



Right-Suite® Universal 2022 Load Calculation Worksheet

office

DL Williams Heating & Cooling LLC

Job: 1
Date: May 23, 2022
By: DL Williams Heating & C...

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Brittany's Cupcakes, DMC Contracting
Lake City, FL 32055



Zone: office

LWH: 11.0 x 8.0 x 8.0

1. DESIGN CONDITIONS - COOLING

(Jul 1700 LDT)

		Dry Blb	RH	Moisture	Range	Wet Blb
Outdoor Conditions	—>	92	48		18	76
Indoor Conditions	—>	75	50			63
TOD Correction	—>	1				

Difference 17 43.8

2. GLAZING SOLAR HEAT GAIN

(Lat = 29.69 °N Const Wt = M)

[Mult = 1.0]

Type	Orien	Area	Tilt	ShdF	IntShd	SCMult	SC	Sens/A	Sens
------	-------	------	------	------	--------	--------	----	--------	------

3. TRANSMISSION GAINS

Type	Orien	GrArea	NtArea	Uval	Grp	CLTD	Shad	Clr	Sens
FLOR-01	-	88	88	0.049		6.0	-	-	26
CEIL-01	-	88	88	0.032	55	52.7	-	d	148

4. INTERNAL HEAT GAIN PEOPLE

Sens Latent

Activity Schedule	ft²/prsn	#	Total people	Sensible Btuh/prsn	Latent Btuh/prsn	Sens	Latent
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0

LIGHTS

Lamp/blst + fixture Schedule	W/ft²	W	Total W	Factor	Space fract	Sens
	0	0	0	1.00	0	0
	0	0	0	1.00	0	0
	0	0	0	1.00	0	0
	0	0	0	1.00	0	0

APPLIANCES / PLUG LOADS

Application
Schedule

Usage

Sensible
Btuh

Latent
Btuh

Sens

Latent

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

MOTORS

Power (hp)
Schedule

#/ft²

#

Total

Per mtr
Btuh

Load
factor

Sens

0

0

0

0

0

1.00

0

0

0

0

0

0

1.00

0

0

0

0

0

0

1.00

0

5. INFILTRATION

0 cfm

→

x

db Temp Diff

16.7 x 1.10

Sens

Latent

→

x

Moist. Diff

43.8 x 0.68

0

0

6. SUBTOTAL COOLING LOAD FOR SPACE

Envelope

Less external cooling

Redistribution

Sensible

Latent

174

101

174

0

0

0

0

0

7. SUPPLY DUCT HEAT GAIN

Gain factor 0.16

x Line 6 Sensible Gain

27

8. COOLING FAN SIZING

Sum of Duct Gain

(7)

, Line

(6)

& Drawthru Fan

=

201

Est Cooling

cfm

=

(

201

) /

(

1.10

x

20.0

) =

9

Actual Cooling Fan

=

(

201

) /

(

1.10

x

20.0

) =

11

9. VENTILATION

OA

0 cfm

→

x

db Temp Diff

16.7 x 1.10

0

→

x

Moist. Diff

43.8 x 0.68

0

10. RETURN AIR PLENUM

Lights

Total power (W)

0

0

Transmission load (plenum upper surface)

0

Space load credit (plenum lower surface)

0

11. RETURN DUCT HEAT GAIN

Gain factor 0.09

x Line 6 Sensible Gain

15

12. TOTAL COOLING LOADS ON EQUIPMENT (Btuh)

216

101

SPACE HEATING LOAD CALCULATION

13. HEATING DESIGN TEMPERATURE

$$\text{Heating TD} = (\text{Inside DB} - \text{Outside DB}) = (70 - 33) = 37$$

$$[\text{Mult} = 1.0]$$

14. TRANSMISSION LOSSES

Type	Expos	GrArea	NetArea	Uval	HTD	Loss
FLOOR-01	-	88	88	0.049	36.8	159
CEIL-01	-	88	88	0.032	36.8	104

15. INFILTRATION

0	cfm	x	db Temp Diff	36.8	x	1.10	Loss
							0

16. SUBTOTAL HEATING LOAD FOR SPACE

Envelope	262
Less external heating	0
Less transfer	0
Redistribution	0

17. SUPPLY DUCT HEAT LOSS

Loss factor	0.20	x	Line 16 Loss	53
Less transfer				0
Redistribution				0

18. VENTILATION

OA	0	cfm	x	db Temp Diff	36.8	x	1.10	0
----	---	-----	---	--------------	------	---	------	---

19. HUMIDIFICATION

Inside RH desired	:	40.0	(Max = 32.0 for 1 pane)
# of Glazing panes	:	0	(Max = 52.0 for 2 pane)

20. RETURN DUCT HEAT LOSS

0	cfm	x	0.0052	g/100cfm/d	=	0	gpd	16
								0

21. TOTAL HEATING LOAD ON EQUIPMENT (Btuh)

Loss factor	x	Line 16 Loss	331
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Right-Suite® Universal 2022 Load Calculation Worksheet

restroom

DL Williams Heating & Cooling LLC

Job: 1
Date: May 23, 2022
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Project Information

For: Brittany's Cupcakes, DMC Contracting
Lake City, FL 32055



Zone: restroom

LWH: 7.0 x 7.0 x 8.0

1. DESIGN CONDITIONS - COOLING

(Jul 1700 LDT)

Outdoor Conditions	→	Dry Blb	92	RH	48	Moisture	Range	18	Wet Blb	76
Indoor Conditions	→		75		50					63
TOD Correction	→		1							
Difference			17			43.8				

2. GLAZING SOLAR HEAT GAIN

(Lat = 29.69 °N Const Wt = M) [Mult = 1.0]

Type	Orien	Area	Tilt	ShdF	IntShd	SCMult	SC	Sens/A	Sens
------	-------	------	------	------	--------	--------	----	--------	------

3. TRANSMISSION GAINS

Type	Orien	GrArea	NtArea	Uval	Grp	CLTD	Shad	Clr	Sens
WALL-01	w	56	56	0.091	GC	33.2	N	m	169
FLOR-01	-	49	49	0.049		6.0	-	-	14
CEIL-01	-	49	49	0.032	55	52.7	-	d	83

4. INTERNAL HEAT GAIN

PEOPLE

Activity	Schedule	ft²/prsn	#	Total people	Sensible Btuh/prsn	Latent Btuh/prsn	Sens	Latent
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0

LIGHTS

Lamp/blst + fixture	Schedule	W/ft²	W	Total W	Factor	Space fract	Sens
		0	0	0	1.00	0	0
		0	0	0	1.00	0	0
		0	0	0	1.00	0	0
		0	0	0	1.00	0	0

APPLIANCES / PLUG LOADS

Application
Schedule

Usage

Sensible
Btuh

Latent
Btuh

Sens

Latent

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

#/ft²

#

1.00

0

0

0

0

MOTORS

Power (hp)
Schedule

#/ft²

#

Total

Per mtr
Btuh

Load
factor

Sens

0

0

0

0

0

1.00

0

0

0

0

0

0

1.00

0

0

0

0

0

0

1.00

0

5. INFILTRATION

10 cfm

→

x

db Temp Diff

16.7 x 1.10

Sens
182

Latent

→

x

Moist. Diff

43.8 x 0.68

296

6. SUBTOTAL COOLING LOAD FOR SPACE

Envelope

Less external cooling

Redistribution

Sensible

448

Latent

296

448

352

0

0

0

0

7. SUPPLY DUCT HEAT GAIN

Gain factor

0.16

x Line 6 Sensible Gain

71

8. COOLING FAN SIZING

Sum of Duct Gain

(7)

, Line

(6)

& Drawthru Fan

=

519

Est Cooling

cfm

=

(

519

/

(

1.10

x

20.0

)

=

24

Actual Cooling Fan

=

(

519

/

(

1.10

x

20.0

)

=

30

9. VENTILATION

OA

0 cfm

→

x

db Temp Diff

16.7 x 1.10

0

→

x

Moist. Diff

43.8 x 0.68

0

10. RETURN AIR PLENUM

Lights

Total power (W)

0

0

Transmission load (plenum upper surface)

0

Space load credit (plenum lower surface)

0

11. RETURN DUCT HEAT GAIN

Gain factor

0.09

x Line 6 Sensible Gain

39

12. TOTAL COOLING LOADS ON EQUIPMENT (Btuh)

557

352

SPACE HEATING LOAD CALCULATION

13. HEATING DESIGN TEMPERATURE

$$\text{Heating TD} = (\text{Inside DB} - \text{Outside DB}) = (70 - 33) = 37$$

$$[\text{Mult} = 1.0]$$

14. TRANSMISSION LOSSES

Type	Expos	GrArea	NetArea	Uval	HTD	Loss
WALL-01	w	56	56	0.091	36.8	188
FLOR-01	-	49	49	0.049	36.8	88
CEIL-01	-	49	49	0.032	36.8	58

15. INFILTRATION

$$19 \text{ cfm} \times \text{db Temp Diff} \times 36.8 \times 1.10 = \text{Loss } 775$$

16. SUBTOTAL HEATING LOAD FOR SPACE

Envelope	1109
Less external heating	1109
Less transfer	0
Redistribution	0

17. SUPPLY DUCT HEAT LOSS

Loss factor 0.20 x Line 16 Loss	226
Less transfer	0
Redistribution	0

18. VENTILATION

$$\text{OA } 0 \text{ cfm} \times \text{db Temp Diff} \times 36.8 \times 1.10 = 0$$

19. HUMIDIFICATION

Inside RH desired	:	40.0	(Max = 32.0 for 1 pane)
# of Glazing panes	:	0	(Max = 52.0 for 2 pane)

20. RETURN DUCT HEAT LOSS

$$19 \text{ cfm} \times 0.0052 \text{ g/100cfm/d} = 0.9 \text{ gpd} \quad \text{Piping } 385$$

21. TOTAL HEATING LOAD ON EQUIPMENT (Btuh)

$$\text{Loss factor} \times \text{Line 16 Loss} = 1723$$



Right-Suite® Universal 2022 Load Calculation Worksheet

shop

DL Williams Heating & Cooling LLC

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Project Information

For: Brittany's Cupcakes, DMC Contracting
Lake City, FL 32055



Zone: shop

LWH: 1001 x 1.0 x 12.0

1. DESIGN CONDITIONS - COOLING

(Jul 1700 LDT)

		Dry Blb	RH	Moisture	Range	Wet Blb
Outdoor Conditions	—>	92	48		18	76
Indoor Conditions	—>	75	50			63
TOD Correction	—>	1				
Difference		17		43.8		

2. GLAZING SOLAR HEAT GAIN

(Lat = 29.69 °N Const Wt = M) [Mult = 1.0]

Type	Orien	Area	Tilt	ShdF	IntShd	SCMult	SC	Sens/A	Sens
GLAZ-01	e	21	90	shd	n	1.00	0.38	21.1	444

3. TRANSMISSION GAINS

Type	Orien	GrArea	NtArea	Uval	Grp	CLTD	Shad	Clr	Sens
GLAZ-01	e	21	21	0.750		16.7	N	-	628
WALL-01	ne	60	60	0.240	GA	24.0	N	m	345
WALL-02	e	228	207	0.240	GA	25.2	N	m	1252
WALL-03	w	180	180	0.240	GA	57.2	N	m	2471
FLOR-01	-	1001	1001	0		0	-	-	0
CEIL-01	-	1001	1001	0.070	55	52.7	-	d	3690

4. INTERNAL HEAT GAIN PEOPLE

Activity	Schedule	ft²/prsn	#	Total people	Sensible Btuh/prsn	Latent Btuh/prsn	Sens	Latent
Restaurant	9ato1a	100	0	10	255	225	2425	2252
		0	0	0	0	0	0	0

LIGHTS

Lamp/blst + fixture Schedule	W/ft²	W	Total W	Factor	Space fract	Sens
Fluor MB + Rec trof 9ato1a	1.31	0	1311	1.20	1.0	4946
Fluor MB + Rec trof	0	0	0	1.20	1.0	0
Fluor MB + Rec trof	0	0	0	1.20	1.0	0
Fluor MB + Rec trof	0	0	0	1.20	1.0	0

APPLIANCES / PLUG LOADS

Application Schedule	Usage	Sensible Btuh	Latent Btuh	Sens	Latent
Microwave/conv. rqpud-co...	#/ft² # 0 1.00 1.00	3900.0	0	3900	0
Reach-in refrigerator, no hd	#/ft² # 0 1.00 1.00	1200.0	0	1200	0
Sm freezer, no hd	#/ft² # 0 1.00 1.00	1100.0	0	1100	0
Reach-in refrigerator, no hd	#/ft² # 0 1.00 1.00	1200.0	0	1200	0
Reach-in refrigerator, no hd	#/ft² # 0 1.00 1.00	1200.0	0	1200	0
Reach-in refrigerator, no hd	#/ft² # 0 1.00 1.00	1200.0	0	1200	0

MOTORS

Power (hp) Schedule	#/ft²	#	Total	Per mtr Btuh	Load factor	Sens
0	0	0	0	0	1.00	0
0	0	0	0	0	1.00	0
0	0	0	0	0	1.00	0

5. INFILTRATION

142 cfm	→	x	db Temp Diff	16.7 x 1.10	Sens 2597	Latent
	→	x	Moist. Diff	43.8 x 0.68		4221

6. SUBTOTAL COOLING LOAD FOR SPACE

Envelope	Sensible 28154	Latent 6473	28154	7621
Less external cooling	0			
Redistribution	0	0		

7. SUPPLY DUCT HEAT GAIN

Gain factor 0.16	x Line 6 Sensible Gain	4431
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8. COOLING FAN SIZING

Sum of Duct Gain	(7), Line (6) & Drawthru Fan	=	32585
Est Cooling cfm	(L 8 Sens) / (Xfer x Supply TD) = cfm		
Actual Cooling Fan	= (32585) / (1.10 x 20.0) = 1488		
		= 1756	

9. VENTILATION

OA 0 cfm	→	x	db Temp Diff	16.7 x 1.10	0	
	→	x	Moist. Diff	43.8 x 0.68		0

10. RETURN AIR PLENUM			
Lights	Total power (W)	1311	0
Transmission load (plenum upper surface)			0
Space load credit (plenum lower surface)			0

11. RETURN DUCT HEAT GAIN			
Gain factor	0.09	x Line 6 Sensible Gain	2437

12. TOTAL COOLING LOADS ON EQUIPMENT (Btuh)	35022	7621
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SPACE HEATING LOAD CALCULATION

13. HEATING DESIGN TEMPERATURE

$$\text{Heating TD} = (\text{Inside DB} - \text{Outside DB}) = (70 - 33) = 37$$

$$[\text{Mult} = 1.0]$$

14. TRANSMISSION LOSSES

Type	Expos	GrArea	NetArea	Uval	HTD	Loss
GLAZ-01	e	21	21	0.750	36.8	580
WALL-01	ne	60	60	0.240	36.8	530
WALL-02	e	228	207	0.240	36.8	1828
WALL-03	w	180	180	0.240	36.8	1590
FLOR-01	-	39	39	0.989	36.8	1419
CEIL-01	-	1001	1001	0.070	36.8	2579

15. INFILTRATION						Loss
280	cfm	x	db Temp Diff	36.8	x	1.10
						11274

16. SUBTOTAL HEATING LOAD FOR SPACE						19799
Envelope						19799
Less external heating						0
Less transfer						0
Redistribution						0

17. SUPPLY DUCT HEAT LOSS						
Loss factor	0.20	x	Line 16 Loss			4030
Less transfer						0
Redistribution						0

18. VENTILATION						
OA	0	cfm	x	db Temp Diff	36.8	x
						1.10
						0

19. HUMIDIFICATION					
Inside RH desired	:	40.0	(Max = 32.0 for 1 pane)		
# of Glazing panes	:	2.0	(Max = 52.0 for 2 pane)		

20. RETURN DUCT HEAT LOSS						
280	cfm	x	0.0652	g/100cfm/d	=	12.7
Piping						gpd
						4739
						0

21. TOTAL HEATING LOAD ON EQUIPMENT (Btuh)						29691
Loss factor		x	Line 16 Loss			



Right-Suite® Universal 2022 Load Calculation Worksheet

storage

DL Williams Heating & