITTAL
DRAWINGS

INDEX TO DRAWINGS	
1	INDEX TO DRAWINGS AND NOTES
2	STANDARD FRAMING ELEVATION
3	STANDARD FRAMING DETAILS
4	STANDARD FRAMING DETAILS
5	BILL OF MATERIALS
6	DIE DRAWINGS

REV	BY	DATE	DESCRIPTION
1	---	----	----------
2	---	----	----------

S:\corel logos\CAPTitlePageLogo.jpg

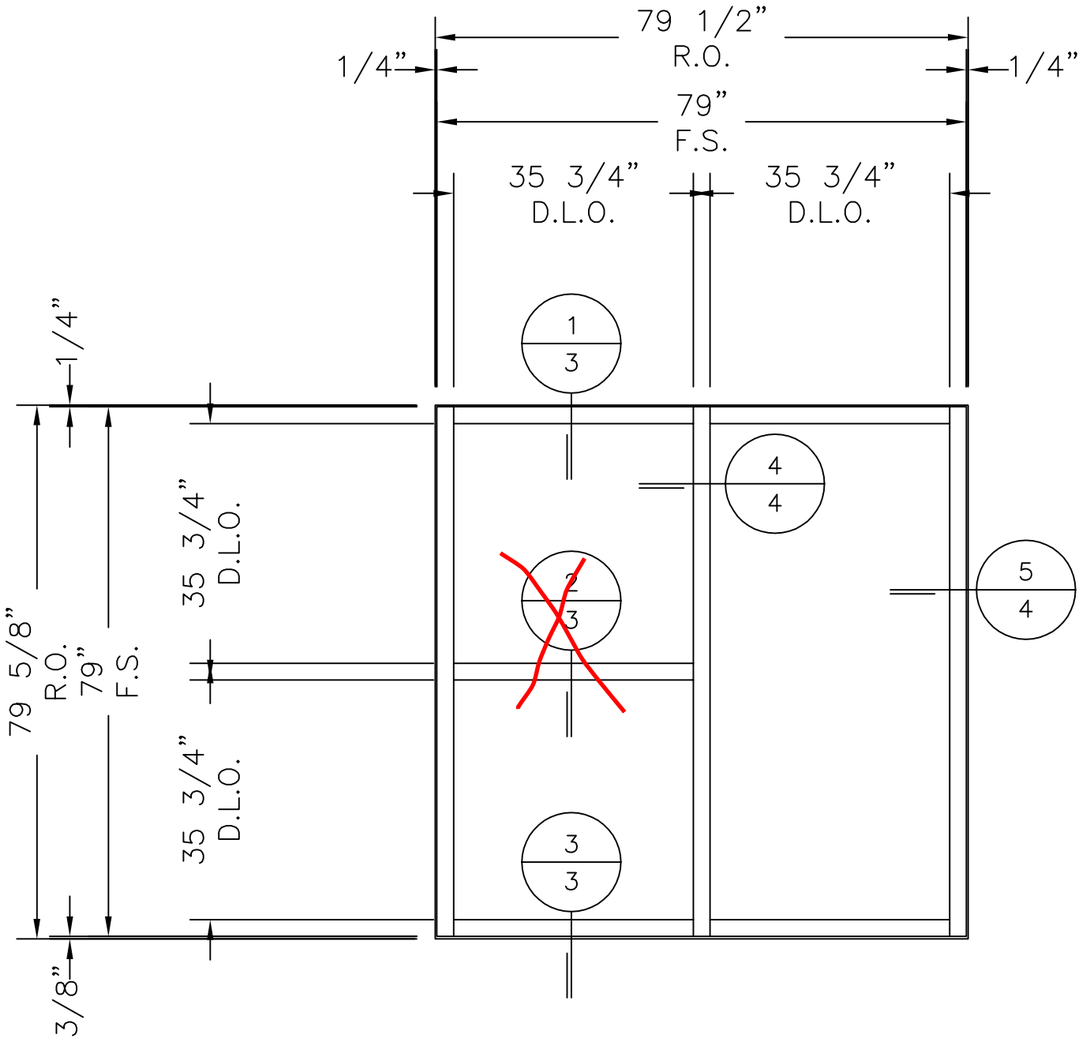
FL550 AAMA 507 SIMULATION NFRC CMAST SUBMITTAL DRAWINGS

INDEX TO DRAWINGS AND NOTES

TURNER ENGINEERING & CONSULTING, INC.

The information on this page, unless otherwise noted or stricken, is representative of the materials and profiles used in modeling performed for Report: **CAP-052115-03** Initials: ZZ

PROJECT NO.	AAMA FL550
DRAWN: MJ	DATE: 2/20/2013
CHECKED: ---	APPROVED: ---
SHEET	1



TYPICAL ELEVATION FOR FL550 AAMA 507
SIMULATION NFRC CMAST

REV	BY	DATE	DESCRIPTION
1	---	----	----------
2	---	----	----------

S:\corel logos\CAPTitlePageLogo.jpg

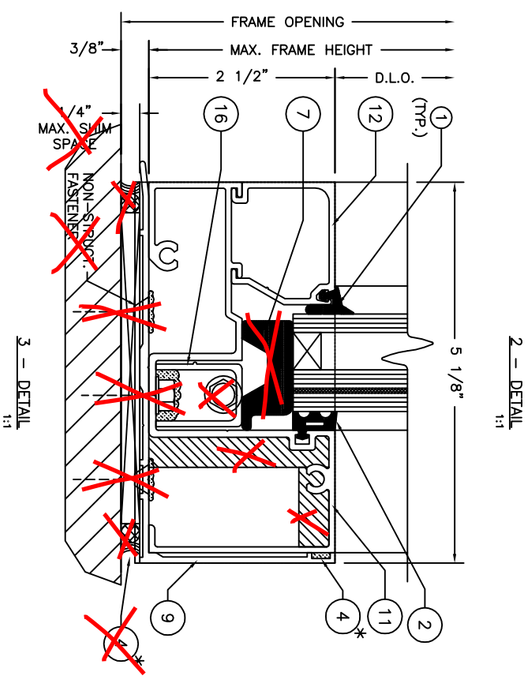
FL550 AAMA 507 SIMULATION NFRC CMAST
SUBMITTAL DRAWINGS

STANDARD FRAMING ELEVATION

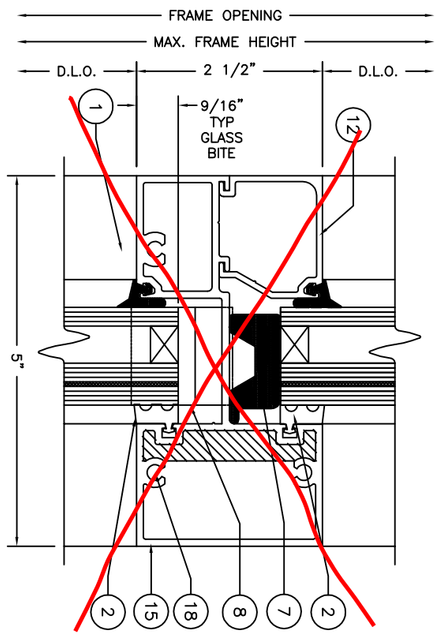
TURNER ENGINEERING & CONSULTING, INC.

The information on this page, unless otherwise noted or stricken, is representative of the materials and profiles used in modeling performed for Report: CAP-052115-03 Initials: ZZ

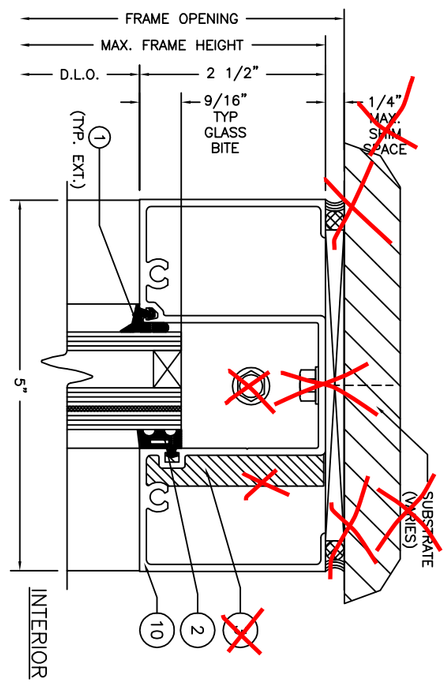
PROJECT NO.	AAMA FL550
DRAWN	MJ
DATE	5/20/2015
CHECKED	---
APPROVED	---
SHEET	2



3 — DETAIL
1:1



2 — DETAIL
1:1



1 — DETAIL
1:1

TURNER ENGINEERING & CONSULTING, INC.

The information on this page, unless otherwise noted or stricken, is representative of the materials and profiles used in modeling performed for Report:
CAP-052115-03
Initials: ZZ

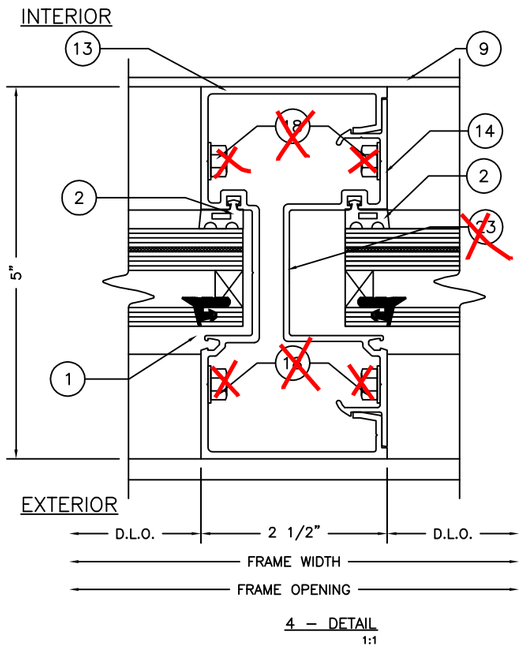
PROJECT NO.	AAMA FL550	
DRAWN	MJ	
DATE	5/20/2015	
CHECKED	---	
APPROVED	---	
SHEET	3	

FL550 AAMA 507 SIMULATION NFRC CMAST SUBMITTAL DRAWINGS

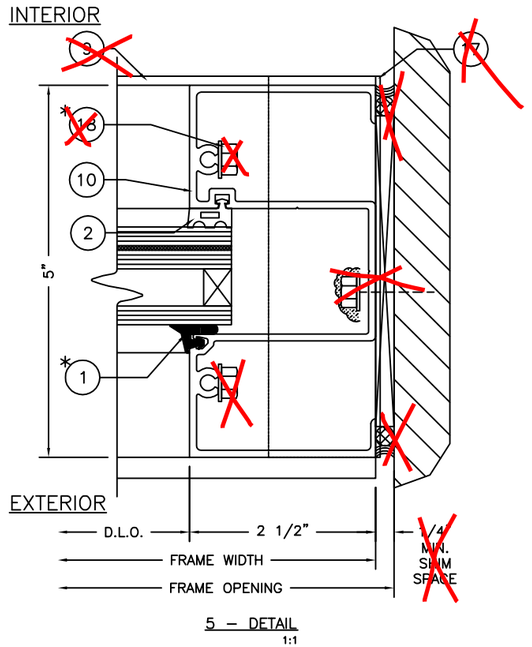
STANDARD FRAMING DETAILS

S:\coral logos\CAPTitlePageLogo.jpg

REV	BY	DATE	DESCRIPTION
2	---	----	----------
1	---	----	----------



4 – DETAIL
1:1



5 – DETAIL
1:1

VALIDATION JAMB ONLY

REV	BY	DATE	DESCRIPTION
1	---	---	---
2	---	---	---

S:\corel logos\CAPTitlePageLogo.jpg

FL550 AAMA 507 SIMULATION NFRC CMAST SUBMITTAL DRAWINGS

STANDARD FRAMING DETAILS

TURNER ENGINEERING & CONSULTING, INC.

