

System Checksums

By MFIA Inc.

Chilled Beams-First

Active Chilled Beams

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 8 / 16			Mo/Hr: 8 / 17		Mo/Hr: Heating Design							Cooling		Heating	
Outside Air:		OADB/WB/HR: 94 / 65 / 49			OADB: 92		OADB: 22							SADB	63.8	75.0	
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total (%)	Space Sens	Tot Sens	Percent Of Total (%)	Return	Ra Plenum	75.1	69.6		
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Ret/OA	Fn MtrTD	0.2	0.0		
Envelope Loads					Envelope Loads										Fn BldTD	0.4	0.0
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	1.1	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00						
Glass Solar	34,198	0	34,198	14	41,051	20	0	0.00	0	0	0.00						
Glass/Door Cond	4,152	0	4,152	2	2,148	1	-13,561	7.35	-13,561	-13,561	7.35						
Wall Cond	3,325	402	3,726	1	2,934	1	-9,753	5.94	-9,753	-10,962	5.94						
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00						
Floor	-3,817	0	-3,817	-2	-3,755	-2	0	0.00	-7,710	-7,710	4.18						
Adjacent Floor	0	0	0	0	0	0	0	0.00	0	0	0.00						
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00						
Sub Total ==>	37,858	402	38,259	15	42,379	20	-31,023	17.46	-31,023	-32,232	17.46						
Internal Loads					Internal Loads												
Lights	24,156	0	24,156	10	24,938	12	0	0.00	0	0	0.00						
People	88,574	0	88,574	35	54,026	26	0	0.00	0	0	0.00						
Misc	31,980	0	31,980	13	33,104	16	0	0.00	0	0	0.00						
Sub Total ==>	144,709	0	144,709	57	112,068	54	0	0.00	0	0	0.00						
Ceiling Load	401	-401	0	0	352	0	-1,209	0.00	0	0	0.00						
Ventilation Load	0	0	11,064	4	0	0	0	48.61	0	-89,728	48.61						
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00						
Ov/Undr Sizing	52,876	0	52,876	21	52,876	25	0	0.00	0	0	0.00						
Exhaust Heat	0	-1,393	-1,393	-1	0	0	0	0.00	0	0	0.00						
Sup. Fan Heat	0	0	4,859	2	0	0	0	0.00	0	0	0.00						
Ret. Fan Heat	0	2,352	2,352	1	0	0	0	0.00	0	0	0.00						
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00						
Grand Total ==>	235,844	960	252,727	100.00	207,675	100.00	-32,232	100.00	-32,232	-184,582	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	2,898	2,898
Terminal	2,898	2,898
Main Fan	2,898	2,898
Sec Fan	0	0
Nom Vent	1,716	1,716
AHU Vent	1,716	1,716
Infil	0	0
MinStop/Rh	2,898	2,898
Return	2,898	2,898
Exhaust	1,716	1,716
Rm Exh	0	0
Auxiliary	38,661	38,661
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	59.2	59.2
cfm/ft²	0.28	0.28
cfm/ton	426.17	
ft²/ton	1,536.22	
Btu/hr-ft²	7.81	-13.93
No. People	222	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	6.8	81.6	68.0	2,898	86.1	64.1	57.2	55.0	52.6	57.2
Aux Clg	14.3	172.1	172.1	38,661	75.0	63.4	71.8	70.9	62.0	71.8
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	21.1	253.7								

AREAS			
	Gross Total	Glass	(%)
		ft²	
Floor	10,445		
Part	0		
Int Door	0		
ExFlr	8,415		
Roof	0	0	0
Wall	4,660	821	18
Ext Door	28	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-63.8	2,898	54.6	75.0
Aux Htg	-258.7	38,661	70.0	76.2
Preheat	-81.8	2,898	41.3	62.2
Reheat	-79.7	2,898	54.6	75.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-404.2			

System Checksums

By MFIA Inc.

Chilled Beams-second

Active Chilled Beams

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 17			Mo/Hr: 8 / 17			Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 92 / 64 / 49			OADB: 92			OADB: 22			SADB			Ra Plenum		
	Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return	Ret/OA	Fn MtrTD	Fn BldTD	Fn Frict		
	Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens								
Envelope Loads					Envelope Loads											
Skylite Solar	0	0	0	0	0	0	Skylite Solar	0	0	0.00						
Skylite Cond	0	0	0	0	0	0	Skylite Cond	0	0	0.00						
Roof Cond	0	9,516	9,516	4	0	0	Roof Cond	0	-11,072	5.60						
Glass Solar	31,953	0	31,953	12	35,523	16	Glass Solar	0	0	0.00						
Glass/Door Cond	4,589	0	4,589	2	3,450	2	Glass/Door Cond	-13,525	-13,525	6.84						
Wall Cond	3,659	366	4,025	1	4,099	2	Wall Cond	-9,735	-10,842	5.49						
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0	0.00						
Floor	0	0	0	0	0	0	Floor	0	0	0.00						
Adjacent Floor	0	0	0	0	0	0	Adjacent Floor	0	0	0						
Infiltration	0	0	0	0	0	0	Infiltration	0	0	0.00						
<i>Sub Total ==></i>	40,201	9,882	50,082	19	43,071	19	<i>Sub Total ==></i>	-23,260	-35,439	17.93						
Internal Loads					Internal Loads											
Lights	21,481	0	21,481	8	21,936	10	Lights	0	0	0.00						
People	97,832	0	97,832	36	60,629	27	People	0	0	0.00						
Misc	28,511	0	28,511	11	29,118	13	Misc	0	0	0.00						
<i>Sub Total ==></i>	147,824	0	147,824	55	111,683	50	<i>Sub Total ==></i>	0	0	0.00						
Ceiling Load	9,882	-9,882	0	0	9,848	4	Ceiling Load	-12,179	0	0.00						
Ventilation Load	0	0	4,946	2	0	0	Ventilation Load	0	-93,293	47.21						
Adj Air Trans Heat	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0						
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	1	1	0.00						
Ov/Undr Sizing	59,827		59,827	22	59,827	27	Exhaust Heat		0	0.00						
Exhaust Heat		-1,586	-1,586	-1			OA Preheat Diff.		0	0.00						
Sup. Fan Heat			5,611	2			RA Preheat Diff.		0	0.00						
Ret. Fan Heat		2,834	2,834	1			Additional Reheat		-68,902	34.86						
Duct Heat Pkup		0	0	0			Underflr Sup Ht Pkup		0	0.00						
Underflr Sup Ht Pkup			0	0			Supply Air Leakage		0	0.00						
Supply Air Leakage		0	0	0												
<i>Grand Total ==></i>	257,733	1,248	269,539	100.00	224,429	100.00	<i>Grand Total ==></i>	-35,439	-197,634	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	3,188	3,188
Terminal	3,188	3,188
Main Fan	3,188	3,188
Sec Fan	0	0
Nom Vent	1,784	1,784
AHU Vent	1,784	1,784
Infil	0	0
MinStop/Rh	3,188	3,188
Return	3,188	3,188
Exhaust	1,784	1,784
Rm Exh	0	0
Auxiliary	43,580	43,580
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	56.0	56.0
cfm/ft²	0.35	0.35
cfm/ton	451.90	
ft²/ton	1,298.21	
Btu/hr-ft²	9.24	-17.22
No. People	249	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	7.1	84.7	75.1	3,188	85.5	64.6	60.5	55.0	53.5	60.5
Aux Clg	15.8	189.4	189.4	43,580	75.0	63.4	71.8	71.0	62.1	71.8
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	22.8	274.0								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	9,159		
Part	0		
Int Door	0		
ExFlr	0		
Roof	8,908	0	0
Wall	4,666	835	18
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-69.9	3,188	54.7	75.0
Aux Htg	-284.6	43,580	70.0	76.0
Preheat	-87.8	3,188	42.9	63.3
Reheat	-87.4	3,188	54.7	75.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-442.4			

