

Location	St Louis Mo
Building owner	
Program user	MCB
Company	CSG
Comments	
By	CoreStates
Dataset name	C:\USERS\MBATDORF\ONEDRIVE - CORE STATES GROUP\DESKTOP\ACTIVE PROJECTS\JPM LEES SUMMIT\JPM - LEES SUMMIT.TRC
Calculation time	11:40 AM on 01/05/2021
TRACE® 700 version	6.3.4
Location	St. Louis, Missouri
Latitude	38.0 deg
Longitude	90.0 deg
Time Zone	6
Elevation	535 ft
Barometric pressure	29.3 in. Hg
Air density	0.0745 lb/cu ft
Air specific heat	0.2444 Btu/lb·°F
Density-specific heat product	1.0924 Btu/h·cfm·°F
Latent heat factor	4,808.5 Btu·min/h·cu ft
Enthalpy factor	4.4689 lb·min/hr·cu ft
Summer design dry bulb	95.5 °F
Summer design wet bulb	76.7 °F
Winter design dry bulb	2.0 °F
Summer clearness number	0.85
Winter clearness number	0.85
Summer ground reflectance	0.20
Winter ground reflectance	0.20
Carbon Dioxide Level	400 ppm
Design simulation period	January - December
Cooling load methodology	TETD-TA1
Heating load methodology	UATD



By CoreStates

FCU-1

Fan Coil

COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 6 / 18			Mo/Hr: Sum of		Mo/Hr: Heating Design			Cooling			Heating
Outside Air:		OADB/WB/HR: 87 / 71 / 89			OADB: Peaks		OADB: 2			SADB			85.0
	Space	Plenum	Net	Percent	Space	Percent		Coil Peak	Percent		Ra Plenum	68.6	
	Sens. + Lat.	Sens. + Lat	Total	Of Total	Sensible	Of Total		Tot Sens	Of Total		Return	68.6	
	Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)		Btu/h	Btu/h	(%)	Ret/OA	68.6	
Envelope Loads							Envelope Loads			Fn MtrTD			0.0
Skylite Solar	0	0	0	0	0	0	Skylite Solar	0	0	0.00	Fn BldTD	0.0	
Skylite Cond	0	0	0	0	0	0	Skylite Cond	0	0	0.00	Fn Frict	0.0	
Roof Cond	0	679	679	5	0	0	Roof Cond	0	-698	7.31			
Glass Solar	9,240	0	9,240	74	9,240	80	Glass Solar	0	0	0.00			
Glass/Door Cond	1,299	0	1,299	10	1,299	11	Glass/Door Cond	-6,584	-6,584	68.95			
Wall Cond	204	138	342	3	204	2	Wall Cond	-347	-587	6.15			
Partition/Door	0		0	0	0	0	Partition/Door	0	0	0.00			
Floor	0		0	0	0.00	0	Floor	0	0	0.00			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00			
Infiltration	0		0	0	0	0	Infiltration	0	0	0.00			
Sub Total ==>	10,742	818	11,560	92	10,742	92	Sub Total ==>	-6,931	-7,869	82.41			
Internal Loads							Internal Loads						
Lights	765	191	956	8	765	7	Lights	0	0	0.00			
People	0	0	0	0	0	0	People	0	0	0.00			
Misc	0	0	0	0	0	0	Misc	0	0	0.00			
Sub Total ==>	765	191	956	8	765	7	Sub Total ==>	0	0	0.00			
Ceiling Load	110	-110	0	0	110	1	Ceiling Load	-102	0	0.00			
Ventilation Load	0	0	0	0	0	0	Ventilation Load	0	0	0.00			
Adj Air Trans Heat	0		0	0	0	0	Adj Air Trans Heat	0	0	0			
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	-1,680	-1,680	17.59			
Ov/Undr Sizing	0		0	0	0	0	Exhaust Heat		0	0.00			
Exhaust Heat		0	0	0			OA Preheat Diff.		0	0.00			
Sup. Fan Heat			0	0			RA Preheat Diff.		0	0.00			
Ret. Fan Heat		0	0	0			Additional Reheat		0	0.00			
Duct Heat Pkup		0	0	0									
Underflr Sup Ht Pkup			0	0			Underflr Sup Ht Pkup		0	0.00			
Supply Air Leakage		0	0	0			Supply Air Leakage		0	0.00			
Grand Total ==>	11,617	899	12,516	100.00	11,617	100.00	Grand Total ==>	-8,713	-9,549	100.00			

