

Project Summary

Location and Weather	
Project	
Address	
Calculation Time	Tuesday, November 11, 2014 9:18 AM
Report Type	Standard
Latitude	22.26°
Longitude	114.18°
Summer Dry Bulb	33 °C
Summer Wet Bulb	28 °C
Winter Dry Bulb	10 °C
Mean Daily Range	6 °C

Building Summary

Inputs	
Building Type	Office
Area (m ²)	138,587.12
Volume (m ³)	554,348.49
Calculated Results	
Peak Cooling Total Load (W)	11,689,315
Peak Cooling Month and Hour	July 2:00 PM
Peak Cooling Sensible Load (W)	11,503,872
Peak Cooling Latent Load (W)	185,443
Maximum Cooling Capacity (W)	11,689,315
Peak Cooling Airflow (L/s)	864,884.0
Peak Heating Load (W)	0
Peak Heating Airflow (L/s)	0.0
Checksums	
Cooling Load Density (W/m ²)	84.35
Cooling Flow Density (L/(s·m ²))	6.24
Cooling Flow / Load (L/(s·kW))	73.99
Cooling Area / Load (m ² /kW)	11.86
Heating Load Density (W/m ²)	0.00
Heating Flow Density (L/(s·m ²))	0.00

Zone Summary - Default

Inputs	
Area (m ²)	103,044.02
Volume (m ³)	412,176.08
Cooling Setpoint	23 °C
Heating Setpoint	21 °C
Supply Air Temperature	12 °C
Number of People	1311
Infiltration (L/s)	789.9
Air Volume Calculation Type	VAV - Single Duct
Relative Humidity	46.00% (Calculated)
Psychrometrics	
Psychrometric Message	None
Cooling Coil Entering Dry-Bulb Temperature	23 °C
Cooling Coil Entering Wet-Bulb Temperature	16 °C
Cooling Coil Leaving Dry-Bulb Temperature	11 °C
Cooling Coil Leaving Wet-Bulb Temperature	11 °C
Mixed Air Dry-Bulb Temperature	23 °C
Calculated Results	

Peak Cooling Load (W)	8,928,293
Peak Cooling Month and Hour	July 2:00 PM
Peak Cooling Sensible Load (W)	8,829,307
Peak Cooling Latent Load (W)	98,986
Peak Cooling Airflow (L/s)	663,804.9
Peak Heating Load (W)	0
Peak Heating Airflow (L/s)	0.0
Peak Ventilation Airflow (L/s)	0.0
Checksums	
Cooling Load Density (W/m ²)	86.65
Cooling Flow Density (L/(s·m ²))	6.44
Cooling Flow / Load (L/(s·kW))	74.35
Cooling Area / Load (m ² /kW)	11.54
Heating Load Density (W/m ²)	0.00
Heating Flow Density (L/(s·m ²))	0.00
Ventilation Density (L/(s·m ²))	0.00
Ventilation / Person (L/s)	0.0

Components	Cooling		Heating	
	Loads (W)	Percentage of Total	Loads (W)	Percentage of Total
Wall	34,019	0.38%	0	0.00%
Window	0	0.00%	0	0.00%
Door	738	0.01%	0	0.00%
Roof	6,236,107	69.85%	0	0.00%
Skylight	0	0.00%	0	0.00%
Partition	0	0.00%	0	0.00%
Infiltration	34,862	0.39%	0	0.00%
Ventilation	0	0.00%	0	0.00%
Lighting	959,884	10.75%		
Power	1,247,849	13.98%		
People	155,590	1.74%		
Plenum	0	0.00%		
Fan Heat	259,244	2.90%		
Reheat	0	0.00%		
Total	8,928,293	100%	0	100%

Default Spaces

Space Name	Area (m ²)	Volume (m ³)	Peak Cooling Load (W)	Cooling Airflow (L/s)	Peak Heating Load (W)	Heating Airflow (L/s)
1 Space	41,130.42	164,521.68	3,424,651	262,231.8	0	0.0
2 Space	31,740.80	126,963.20	2,746,917	210,336.5	0	0.0
3 Space	30,172.80	120,691.20	2,497,480	191,236.6	0	0.0

Zone Summary - 2

Inputs	
Area (m ²)	35,543.10
Volume (m ³)	142,172.40
Cooling Setpoint	23 °C
Heating Setpoint	21 °C
Supply Air Temperature	12 °C
Number of People	1244
Infiltration (L/s)	522.4
Air Volume Calculation Type	VAV - Single Duct
Relative Humidity	46.00% (Calculated)
Psychrometrics	