System Checksums

By MFIA Inc.

Unconditioned - phantom system

Ventilation and Heating

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES		
Peaked at Time:		Mo/Hr: 0 / 0		Mo/Hr: 0 / 0		Mo/Hr: Heating Design						Cooling	Heating	
Outside Air:		OADB/WB/HR: 0 / 0 / 0		OADB: 0		OADB: 22						SADB	0.0	70.0
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total	Ra Plenum	0.0	68.3
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Return	0.0	68.3
Envelope Loads				Envelope Loads								Fn MtrTD	0.0	0.0
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.0	0.0
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	0.0	0.0
Roof Cond	0	0	0	0	0	0	-644	6.38	0	-644	6.38			
Glass Solar	0	0	0	0	0	0	0	0.00	0	0	0.00			
Glass/Door Cond	0	0	0	0	0	0	-4,876	48.26	-4,876	-4,876	48.26			
Wall Cond	0	0	0	0	0	0	-4,051	44.88	-4,051	-4,535	44.88			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00			
Floor	0	0	0	0	0	0	-49	0.48	-49	-49	0.48			
Adjacent Floor	0	0	0	0	0	0	0	0	0	0	0			
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00			
<i>Sub Total ==></i>	0	0	0	0	0	0	-8,976	100.00	-8,976	-10,104	100.00			
Internal Loads				Internal Loads								AIRFLOWS		
Lights	0	0	0	0	0	0	0	0.00	0	0	0.00	Cooling	Heating	
People	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	0	0
Misc	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	0	0
<i>Sub Total ==></i>	0	0	0	0	0	0	0	0.00	0	0	0.00	Main Fan	0	0
Ceiling Load				Ceiling Load								Sec Fan	0	0
Ventilation Load	0	0	0	0	0	0	-1,128	0.00	0	0	0.00	Nom Vent	0	0
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	AHU Vent	0	0
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	MinStop/Rh	0	0
Exhaust Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	Return	0	0
Sup. Fan Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	Exhaust	0	0
Ret. Fan Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	Rm Exh	0	0
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	Auxiliary	0	0
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00	Leakage Dwn	0	0
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00	Leakage Ups	0	0
<i>Grand Total ==></i>	0	0	0	100.00	0	100.00	-10,104	100.00	-10,104	-10,104	100.00	ENGINEERING CKS		
												% OA	0.0	0.0
												cfm/ft²	0.00	0.00
												cfm/ton	0.00	
												ft²/ton	0.00	
												Btu/hr-ft²	0.00	0.00
												No. People	7	

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION				
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass	Lvg	Capacity	Coil Airflow	Ent	Lvg
	ton	MBh			MBh	cfm	°F	°F	gr/lb	°F							
Main Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0	68.3	70.0	
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0	0.0	0.0	
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0	0.0	0.0	
Total	0.0	0.0															
AREAS																	
Floor	2,126																
Part	0																
Int Door	0																
ExFlr	53																
Roof	490		0														
Wall	1,843		250		14												
Ext Door	84		0		0												
HEATING COIL SELECTION																	
Main Htg	0.0		0		68.3		70.0										
Aux Htg	0.0		0		0.0		0.0										
Preheat	0.0		0		0.0		0.0										
Humidif	0.0		0		0.0		0.0										
Opt Vent	0.0		0		0.0		0.0										
Total	0.0																

System Checksums

By MFIA Inc.

System - 001 1st South-West

System 3 - 2007/2010 - Packaged Rooftop Air Conditioner

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 16			Mo/Hr: 7 / 10		Mo/Hr: Heating Design							Cooling	Heating		
Outside Air:		OADB/WB/HR: 94 / 66 / 53			OADB: 76		OADB: 22							SADB	55.0	81.5	
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total	Return	75.1	69.9			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Ret/OA	79.5	60.1			
Envelope Loads					Envelope Loads										Fn MtrTD	0.2	0.0
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.4	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	1.1	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	AIRFLOWS					
Glass Solar	9,194	0	9,194	14	13,929	29	0	0.00	0	0	0.00	Diffuser	2,211	2,211			
Glass/Door Cond	850	0	850	1	-423	-1	-5,834	11.40	-5,834	-5,834	11.40	Terminal	2,211	2,211			
Wall Cond	2,078	252	2,330	4	2,447	5	-3,178	6.96	-3,562	-3,562	6.96	Main Fan	2,211	2,211			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Sec Fan	0	0			
Floor	-1,200	0	-1,200	-2	-1,144	-2	-2,127	4.16	-2,127	-2,127	4.16	Nom Vent	448	448			
Adjacent Floor	0	0	0	0	0	0	0	0.00	0	0	0.00	AHU Vent	448	448			
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0			
Sub Total ==>	10,922	252	11,174	17	14,810	31	-11,139	22.51	-11,523	-11,523	22.51	MinStop/Rh	0	0			
Internal Loads					Internal Loads										Return	2,211	2,211
Lights	9,678	0	9,678	15	9,839	21	0	0.00	0	0	0.00	Exhaust	448	448			
People	20,445	0	20,445	32	12,047	25	0	0.00	0	0	0.00	Rm Exh	0	0			
Misc	10,787	0	10,787	17	10,990	23	0	0.00	0	0	0.00	Auxiliary	0	0			
Sub Total ==>	40,909	0	40,909	64	32,876	69	0	0.00	0	0	0.00	Leakage Dwn	0	0			
Ceiling Load					Ceiling Load										Leakage Ups	0	0
Ventilation Load	0	-80	0	0	94	0	-122	0.00	0	0	0.00	ENGINEERING CKS					
Adj Air Trans Heat	0	0	6,680	10	0	0	0	45.76	-23,421	-23,421	45.76	% OA	20.3	20.3			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ft²	0.63	0.63			
Ov/Undr Sizing	0	0	0	0	0	0	-16,288	31.83	-16,288	-16,288	31.83	cfm/ton	359.40				
Exhaust Heat	0	-433	-433	-1	0	0	0	-0.10	53	53	-0.10	ft²/ton	568.19				
Sup. Fan Heat	0	0	3,891	6	0	0	0	0.00	0	0	0.00	Btu/hr-ft²	21.12	-18.30			
Ret. Fan Heat	0	1,965	1,965	3	0	0	0	0.00	0	0	0.00	No. People	50				
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00						
Grand Total ==>	51,911	1,704	64,185	100.00	47,779	100.00	-27,549	100.00	-51,179	-51,179	100.00						