The information on this page, unless otherwise noted or stricken, is representative of the materials and profiles used in modeling performed for Report: **CAP-052115-03** Initials: ZZ

PROJECT NO.	AAMA FL550
DRAWN	MJ
DATE	5/20/2015
CHECKED	---
APPROVED	---
SHEET	4

BILL OF MATERIALS

ITEM NO.	P/N	DESCRIPTION	DIMENSIONS	MATERIAL	MANUFACTURER	NOTES
1	NG1	EXTERIOR GLAZING GASKET	0.120 SPACE	EPDM	VARIES	
2	NG15	INTERIOR SPACER GASKET	0.250 SPACE	EPDM	VARIES	
3	SM5801	JOINT SEALANT TAPE	0.500 X 0.125 X VARIES	BUTYL	SCHNEE-MOOREHEAD	
5	995	SILICONE - GLASS TO METAL	FILL SPACE	SILICONE	DOW CORNING	GLASS TO METAL AND INTERNAL
6	FL515-1	FLAT FILLER	0.681 X 4.658 X 0.070	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
7	SB15	SETTING BLOCK @ SILL & HORIZONTAL	0.687 X 1.468 X 4.000	EPDM	VARIES	2 PER LITE
8	WD300-1	WATER DIVERTER	1.358 X 1.344 X 4.000	INJECTION MOLDED PLASTIC	CORAL INDUSTRIES, INC.	@ EACH END OF HORIZONTAL
9	FL519	SUBSILL FLASHING	2.620 X 5.402 X 0.084	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
10	FL551	HEAD OR WALL JAMB	2.500 X 5.000 X 0.094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
11	FL552	SILL OR HEAD	2.500 X 4.980 X 0.094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
12	FL553	GLASS STOP	1.250 X 1.646 X 0.078	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
13	FL554	STD. VERTICAL MULLION	2.500 X 5.000 X 0.094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
14	FL555	OPEN BACK MULLION FILLER	0.681 X 4.670 X 0.080	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
15	FL556	INTERMEDIATE HORIZONTAL	2.500 X 4.980 X 0.094	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
16	CS500-1	SETTING CHAIR	1.156 X 0.844 X 0.078	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
17	ED519-1	SILL FLASHING END DAM	2.500 X 1.000 X 0.062	6063-T6 ALUMINUM	CORAL INDUSTRIES, INC.	
18	AS16	FASTENER	#14 X 1" HHSTS	STEEL	VARIES	TYP. SPLINE SCREW VERTICAL/HORIZONTAL JOINTS
19	NOT USED					
20	AS21	FASTENER	#6 X 1/4" PPH	STEEL	VARIES	ANCHOR (17) (ED519-1) TO (9) (FL539T)
23	AS29	FASTENER	#8 X 2" FHPUC	S. STEEL	VARIES	ANCHOR (14) FL575T TO (13) FL574T COUNTER SINK AND BREAK OFF

TURNER ENGINEERING & CONSULTING, INC.

The information on this page, unless otherwise noted or stricken, is representative of the materials and profiles used in modeling performed for Report: CAP-052115-03 Initials: ZZ