AIRFLOWS		
	Cooling	Heating
Diffuser	532	532
Terminal	532	532
Main Fan	532	532
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	0	0
Return	532	532
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	2.37	2.37
cfm/ton	509.81	
ft²/ton	214.77	
Btu/hr-ft²	55.87	-42.63
No. People	0	

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	Lv		
	ton	MBh	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb		ft²	(%)	MBh	cfm	°F	°F		
Main Clg	1.0	12.5	12.5	532	76.6	57.4	41.3	55.0	48.4	41.1	Floor	224		Main Htg	-9.6	532	68.6	85.0	
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							
Total	1.0	12.5									Roof	224	0	0	Humidif	0.0	0	0.0	0.0
											Wall	383	196	51	Opt Vent	0.0	0	0.0	0.0
											Ext Door	0	0	0	Total	-9.6			

Project Name: JPM 27135
Dataset Name: JPM - LEES SUMMIT.TRC

TRACE® 700 v6.3.4 calculated at 11:40 AM on 01/05/2021
Alternative - 1 System Checksums Report Page 1 of 4

System Checksums

By CoreStates

FCU-2

Fan Coil

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES		
Peaked at Time:		Mo/Hr: 7 / 19			Mo/Hr: Sum of		Mo/Hr: Heating Design					Cooling	Heating
Outside Air:		OADB/WB/HR: 89 / 72 / 92			OADB: Peaks		OADB: 2					SADB	
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total		Space Sensible	Percent Of Total		Space Peak	Coil Peak	Percent		Ra Plenum	
Btu/h	Btu/h	Btu/h	(%)		Btu/h	(%)		Space Sens	Tot Sens	Of Total		Return	
								Btu/h	Btu/h	(%)		Ret/OA	
Envelope Loads					Envelope Loads								
Skylite Solar	0	0	0	0	0	0	0	0	0	0.00		Fn MtrTD	0.0
Skylite Cond	0	0	0	0	0	0	0	0	0	0.00		Fn BldTD	0.0
Roof Cond	0	196	196	2	0	0	0	0	-225	21.10		Fn Frict	0.0
Glass Solar	0	0	0	0	0	0	0	0	0	0.00			
Glass/Door Cond	0	0	0	0	0	0	0	0	0	0.00			
Wall Cond	470	234	704	9	470	6	0	-561	-842	78.90			
Partition/Door	0	0	0	0	0	0	0	0	0	0.00			
Floor	0	0	0	0	0.00	0	0	0	0	0.00			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00			
Infiltration	0	0	0	0	0	0	0	0	0	0.00			
Sub Total ==>	470	430	900	11	470	6	0	-561	-1,067	100.00			
Internal Loads					Internal Loads								
Lights	246	61	307	4	246	3	0	0	0	0.00			
People	0	0	0	0	0	0	0	0	0	0.00			
Misc	6,826	0	6,826	85	6,826	90	0	0	0	0.00			
Sub Total ==>	7,072	61	7,133	89	7,072	93	0	0	0	0.00			
Ceiling Load	28	-28	0	0	28	0	0	-29	0	0.00			
Ventilation Load	0	0	0	0	0	0	0	0	0	0.00			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0			
Dehumid. Ov Sizing			0	0			0	0	0	0.00			
Ov/Undr Sizing	0		0	0	0	0	0	0	0	0.00			
Exhaust Heat		0	0	0			0	0	0	0.00			
Sup. Fan Heat			0	0			0	0	0	0.00			
Ret. Fan Heat		0	0	0			0	0	0	0.00			
Duct Heat Pkup		0	0	0			0	0	0	0.00			
Underflr Sup Ht Pkup			0	0			0	0	0	0.00			
Supply Air Leakage		0	0	0			0	0	0	0.00			
Grand Total ==>	7,569	464	8,033	100.00	7,569	100.00	0	-590	-1,067	100.00			