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION				
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass ft² (%)	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F	
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb							
Main Clg	6.2	73.8	57.1	2,211	79.0	60.7	52.7	53.4	48.4	44.3	Floor	3,495					
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0					
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0					
Total	6.2	73.8									ExFlr	2,113					
											Roof	0	0	0			
											Wall	1,354	214	16			
											Ext Door	0	0	0			
											Total	-64.0					

System Checksums

By MFIA Inc.

System - 002 1st South-East

System 3 - 2007/2010 - Packaged Rooftop Air Conditioner

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 8 / 16			Mo/Hr: 9 / 16		Mo/Hr: Heating Design							Cooling	Heating		
Outside Air:		OADB/WB/HR: 94 / 65 / 49			OADB: 89		OADB: 22							SADB	55.0	76.2	
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total	Return	75.1	69.9			
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Btu/h		Btu/h	Btu/h		Ret/OA	75.9	69.9			
												Fn MtrTD	0.2	0.0			
												Fn BldTD	0.4	0.0			
												Fn Frict	1.1	0.0			
Envelope Loads					Envelope Loads										AIRFLOWS		
Skylite Solar	0	0	0	0	0	0	0	0.00	Skylite Solar	0	0	0.00	Diffuser	2,601	2,601		
Skylite Cond	0	0	0	0	0	0	0	0.00	Skylite Cond	0	0	0.00	Terminal	2,601	2,601		
Roof Cond	0	0	0	0	0	0	0	0.00	Roof Cond	0	0	0.00	Main Fan	2,601	2,601		
Glass Solar	20,503	0	20,503	26	22,527	40	0	0.00	Glass Solar	0	0	0.00	Sec Fan	0	0		
Glass/Door Cond	2,120	0	2,120	3	1,656	3	-5,829	13.41	Glass/Door Cond	-5,829	-5,829	13.41	Nom Vent	496	496		
Wall Cond	3,324	411	3,735	5	3,454	6	-2,798	7.23	Wall Cond	-2,798	-3,144	7.23	AHU Vent	496	496		
Partition/Door	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0.00	Infil	0	0		
Floor	-904	0	-904	-1	-888	-2	-1,993	4.59	Floor	-1,993	-1,993	4.59	MinStop/Rh	0	0		
Adjacent Floor	0	0	0	0	0	0	0	0.00	Adjacent Floor	0	0	0.00	Return	2,601	2,601		
Infiltration	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0.00	Exhaust	496	496		
Sub Total ==>	25,043	411	25,454	32	26,749	48	-10,621	25.23	Sub Total ==>	-10,621	-10,967	25.23	Rm Exh	0	0		
Internal Loads					Internal Loads										ENGINEERING CKS		
Lights	5,493	0	5,493	7	5,493	10	0	0.00	Lights	0	0	0.00	% OA	19.1	19.1		
People	29,122	0	29,122	37	17,784	32	0	0.00	People	0	0	0.00	cfm/ft²	1.31	1.31		
Misc	6,107	0	6,107	8	6,107	11	0	0.00	Misc	0	0	0.00	cfm/ton	343.53			
Sub Total ==>	40,722	0	40,722	52	29,384	52	0	0.00	Sub Total ==>	0	0	0.00	ft²/ton	261.45			
Ceiling Load	75	-75	0	0	78	0	-63	0.00	Ceiling Load	-63	0	0.00	Btu/hr-ft²	45.90	-27.45		
Ventilation Load	0	0	6,439	8	0	0	0	59.71	Ventilation Load	0	-25,953	59.71	No. People	73			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0					
Dehumid. Ov Sizing	0	0	0	0	0	0	-6,597	15.18	Ov/Undr Sizing	-6,597	-6,597	15.18					
Ov/Undr Sizing	0	0	0	0	0	0	0	-0.12	Exhaust Heat	0	54	-0.12					
Exhaust Heat	0	-505	-505	-1	0	0	0	0.00	OA Preheat Diff.	0	0	0.00					
Sup. Fan Heat	0	0	4,577	6	0	0	0	0.00	RA Preheat Diff.	0	0	0.00					
Ret. Fan Heat	0	2,312	2,312	3	0	0	0	0.00	Additional Reheat	0	0	0.00					
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	Underflr Sup Ht Pkup	0	0	0.00					
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	Supply Air Leakage	0	0	0.00					
Supply Air Leakage	0	0	0	0	0	0	0	0.00	Grand Total ==>	65,840	2,143	79,000	100.00	56,211	100.00		
Grand Total ==>	65,840	2,143	79,000	100.00	56,211	100.00	-17,281	43.462	Grand Total ==>	-17,281	-43,462	100.00					

COOLING COIL SELECTION											AREAS				HEATING COIL SELECTION				
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass		Capacity	Coil Airflow	Ent	Lvg		
	ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb		ft² (%)	MBh	cfm	°F	°F			
Main Clg	7.6	90.9	71.2	2,601	79.3	61.8	57.0	53.4	49.1	46.8	Floor	1,979		Main Htg	-54.3	2,601	60.7	76.2	
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0		Aux Htg	0.0	0	0.0	0.0	
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0		Preheat	0.0	0	0.0	0.0	
Total	7.6	90.9									ExFlr	1,979		Humidif	0.0	0	0.0	0.0	
											Roof	0	0	Opt Vent	0.0	0	0.0	0.0	
											Wall	1,220	214	18	Total	-54.3			
											Ext Door	0	0	0					

System Checksums

By MFIA Inc.

System - 003 1st North West

System 3 - 2007/2010 - Packaged Rooftop Air Conditioner

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 16		Mo/Hr: 7 / 10		Mo/Hr: Heating Design			Cooling			Heating				
Outside Air:		OADB/WB/HR: 94 / 66 / 53		OADB: 76		OADB: 22			SADB			Ra Plenum				
	Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return			Ret/OA			
	Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Fn MtrTD			Fn BldTD			
							Btu/h	Btu/h		Fn Frict						
Envelope Loads				Envelope Loads							AIRFLOWS					
Skylite Solar	0	0	0	0	0	0	Skylite Solar	0	0	0.00	Diffuser			Terminal		
Skylite Cond	0	0	0	0	0	0	Skylite Cond	0	0	0.00	1,036			1,036		
Roof Cond	0	0	0	0	0	0	Roof Cond	0	0	0.00	Main Fan			Sec Fan		
Glass Solar	3,637	0	3,637	12	6,911	31	Glass Solar	0	0	0.00	1,036			0		
Glass/Door Cond	1,024	0	1,024	3	164	1	Glass/Door Cond	-3,893	-3,893	17.82	Nom Vent			AHU Vent		
Wall Cond	825	108	934	3	1,010	5	Wall Cond	-1,212	-1,375	6.29	214			214		
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0	0.00	Infil			MinStop/Rh		
Floor	-423	0	-423	-1	-408	-2	Floor	-750	-750	3.43	0			0		
Adjacent Floor	0	0	0	0	0	0	Adjacent Floor	0	0	0.00	Return			Exhaust		
Infiltration	0	0	0	0	0	0	Infiltration	0	0	0.00	1,036			1,036		
Sub Total ==>	5,062	108	5,171	17	7,677	34	Sub Total ==>	-5,855	-6,018	27.54	Rm Exh			Auxiliary		
											0			0		
Internal Loads				Internal Loads							ENGINEERING CKS					
Lights	3,841	0	3,841	13	3,919	18	Lights	0	0	0.00	% OA			cfm/ft²		
People	10,971	0	10,971	37	6,378	28	People	0	0	0.00	20.6			20.6		
Misc	4,278	0	4,278	14	4,375	20	Misc	0	0	0.00	cfm/ton			ft²/ton		
Sub Total ==>	19,089	0	19,089	64	14,672	66	Sub Total ==>	0	0	0.00	362.22			486.73		
											Btu/hr-ft²			No. People		
Ceiling Load	31	-31	0	0	38	0	Ceiling Load	-46	0	0.00	24.65			-19.63		
Ventilation Load	0	0	3,042	10	0	0	Ventilation Load	0	-11,172	51.12	27					
Adj Air Trans Heat	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0						
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	-4,688	-4,688	21.45						
Ov/Undr Sizing	0	0	0	0	0	0	Exhaust Heat		24	-0.11						
Exhaust Heat		-206	-206	-1			OA Preheat Diff.		0	0.00						
Sup. Fan Heat			1,823	6			RA Preheat Diff.		0	0.00						
Ret. Fan Heat		921	921	3			Additional Reheat		0	0.00						
Duct Heat Pkup		0	0	0			Underflr Sup Ht Pkup		0	0.00						
Underflr Sup Ht Pkup		0	0	0			Supply Air Leakage		0	0.00						
Supply Air Leakage		0	0	0												
Grand Total ==>	24,182	793	29,840	100.00	22,387	100.00	Grand Total ==>	-10,589	-21,854	100.00						

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION						
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass		Capacity	Coil Airflow	Ent	Lvg		
	ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb		ft² (%)	MBh	cfm	°F	°F			
Main Clg	2.9	34.3	26.2	1,036	79.1	61.1	54.3	53.4	49.0	46.4	Floor	1,392		Main Htg	-27.3	1,036	59.9	79.5	
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0		Aux Htg	0.0	0	0.0	0.0	
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0		Preheat	0.0	0	0.0	0.0	
											ExFlr	745		Humidif	0.0	0	0.0	0.0	
Total	2.9	34.3									Roof	0	0	Opt Vent	0.0	0	0.0	0.0	
											Wall	547	107	20	Total	-27.3			
											Ext Door	28	0	0					

System Checksums

By MFIA Inc.

System - 004 1st North East

System 3 - 2007/2010 - Packaged Rooftop Air Conditioner

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES								
Peaked at Time:		Mo/Hr: 8 / 16			Mo/Hr: 9 / 16		Mo/Hr: Heating Design			Mo/Hr: Heating Design			Cooling		Heating								
Outside Air:		OADB/WB/HR: 94 / 65 / 49			OADB: 89		OADB: 89			OADB: 22													
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total	SADB	Ra Plenum	Return	Ret/OA	Fn MtrTD	Fn BldTD	Fn Frict					
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)												
Envelope Loads					Envelope Loads										AIRFLOWS								
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	1,817	1,817	Terminal	1,817	1,817	Main Fan	1,817	1,817	Sec Fan	0	0
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Nom Vent	340	340	AHU Vent	340	340	Infil	0	0	MinStop/Rh	0	0
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Return	1,817	1,817	Exhaust	340	340	Rm Exh	0	0	Auxiliary	0	0
Glass Solar	13,219	0	13,219	24	15,018	38	0	0.00	0	0	0.00	Leakage Dwn	0	0	Leakage Ups	0	0	ENGINEERING CKS					
Glass/Door Cond	1,517	0	1,517	3	1,104	3	-3,886	15.10	-3,886	15.10	% OA	18.7	18.7	cfm/ft²	1.03	1.03	cfm/ton	346.45		ft²/ton	335.27		
Wall Cond	1,819	237	2,056	4	1,905	5	-1,471	6.46	-1,662	6.46	Btu/hr-ft²	35.79	-18.30	No. People	48								
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00												
Floor	-805	0	-805	-1	-789	-2	-1,771	6.88	-1,771	6.88													
Adjacent Floor	0	0	0	0	0	0	0	0.00	0	0	0.00												
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00												
Sub Total ==>	15,750	237	15,986	29	17,238	44	-7,127	28.44	-7,319	28.44													
Internal Loads					Internal Loads																		
Lights	4,861	0	4,861	9	4,861	12	0	0.00	0	0	0.00												
People	19,126	0	19,126	35	11,715	30	0	0.00	0	0	0.00												
Misc	5,401	0	5,401	10	5,401	14	0	0.00	0	0	0.00												
Sub Total ==>	29,388	0	29,388	54	21,977	56	0	0.00	0	0	0.00												
Ceiling Load	52	-52	0	0	55	0	-42	0.00	0	0	0.00												
Ventilation Load	0	0	4,875	9	0	0	-17,767	69.04	0	0	0.00												
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0	0.00												
Dehumid. Ov Sizing	0	0	0	0	0	0	-677	2.63	-677	2.63													
Ov/Undr Sizing	0	0	0	0	0	0	28	-0.11	0	0	0.00												
Exhaust Heat	-336	-336	-1	6	0	0	0	0.00	0	0	0.00												
Sup. Fan Heat	0	0	3,198	6	0	0	0	0.00	0	0	0.00												
Ret. Fan Heat	0	1,615	1,615	3	0	0	0	0.00	0	0	0.00												
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00												
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00												
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00												
Grand Total ==>	45,190	1,463	54,726	100.00	39,270	100.00	-7,847	25.736	-25,736	100.00													