REV	BY	DATE	DESCRIPTION
1	---	---	---
2	---	---	---

S:\corel logos\CAPTitlePageLogo.jpg

FL550 AAMA 507 SIMULATION NFRC CMAST
SUBMITTAL DRAWINGS

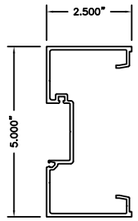
BILL OF MATERIALS

PROJECT NO. AAMA FL550

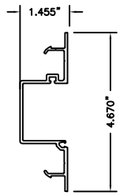
DRAWN MJ | DATE 5/20/2015

CHECKED --- | APPROVED ---

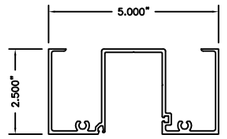
SHEET 5



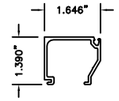
13 VERTICAL MULLION



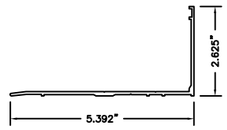
14 OPEN BACK MULLION FILLER



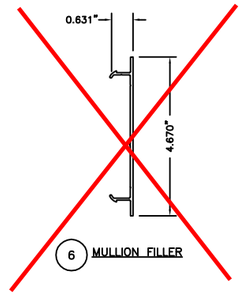
10 HEAD/SILL/HORIZONTAL TRIM



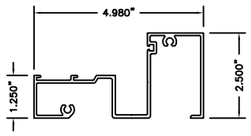
12 GLASS STOP



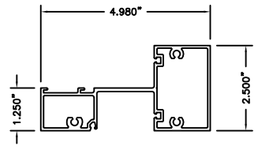
9 SUBSILL



6 MULLION FILLER

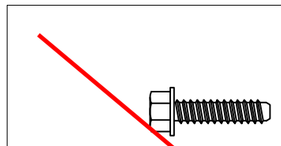


11 HEAD/SILL MULLION



15 HORIZONTAL MULLION

16 SETTING CHAIR

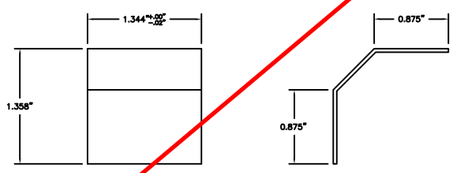


18 AS16

HALF SCALE

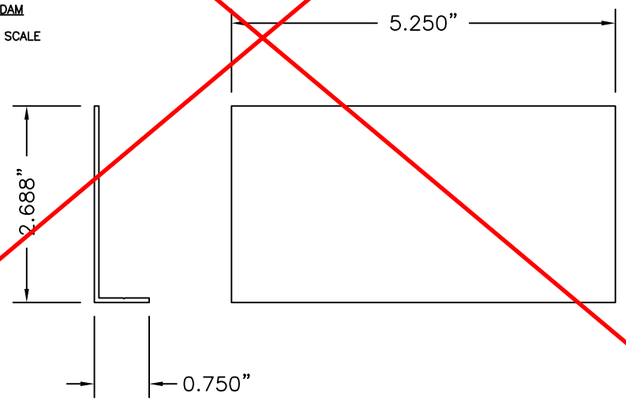
8 WATER DIVERTER

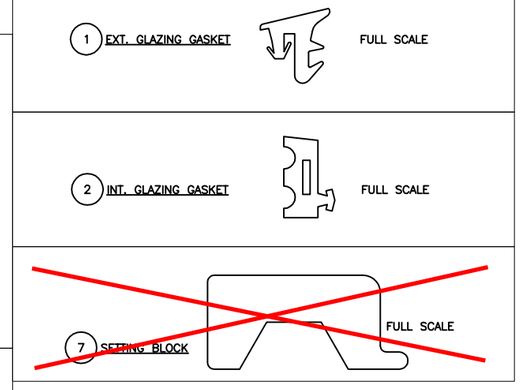
HALF SCALE



17 END DAM

HALF SCALE





TURNER ENGINEERING & CONSULTING, INC.

The information on this page, unless otherwise noted or stricken, is representative of the materials and profiles used in modeling performed for Report: CAP-052115-03 Initials: ZZ

REV	BY	DATE	DESCRIPTION
1	---	----	----------
2	---	----	----------

S:\corel logos\CAPTitlePageLogo.jpg

FL550 AAMA 507 SIMULATION NFRC CMAST SUBMITTAL DRAWINGS

DIE DRAWINGS

PROJECT NO.	AAMA FL550
DRAWN	MJ
DATE	5/20/2015
CHECKED	---
APPROVED	---
SHEET	6