AIRFLOWS		
	Cooling	Heating
Diffuser	346	346
Terminal	346	346
Main Fan	346	346
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	0	0
Return	346	346
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	4.81	4.81
cfm/ton	517.55	
ft²/ton	107.55	
Btu/hr-ft²	111.57	-14.82
No. People	0	

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	0.7	8.0	8.0	346	76.2	57.3	41.3	55.0	48.4	41.1	Floor	72		Main Htg	-1.1	346	68.7
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
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
											ExFlr	0					
Total	0.7	8.0									Roof	72	0	Humidif	0.0	0	0.0
											Wall	266	0	Opt Vent	0.0	0	0.0
											Ext Door	0	0	Total	-1.1		

System Checksums

By CoreStates

RTU-1

Packaged Terminal Air Conditioner

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES		
Peaked at Time: Mo/Hr: 8 / 13					Mo/Hr: Sum of			Mo/Hr: Heating Design					
Outside Air: OADB/WB/HR: 93 / 74 / 101					OADB: Peaks			OADB: 2					
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total		Space Sensible	Percent Of Total		Space Peak	Coil Peak	Percent		Cooling	Heating
Btu/h	Btu/h	Btu/h	(%)		Btu/h	(%)		Space Sens	Tot Sens	Of Total			
Envelope Loads					Envelope Loads								
Skylite Solar	0	0	0	0	0	0	0	0	0	0.00	SADB	57.6	85.0
Skylite Cond	0	0	0	0	0	0	0	0	0	0.00	Ra Plenum	76.7	68.5
Roof Cond	0	5,312	5,312	6	0	0	0	0	-5,021	5.44	Return	76.4	68.5
Glass Solar	39,731	0	39,731	42	46,111	67	0	0	0	0.00	Ret/OA	78.2	61.7
Glass/Door Cond	3,644	0	3,644	4	316	0	0	-19,707	-19,707	21.37	Fn MtrTD	0.0	0.0
Wall Cond	875	1,207	2,082	2	475	1	0	-1,255	-3,099	3.36	Fn BldTD	0.0	0.0
Partition/Door	0	0	0	0	0	0	0	0	0	0.00	Fn Frict	0.0	0.0
Floor	0	0	0	0	0.00	0	0	0	0	0.00			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00			
Infiltration	0	0	0	0	0	0	0	0	0	0.00			
Sub Total ==>	44,250	6,519	50,768	54	46,901	68	0	-20,963	-27,828	30.18			
Internal Loads					Internal Loads								
Lights	5,505	1,376	6,881	7	5,505	8	0	0	0	0.00			
People	16,650	0	16,650	18	9,250	13	0	0	0	0.00			
Misc	6,246	0	6,246	7	6,246	9	0	0	0	0.00			
Sub Total ==>	28,401	1,376	29,777	32	21,001	31	0	0	0	0.00			
Ceiling Load	889	-889	0	0	726	1	0	-786	0	0.00			
Ventilation Load	0	0	14,567	15	0	0	0	0	-27,484	29.80			
Adj Air Trans Heat	0	0	0	0	0	0	0	0	0	0			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	-37,529	-37,529	40.70			
Ov/Undr Sizing	0	0	0	0	0	0	0	0	622	-0.67			
Exhaust Heat	-629	-629	-1	-1	0	0	0	0	0	0.00			
Sup. Fan Heat	0	0	0	0	0	0	0	0	0	0.00			
Ret. Fan Heat	0	0	0	0	0	0	0	0	0	0.00			
Duct Heat Pkup	0	0	0	0	0	0	0	0	0	0.00			
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0	0	0.00			
Supply Air Leakage	0	0	0	0	0	0	0	0	0	0.00			
Grand Total ==>	73,540	6,377	94,484	100.00	68,629	100.00	0	-59,278	-92,220	100.00			

AIRFLOWS		
	Cooling	Heating
Diffuser	3,618	3,618
Terminal	3,618	3,618
Main Fan	3,618	3,618
Sec Fan	0	0
Nom Vent	370	370
AHU Vent	370	370
Infil	0	0
MinStop/Rh	0	0
Return	3,618	3,618
Exhaust	370	370
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	10.2	10.2
cfm/ft²	2.24	2.24
cfm/ton	459.47	
ft²/ton	204.86	
Btu/hr-ft²	58.58	-57.17
No. People	37	

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	7.9	94.5	78.8	3,618	78.2	63.7	66.9	57.6	54.9	61.5	Floor	1,613		Main Htg	-92.2	3,618	61.7	85.0	
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							
Total	7.9	94.5									Roof	1,613	0	Humidif	0.0	0	0.0	0.0	
											Wall	1,575	587	Opt Vent	0.0	0	0.0	0.0	
											Ext Door	0	0	Total	-92.2				

System Checksums

By CoreStates

RTU-2

Packaged Terminal Air Conditioner

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES		
Peaked at Time: Mo/Hr: 9 / 14					Mo/Hr: Sum of			Mo/Hr: Heating Design			Cooling Heating		
Outside Air: OADB/WB/HR: 89 / 73 / 99					OADB: Peaks			OADB: 2			SADB 55.8 85.0		
	Space	Plenum	Net	Percent	Space	Percent		Space Peak	Coil Peak	Percent			
	Sens. + Lat.	Sens. + Lat	Total	Of Total	Sensible	Of Total		Space Sens	Tot Sens	Of Total			
	Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)		Btu/h	Btu/h	(%)			
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	3,525	3,525	7	0	0	Roof Cond	0	-3,113	7.16			
Glass Solar	16,075	0	16,075	33	19,049	55	Glass Solar	0	0	0.00			
Glass/Door Cond	888	0	888	2	-982	-3	Glass/Door Cond	-5,490	-5,490	12.63			
Wall Cond	1,452	1,333	2,785	6	1,621	5	Wall Cond	-2,077	-4,014	9.23			
Partition/Door	0	0	0	0	0	0	Partition/Door	0	0	0.00			
Floor	0	0	0	0	0.00	0	Floor	0	0	0.00			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00			
Infiltration	0	0	0	0	0	0	Infiltration	0	0	0.00			
Sub Total ==>	18,415	4,859	23,274	48	19,688	57	Sub Total ==>	-7,568	-12,618	29.03			
Internal Loads					Internal Loads								
Lights	3,457	864	4,322	9	3,457	10	Lights	0	0	0.00			
People	4,950	0	4,950	10	2,750	8	People	0	0	0.00			
Misc	8,021	0	8,021	17	8,021	23	Misc	0	0	0.00			
Sub Total ==>	16,428	864	17,292	36	14,228	41	Sub Total ==>	0	0	0.00			
Ceiling Load	823	-823	0	0	672	2	Ceiling Load	-765	0	0.00			
Ventilation Load	0	0	8,038	17	0	0	Ventilation Load	0	-12,628	29.05			
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	-18,664	-18,664	42.94			
Ov/Undr Sizing	0		0	0	0	0	Exhaust Heat		443	-1.02			
Exhaust Heat		-469	-469	-1			OA Preheat Diff.		0	0.00			
Sup. Fan Heat			0	0			RA Preheat Diff.		0	0.00			
Ret. Fan Heat		0	0	0			Additional Reheat		0	0.00			
Duct Heat Pkup		0	0	0									
Underflr Sup Ht Pkup			0	0			Underflr Sup Ht Pkup		0	0.00			
Supply Air Leakage		0	0	0			Supply Air Leakage		0	0.00			
Grand Total ==>	35,666	4,431	48,135	100.00	34,588	100.00	Grand Total ==>	-26,997	-43,467	100.00			

AIRFLOWS		
	Cooling	Heating
Diffuser	1,646	1,646
Terminal	1,646	1,646
Main Fan	1,646	1,646
Sec Fan	0	0
Nom Vent	170	170
AHU Vent	170	170
Infil	0	0
MinStop/Rh	0	0
Return	1,646	1,646
Exhaust	170	170
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	10.3	10.3
cfm/ft²	1.63	1.63
cfm/ton	410.43	
ft²/ton	252.54	
Btu/hr-ft²	47.52	-42.91
No. People	11	