COOLING COIL SELECTION										
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	5.2	62.9	49.5	1,817	79.3	61.7	56.7	53.4	49.2	46.9
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	5.2	62.9								

AREAS			
	Gross Total	Glass	(%)
		ft²	
Floor	1,758		
Part	0		
Int Door	0		
ExFlr	1,758		
Roof	0	0	0
Wall	674	143	21
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity	Coil Airflow	Ent	Lvg
	MBh	cfm	°F	°F
Main Htg	-32.2	1,817	60.9	74.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-32.2			

System Checksums

By MFIA Inc.

System - 005 Teaching Kitchen

System 3 - 2007/2010 - Packaged Rooftop Air Conditioner

COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES		
Peaked at Time:		Mo/Hr: 8 / 16			Mo/Hr: 9 / 16		Mo/Hr: Heating Design							Cooling	Heating		
Outside Air:		OADB/WB/HR: 94 / 65 / 49			OADB: 89		OADB: 22							SADB	55.0	75.8	
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total	Space Sensible	Percent Of Total	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total	Return	75.1	69.9			
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Ret/OA	75.9	69.9			
Envelope Loads					Envelope Loads										Fn MtrTD	0.2	0.0
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn BldTD	0.4	0.0			
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Fn Frict	1.1	0.0			
Roof Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	AIRFLOWS					
Glass Solar	7,572	0	7,572	20	31	0	0	0.00	0	0	0.00	Diffuser	1,245	1,245			
Glass/Door Cond	1,517	0	1,517	4	4	-3,886	-3,886	19.43	-3,886	-3,886	19.43	Terminal	1,245	1,245			
Wall Cond	1,727	210	1,938	5	6	-2,011	-2,256	11.28	-2,011	-2,256	11.28	Main Fan	1,245	1,245			
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Sec Fan	0	0			
Floor	-833	0	-833	-2	-3	-1,833	-1,833	9.16	-1,833	-1,833	9.16	Nom Vent	231	231			
Adjacent Floor	0	0	0	0	0	0	0	0.00	0	0	0.00	AHU Vent	231	231			
Infiltration	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	0	0			
Sub Total ==>	9,982	210	10,193	27	38	-7,730	-7,975	39.88	-7,730	-7,975	39.88	MinStop/Rh	0	0			
Internal Loads					Internal Loads										Return	1,245	1,245
Lights	5,031	0	5,031	13	19	0	0	0.00	0	0	0.00	Exhaust	231	231			
People	10,920	0	10,920	29	23	0	0	0.00	0	0	0.00	Rm Exh	0	0			
Misc	5,590	0	5,590	15	21	0	0	0.00	0	0	0.00	Auxiliary	0	0			
Sub Total ==>	21,542	0	21,542	56	62	0	0	0.00	0	0	0.00	Leakage Dwn	0	0			
Ceiling Load	63	-63	0	0	0	-74	0	0.00	-74	0	0.00	Leakage Ups	0	0			
Ventilation Load	0	0	3,371	9	0	0	-12,056	60.28	0	-12,056	60.28	ENGINEERING CKS					
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	0	0	0.00	% OA	18.5	18.5			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00	cfm/ft²	0.68	0.68			
Ov/Undr Sizing	0	0	0	0	0	0	32	-0.16	0	32	-0.16	cfm/ton	340.33				
Exhaust Heat	0	-232	-232	-1	0	0	0	0.00	0	0	0.00	ft²/ton	497.53				
Sup. Fan Heat	0	0	2,191	6	0	0	0	0.00	0	0	0.00	Btu/hr-ft²	24.12	-13.74			
Ret. Fan Heat	0	1,107	1,107	3	0	0	0	0.00	0	0	0.00	No. People	24				
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00						
Grand Total ==>	31,587	1,022	38,171	100.00	26,907	-7,803	-19,999	100.00	-7,803	-19,999	100.00						

COOLING COIL SELECTION											AREAS			HEATING COIL SELECTION				
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass ft²	Glass (%)	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F	
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb								
Main Clg	3.7	43.9	34.7	1,245	79.3	61.6	56.4	53.4	48.8	45.6	Floor	1,820	Main Htg	-25.0	1,245	60.9	75.8	
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0	Aux Htg	0.0	0	0.0	0.0	
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0	Preheat	0.0	0	0.0	0.0	
Total	3.7	43.9									ExFlr	1,820	Humidif	0.0	0	0.0	0.0	
											Roof	0	Opt Vent	0.0	0	0.0	0.0	
											Wall	864	143	17	Total	-25.0		
											Ext Door	0	0	0				

System Checksums

By MFIA Inc.

System - 006 2nd South-West

System 3 - 2007/2010 - Packaged Rooftop Air Conditioner

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 10		Mo/Hr: Heating Design			Cooling			Heating				
Outside Air:		OADB/WB/HR: 95 / 66 / 54		OADB: 76		OADB: 22			SADB			Ra Plenum				
	Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return			Ret/OA			
	Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Fn MtrTD			Fn BldTD			
							Btu/h	Btu/h		Fn Frict						
Envelope Loads				Envelope Loads							AIRFLOWS					
Skylite Solar	0	0	0	0	0	0	Skylite Solar	0	0.00	Diffuser			2,425			
Skylite Cond	0	0	0	0	0	0	Skylite Cond	0	0.00	Terminal			2,425			
Roof Cond	0	7,312	7,312	9	0	0	Roof Cond	0	11.81	Main Fan			2,425			
Glass Solar	5,310	0	5,310	7	12,709	24	Glass Solar	0	0.00	Sec Fan			0			
Glass/Door Cond	1,769	0	1,769	2	-250	0	Glass/Door Cond	-5,834	10.27	Nom Vent			506			
Wall Cond	1,812	207	2,019	3	2,191	4	Wall Cond	-2,874	5.66	AHU Vent			506			
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0.00	Infil			0			
Floor	0	0	0	0	0	0	Floor	0	0.00	MinStop/Rh			0			
Adjacent Floor	0	0	0	0	0	0	Adjacent Floor	0	0	Return			2,425			
Infiltration	0	0	0	0	0	0	Infiltration	0	0.00	Exhaust			506			
Sub Total ==>	8,892	7,518	16,411	21	14,649	28	Sub Total ==>	-8,707	-15,758	27.73	Rm Exh			0		
Internal Loads				Internal Loads							ENGINEERING CKS					
Lights	8,998	0	8,998	12	9,236	18	Lights	0	0.00	% OA			20.9			
People	27,934	0	27,934	36	16,825	32	People	0	0.00	cfm/ft²			0.74			
Misc	10,064	0	10,064	13	10,290	20	Misc	0	0.00	cfm/ton			328.64			
Sub Total ==>	46,996	0	46,996	61	36,350	69	Sub Total ==>	0	0.00	ft²/ton			444.87			
Ceiling Load	2,136	-2,136	0	0	1,415	3	Ceiling Load	-2,003	0	0.00	Btu/hr-ft²			26.97		
Ventilation Load	0	0	8,744	11	0	0	Ventilation Load	0	-26,460	46.56	No. People			70		
Adj Air Trans Heat	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	Ov/Undr Sizing	-15,663	-15,663	27.56						
Ov/Undr Sizing	0	0	0	0	0	0	Exhaust Heat	0	1,053	-1.85						
Exhaust Heat	-1,572	-1,572	-1,572	-2	0	0	OA Preheat Diff.	0	0	0.00						
Sup. Fan Heat	0	0	4,268	6	0	0	RA Preheat Diff.	0	0	0.00						
Ret. Fan Heat	2,156	2,156	2,156	3	0	0	Additional Reheat	0	0	0.00						
Duct Heat Pkup	0	0	0	0	0	0	Underflr Sup Ht Pkup	0	0	0.00						
Underflr Sup Ht Pkup	0	0	0	0	0	0	Supply Air Leakage	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	Grand Total ==>	-26,374	-56,829	100.00						
Grand Total ==>	58,025	5,965	77,003	100.00	52,414	100.00	Grand Total ==>	-26,374	-56,829	100.00						

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION				
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass	Capacity		Coil Airflow	Ent	Lvg	
	ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb		ft² (%)	MBh	cfm	°F	°F		
Main Clg	7.4	88.6	67.2	2,425	81.1	62.1	55.5	53.4	48.9	45.8	Floor	3,283		Main Htg	-71.0	2,425	58.4	80.1
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0		Aux Htg	0.0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0		Preheat	0.0	0	0.0	0.0
											ExFlr	0		Humidif	0.0	0	0.0	0.0
Total	7.4	88.6									Roof	3,033	0	Opt Vent	0.0	0	0.0	0.0
											Wall	1,247	214	Total	-71.0			
											Ext Door	0	0					

System Checksums

By MFIA Inc.

System - 007 2nd South-East

System 3 - 2007/2010 - Packaged Rooftop Air Conditioner

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES					
Peaked at Time:		Mo/Hr: 8 / 16		Mo/Hr: 9 / 16		Mo/Hr: Heating Design			Cooling			Heating				
Outside Air:		OADB/WB/HR: 94 / 65 / 49		OADB: 89		OADB: 22			SADB			Ra Plenum				
	Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return			Ret/OA			
	Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Fn MtrTD			Fn BldTD			
							Btu/h	Btu/h		Fn Frict						
Envelope Loads				Envelope Loads							AIRFLOWS					
Skylite Solar	0	0	0	0	0	0	Skylite Solar	0	0.00	Diffuser			2,542			
Skylite Cond	0	0	0	0	0	0	Skylite Cond	0	0.00	Terminal			2,542			
Roof Cond	0	5,130	5,130	7	0	0	Roof Cond	0	8.66	Main Fan			2,542			
Glass Solar	20,249	0	20,249	26	22,336	41	Glass Solar	0	0.00	Sec Fan			0			
Glass/Door Cond	2,113	0	2,113	3	1,650	3	Glass/Door Cond	-5,829	10.44	Nom Vent			445			
Wall Cond	3,187	387	3,573	5	3,312	6	Wall Cond	-2,897	5.81	AHU Vent			445			
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0.00	Infil			0			
Floor	0	0	0	0	0	0	Floor	0	0.00	MinStop/Rh			0			
Adjacent Floor	0	0	0	0	0	0	Adjacent Floor	0	0	Return			2,542			
Infiltration	0	0	0	0	0	0	Infiltration	0	0.00	Exhaust			445			
Sub Total ==>	25,549	5,517	31,066	39	27,298	50	Sub Total ==>	-8,726	-13,908	24.91	Rm Exh			0		
Internal Loads				Internal Loads							ENGINEERING CKS					
Lights	5,940	0	5,940	8	6,046	11	Lights	0	0.00	% OA			17.5			
People	23,003	0	23,003	29	13,946	25	People	0	0.00	cfm/ft²			1.17			
Misc	6,626	0	6,626	8	6,738	12	Misc	0	0.00	cfm/ton			336.91			
Sub Total ==>	35,569	0	35,569	45	26,731	49	Sub Total ==>	0	0.00	ft²/ton			287.13			
Ceiling Load	1,103	-1,103	0	0	904	2	Ceiling Load	-1,036	0.00	Btu/hr-ft²			41.79			
Ventilation Load	0	0	6,521	8	0	0	Ventilation Load	0	41.68	No. People			57			
Adj Air Trans Heat	0	0	0	0	0	0	Adj Air Trans Heat	0	0							
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	-19,380	34.71							
Ov/Undr Sizing	0	0	0	0	0	0	Exhaust Heat	726	-1.30							
Exhaust Heat		-1,168	-1,168	-1			OA Preheat Diff.	0	0.00							
Sup. Fan Heat			4,473	6			RA Preheat Diff.	0	0.00							
Ret. Fan Heat		2,259	2,259	3			Additional Reheat	0	0.00							
Duct Heat Pkup		0	0	0			Underflr Sup Ht Pkup	0	0.00							
Underflr Sup Ht Pkup		0	0	0			Supply Air Leakage	0	0.00							
Supply Air Leakage		0	0	0			Grand Total ==>	-29,143	-55,832	100.00						
Grand Total ==>	62,221	5,505	78,721	100.00	54,933	100.00	Grand Total ==>	-29,143	-55,832	100.00						

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION				
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass	Capacity		Coil Airflow	Ent	Lvg	
	ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb		ft² (%)	MBh	cfm	°F	°F		
Main Clg	7.5	90.5	72.1	2,542	80.3	61.9	55.8	53.4	49.0	46.1	Floor	2,166		Main Htg	-69.8	2,542	60.3	80.6
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0		Aux Htg	0.0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0		Preheat	0.0	0	0.0	0.0
											ExFlr	0		Humidif	0.0	0	0.0	0.0
Total	7.5	90.5									Roof	2,166	0	Opt Vent	0.0	0	0.0	0.0
											Wall	1,255	214	Total	-69.8			
											Ext Door	0	0					

System Checksums

By MFIA Inc.

System - 008 2nd North-West

System 3 - 2007/2010 - Packaged Rooftop Air Conditioner

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 15		Mo/Hr: 7 / 10		Mo/Hr: Heating Design			Cooling		Heating		
Outside Air:		OADB/WB/HR: 95 / 66 / 54		OADB: 76		OADB: 22			SADB	55.0	79.9		
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return	76.9	68.2		
Btu/h	Btu/h	Btu/h		Btu/h		Space Sens	Tot Sens		Ret/OA	81.3	58.4		
											Fn MtrTD	0.2	0.0
Envelope Loads				Envelope Loads							Fn BldTD	0.4	0.0
Skylite Solar	0	0	0	0	0	Skylite Solar	0	0.00	Fn Frict	1.1	0.0		
Skylite Cond	0	0	0	0	0	Skylite Cond	0	0.00					
Roof Cond	0	4,155	8	0	0	Roof Cond	0	10.31					
Glass Solar	5,990	0	12	10,139	30	Glass Solar	0	0.00					
Glass/Door Cond	1,564	0	3	375	1	Glass/Door Cond	-5,258	14.32					
Wall Cond	1,249	153	3	1,540	5	Wall Cond	-1,984	6.08					
Partition/Door	0	0	0	0	0	Partition/Door	0	0.00					
Floor	0	0	0	0	0	Floor	0	0.00					
Adjacent Floor	0	0	0	0	0	Adjacent Floor	0	0					
Infiltration	0	0	0	0	0	Infiltration	0	0.00					
Sub Total ==>	8,804	4,308	26	12,054	35	Sub Total ==>	-7,242	30.72					
Internal Loads				Internal Loads							AIRFLOWS		
Lights	4,639	0	9	4,746	14	Lights	0	0.00	Diffuser	1,581	1,581		
People	18,558	0	37	11,354	33	People	0	0.00	Terminal	1,581	1,581		
Misc	5,188	0	10	5,281	15	Misc	0	0.00	Main Fan	1,581	1,581		
Sub Total ==>	28,385	0	57	21,381	63	Sub Total ==>	0	0.00	Sec Fan	0	0		
Ceiling Load	1,035	-1,035	0	731	2	Ceiling Load	-970	0.00	Nom Vent	332	332		
Ventilation Load	0	0	11	0	0	Ventilation Load	0	47.36	AHU Vent	332	332		
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0	Infil	0	0		
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	-8,694	23.68	MinStop/Rh	0	0		
Ov/Undr Sizing	0	0	0	0	0	Exhaust Heat	644	-1.76	Return	1,581	1,581		
Exhaust Heat	0	-984	-2	0	0	OA Preheat Diff.	0	0.00	Exhaust	332	332		
Sup. Fan Heat	0	2,782	6	0	0	RA Preheat Diff.	0	0.00	Rm Exh	0	0		
Ret. Fan Heat	0	1,405	3	0	0	Additional Reheat	0	0.00	Auxiliary	0	0		
Duct Heat Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00	Leakage Dwn	0	0		
Underflr Sup Ht Pkup	0	0	0	0	0	Supply Air Leakage	0	0.00	Leakage Ups	0	0		
Supply Air Leakage	0	0	0	0	0	Grand Total ==>	-16,906	100.00					
Grand Total ==>	38,224	3,694	50,217	100.00	34,166	100.00	Grand Total ==>	-36,712					

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION					
	Total Capacity		Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass	Lvg	Capacity	Coil Airflow	Ent	Lvg	
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb								ft²
Main Clg	4.8	57.8	43.9	1,581	81.0	62.1	55.6	53.4	48.9	45.8	Floor	1,706		Main Htg	-45.9	1,581	58.4	79.9
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0		Aux Htg	0.0	0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0		Preheat	0.0	0	0.0	0.0
											ExFlr	0		Humidif	0.0	0	0.0	0.0
Total	4.8	57.8									Roof	1,706	0	Opt Vent	0.0	0	0.0	0.0
											Wall	910	193	Total	-45.9			
											Ext Door	0	0					

System Checksums

By MFIA Inc.

System - 009 2nd North East

System 3 - 2007/2010 - Packaged Rooftop Air Conditioner

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 8 / 16		Mo/Hr: 9 / 16		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 94 / 65 / 49		OADB: 89		OADB: 22			SADB			Ra Plenum		
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return <th>Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th></th>	Ret/OA <th>Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th></th>	Fn MtrTD <th>Fn BldTD <th>Fn Frict </th></th>	Fn BldTD <th>Fn Frict </th>	Fn Frict	
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Tot Sens Btu/h	(%)	77.2	80.4	0.2	0.4	1.1	
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00	55.0	79.7				
Skylite Cond	0	0	0	0	0	0	0	0.00	76.4	68.6				
Roof Cond	0	4,630	4,630	5	0	0	-4,487	7.69	77.2	68.6				
Glass Solar	20,137	0	20,137	24	22,449	38	0	0.00	80.4	59.8				
Glass/Door Cond	2,168	0	2,168	3	1,653	3	-5,829	9.99	0.2	0.0				
Wall Cond	3,382	409	3,792	4	3,475	6	-2,896	5.56	0.4	0.0				
Partition/Door	0	0	0	0	0	0	0	0.00	1.1	0.0				
Floor	0	0	0	0	0	0	0	0.00						
Adjacent Floor	0	0	0	0	0	0	0	0.00						
Infiltration	0	0	0	0	0	0	0	0.00						
Sub Total ==>	25,688	5,040	30,727	36	27,577	47	-8,725	23.25						
Internal Loads				Internal Loads										
Lights	5,508	0	5,508	6	5,548	9	0	0.00						
People	30,180	0	30,180	35	18,398	31	0	0.00						
Misc	6,134	0	6,134	7	6,172	11	0	0.00						
Sub Total ==>	41,822	0	41,822	49	30,118	52	0	0.00						
Ceiling Load	899	-899	0	0	748	1	-863	0.00						
Ventilation Load	0	0	6,902	8	0	0	-26,659	45.71						
Adj Air Trans Heat	0	0	0	0	0	0	0	0						
Dehumid. Ov Sizing	0	0	0	0	0	0	-18,850	32.32						
Ov/Undr Sizing	0	0	0	0	0	0	749	-1.28						
Exhaust Heat	-1,233	-1,233	-1,233	-1	4,759	6	0	0.00						
Sup. Fan Heat	2,404	2,404	2,404	3	0	0	0	0.00						
Ret. Fan Heat	0	0	0	0	0	0	0	0.00						
Duct Heat Pkup	0	0	0	0	0	0	0	0.00						
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00						
Supply Air Leakage	0	0	0	0	0	0	0	0.00						
Grand Total ==>	68,409	5,310	85,380	100.00	58,444	100.00	-28,438	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	2,704	2,704
Terminal	2,704	2,704
Main Fan	2,704	2,704
Sec Fan	0	0
Nom Vent	510	510
AHU Vent	510	510
Infil	0	0
MinStop/Rh	0	0
Return	2,704	2,704
Exhaust	510	510
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	18.8	18.8
cfm/ft²	1.35	1.35
cfm/ton	330.49	
ft²/ton	244.87	
Btu/hr-ft²	49.01	-36.38
No. People	76	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	8.2	98.2	77.1	2,704	80.4	62.2	57.1	53.4	49.1	46.5
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	8.2	98.2								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	2,004		
Part	0		
Int Door	0		
ExFlr	0		
Roof	2,004	0	0
Wall	1,254	214	17
Ext Door	0	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-72.9	2,704	59.8	79.7
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-72.9			

System Checksums

By MFIA Inc.

System - 010 unconditioned

System 9 - 2010 - Heating Only & Ventilation, Gas

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 0 / 0		Mo/Hr: 0 / 0		Mo/Hr: Heating Design			Cooling			Heating		
Outside Air:		OADB/WB/HR: 0 / 0 / 0		OADB: 0		OADB: 22			SADB			Ra Plenum		
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total	Return	Ret/OA	Fn MtrTD	Fn BldTD	Fn Frict	
Btu/h	Btu/h	Btu/h		Btu/h		Btu/h	Tot Sens Btu/h		0.0	0.0	0.0	0.0	0.0	
Envelope Loads				Envelope Loads										
Skylite Solar	0	0	0	0	0	0	0	0.00	0.0	0.0	0.0	0.0	0.0	
Skylite Cond	0	0	0	0	0	0	0	0.00	0.0	0.0	0.0	0.0	0.0	
Roof Cond	0	0	0	0	0	0	-1,075	6.79	0.0	0.0	0.0	0.0	0.0	
Glass Solar	0	0	0	0	0	0	0	0.00	0.0	0.0	0.0	0.0	0.0	
Glass/Door Cond	0	0	0	0	0	-9,756	-9,756	61.60	0.0	0.0	0.0	0.0	0.0	
Wall Cond	0	0	0	0	0	-4,432	-4,953	31.27	0.0	0.0	0.0	0.0	0.0	
Partition/Door	0	0	0	0	0	0	0	0.00	0.0	0.0	0.0	0.0	0.0	
Floor	0	0	0	0	0	-54	-54	0.34	0.0	0.0	0.0	0.0	0.0	
Adjacent Floor	0	0	0	0	0	0	0	0.00	0.0	0.0	0.0	0.0	0.0	
Infiltration	0	0	0	0	0	0	0	0.00	0.0	0.0	0.0	0.0	0.0	
<i>Sub Total ==></i>	0	0	0	0	0	<i>Sub Total ==></i>	-14,241	100.00	0.0	0.0	0.0	0.0	0.0	
Internal Loads				Internal Loads										
Lights	0	0	0	0	0	0	0	0.00	0.0	0.0	0.0	0.0	0.0	
People	0	0	0	0	0	0	0	0.00	0.0	0.0	0.0	0.0	0.0	
Misc	0	0	0	0	0	0	0	0.00	0.0	0.0	0.0	0.0	0.0	
<i>Sub Total ==></i>	0	0	0	0	0	<i>Sub Total ==></i>	0	0.00	0.0	0.0	0.0	0.0	0.0	
Ceiling Load	0	0	0	0	0	Ceiling Load	-1,596	0.00	0.0	0.0	0.0	0.0	0.0	
Ventilation Load	0	0	0	0	0	Ventilation Load	0	0.00	0.0	0.0	0.0	0.0	0.0	
Adj Air Trans Heat	0	0	0	0	0	Adj Air Trans Heat	0	0.00	0.0	0.0	0.0	0.0	0.0	
Dehumid. Ov Sizing	0	0	0	0	0	Ov/Undr Sizing	0	0.00	0.0	0.0	0.0	0.0	0.0	
Ov/Undr Sizing	0	0	0	0	0	Exhaust Heat	0	0.00	0.0	0.0	0.0	0.0	0.0	
Exhaust Heat	0	0	0	0	0	OA Preheat Diff.	0	0.00	0.0	0.0	0.0	0.0	0.0	
Sup. Fan Heat	0	0	0	0	0	RA Preheat Diff.	0	0.00	0.0	0.0	0.0	0.0	0.0	
Ret. Fan Heat	0	0	0	0	0	Additional Reheat	0	0.00	0.0	0.0	0.0	0.0	0.0	
Duct Heat Pkup	0	0	0	0	0	Underflr Sup Ht Pkup	0	0.00	0.0	0.0	0.0	0.0	0.0	
Underflr Sup Ht Pkup	0	0	0	0	0	Supply Air Leakage	0	0.00	0.0	0.0	0.0	0.0	0.0	
Supply Air Leakage	0	0	0	0	0	Grand Total ==>	-15,837	100.00	0.0	0.0	0.0	0.0	0.0	
Grand Total ==>	0	0	100.00	0	100.00	Grand Total ==>	-15,837	100.00	0.0	0.0	0.0	0.0	0.0	

AIRFLOWS		
	Cooling	Heating
Diffuser	0	0
Terminal	0	0
Main Fan	0	0
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	0	0
Return	0	0
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.00	0.00
cfm/ton	0.00	0.00
ft²/ton	0.00	0.00
Btu/hr-ft²	0.00	0.00
No. People	7	

COOLING COIL SELECTION										
	Total Capacity		Sens Cap. MBh	Coil Airflow cfm	Enter DB/WB/HR			Leave DB/WB/HR		
	ton	MBh			°F	°F	gr/lb	°F	°F	gr/lb
Main Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0								

AREAS			
	Gross Total	Glass ft²	(%)
Floor	2,126		
Part	0		
Int Door	0		
ExFlr	53		
Roof	490	0	0
Wall	1,843	250	14
Ext Door	84	0	0

HEATING COIL SELECTION				
	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	0.0	0	70.0	70.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	0.0			