Psychrometric Message	None
Cooling Coil Entering Dry-Bulb Temperature	23 °C
Cooling Coil Entering Wet-Bulb Temperature	16 °C
Cooling Coil Leaving Dry-Bulb Temperature	11 °C
Cooling Coil Leaving Wet-Bulb Temperature	11 °C
Mixed Air Dry-Bulb Temperature	23 °C
Calculated Results	
Peak Cooling Load (W)	2,761,022
Peak Cooling Month and Hour	July 2:00 PM
Peak Cooling Sensible Load (W)	2,674,565
Peak Cooling Latent Load (W)	86,457
Peak Cooling Airflow (L/s)	201,079.1
Peak Heating Load (W)	0
Peak Heating Airflow (L/s)	0.0
Peak Ventilation Airflow (L/s)	0.0
Checksums	
Cooling Load Density (W/m ²)	77.68
Cooling Flow Density (L/(s·m ²))	5.66
Cooling Flow / Load (L/(s·kW))	72.83
Cooling Area / Load (m ² /kW)	12.87
Heating Load Density (W/m ²)	0.00
Heating Flow Density (L/(s·m ²))	0.00
Ventilation Density (L/(s·m ²))	0.00
Ventilation / Person (L/s)	0.0

Components	Cooling		Heating	
	Loads (W)	Percentage of Total	Loads (W)	Percentage of Total
Wall	27,304	0.99%	0	0.00%
Window	0	0.00%	0	0.00%
Door	123	0.00%	0	0.00%
Roof	2,153,379	77.99%	0	0.00%
Skylight	0	0.00%	0	0.00%
Partition	0	0.00%	0	0.00%
Infiltration	23,054	0.83%	0	0.00%
Ventilation	0	0.00%	0	0.00%
Lighting	330,974	11.99%		
Power	10	0.00%		
People	147,648	5.35%		
Plenum	0	0.00%		
Fan Heat	78,530	2.84%		
Reheat	0	0.00%		
Total	2,761,022	100%	0	100%

2 Spaces

Space Name	Area (m ²)	Volume (m ³)	Peak Cooling Load (W)	Cooling Airflow (L/s)	Peak Heating Load (W)	Heating Airflow (L/s)
4 Space	35,543.10	142,172.40	2,682,492	201,079.1	0	0.0

Space Summary - 1 Space

Inputs	
Area (m ²)	41,130.42
Volume (m ³)	164,521.68
Wall Area (m ²)	2,300.00
Roof Area (m ²)	41,243.19
Door Area (m ²)	15.62
Partition Area (m ²)	0.00
Window Area (m ²)	0.00
Skylight Area (m ²)	0.00
Lighting Load (W)	442,724
Power Load (W)	575,541
Number of People	100
Sensible Heat Gain / Person (W)	73
Latent Heat Gain / Person (W)	59
Infiltration Airflow (L/s)	444.0
Space Type	Office (inherited from building type)
Calculated Results	
Peak Cooling Load (W)	3,424,651
Peak Cooling Month and Hour	July 2:00 PM
Peak Cooling Sensible Load (W)	3,404,475
Peak Cooling Latent Load (W)	20,176
Peak Cooling Airflow (L/s)	262,231.8
Peak Heating Load (W)	0
Peak Heating Airflow (L/s)	0.0

Components	Cooling		Heating	
	Loads (W)	Percentage of Total	Loads (W)	Percentage of Total
Wall	20,372	0.59%	0	0.00%
Window	0	0.00%	0	0.00%
Door	492	0.01%	0	0.00%
Roof	2,491,099	72.74%	0	0.00%
Skylight	0	0.00%	0	0.00%
Partition	0	0.00%	0	0.00%
Infiltration	19,595	0.57%	0	0.00%
Lighting	383,141	11.19%		
Power	498,084	14.54%		
People	11,869	0.35%		
Plenum	0	0.00%		
Total	3,424,651	100%	0	100%

Space Summary - 2 Space

Inputs	
Area (m ²)	31,740.80
Volume (m ³)	126,963.20
Wall Area (m ²)	896.00
Roof Area (m ²)	31,785.60
Door Area (m ²)	0.00
Partition Area (m ²)	0.00
Window Area (m ²)	0.00
Skylight Area (m ²)	0.00
Lighting Load (W)	341,655
Power Load (W)	444,152

Number of People	1111
Sensible Heat Gain / Person (W)	73
Latent Heat Gain / Person (W)	59
Infiltration Airflow (L/s)	173.0
Space Type	Office (inherited from building type)
Calculated Results	
Peak Cooling Load (W)	2,746,917
Peak Cooling Month and Hour	July 2:00 PM
Peak Cooling Sensible Load (W)	2,679,366
Peak Cooling Latent Load (W)	67,551
Peak Cooling Airflow (L/s)	210,336.5
Peak Heating Load (W)	0
Peak Heating Airflow (L/s)	0.0

Components	Cooling		Heating	
	Loads (W)	Percentage of Total	Loads (W)	Percentage of Total
Wall	7,522	0.27%	0	0.00%
Window	0	0.00%	0	0.00%
Door	0	0.00%	0	0.00%
Roof	1,919,858	69.89%	0	0.00%
Skylight	0	0.00%	0	0.00%
Partition	0	0.00%	0	0.00%
Infiltration	7,633	0.28%	0	0.00%
Lighting	295,674	10.76%		
Power	384,377	13.99%		
People	131,853	4.80%		
Plenum	0	0.00%		
Total	2,746,917	100%	0	100%

Space Summary - 3 Space

Inputs	
Area (m ²)	30,172.80
Volume (m ³)	120,691.20
Wall Area (m ²)	896.00
Roof Area (m ²)	30,217.60
Door Area (m ²)	7.81
Partition Area (m ²)	0.00
Window Area (m ²)	0.00
Skylight Area (m ²)	0.00
Lighting Load (W)	324,777
Power Load (W)	422,211
Number of People	100
Sensible Heat Gain / Person (W)	73
Latent Heat Gain / Person (W)	59
Infiltration Airflow (L/s)	173.0
Space Type	Office (inherited from building type)
Calculated Results	
Peak Cooling Load (W)	2,497,480
Peak Cooling Month and Hour	July 2:00 PM
Peak Cooling Sensible Load (W)	2,486,221
Peak Cooling Latent Load (W)	11,259
Peak Cooling Airflow (L/s)	191,236.6
Peak Heating Load (W)	0
Peak Heating Airflow (L/s)	0.0

Components	Cooling		Heating	
	Loads (W)	Percentage of Total	Loads (W)	Percentage of Total
Wall	6,125	0.25%	0	0.00%
Window	0	0.00%	0	0.00%
Door	246	0.01%	0	0.00%
Roof	1,825,150	73.08%	0	0.00%
Skylight	0	0.00%	0	0.00%
Partition	0	0.00%	0	0.00%
Infiltration	7,633	0.31%	0	0.00%
Lighting	281,068	11.25%		
Power	365,388	14.63%		
People	11,869	0.48%		
Plenum	0	0.00%		
Total	2,497,480	100%	0	100%

Space Summary - 4 Space

Inputs	
Area (m ²)	35,543.10
Volume (m ³)	142,172.40
Wall Area (m ²)	2,706.00
Roof Area (m ²)	35,651.83
Door Area (m ²)	3.91
Partition Area (m ²)	0.00
Window Area (m ²)	0.00
Skylight Area (m ²)	0.00
Lighting Load (W)	382,444
Power Load (W)	12
Number of People	1244
Sensible Heat Gain / Person (W)	73
Latent Heat Gain / Person (W)	59
Infiltration Airflow (L/s)	522.4
Space Type	Office (inherited from building type)
Calculated Results	
Peak Cooling Load (W)	2,682,492
Peak Cooling Month and Hour	July 2:00 PM
Peak Cooling Sensible Load (W)	2,596,035
Peak Cooling Latent Load (W)	86,457
Peak Cooling Airflow (L/s)	201,079.1
Peak Heating Load (W)	0
Peak Heating Airflow (L/s)	0.0

Components	Cooling		Heating	
	Loads (W)	Percentage of Total	Loads (W)	Percentage of Total
Wall	27,304	1.02%	0	0.00%
Window	0	0.00%	0	0.00%
Door	123	0.00%	0	0.00%
Roof	2,153,379	80.28%	0	0.00%
Skylight	0	0.00%	0	0.00%
Partition	0	0.00%	0	0.00%
Infiltration	23,054	0.86%	0	0.00%
Lighting	330,974	12.34%		
Power	10	0.00%		
People	147,648	5.50%		

Plenum	0	0.00%		
Total	2,682,492	100%	0	100%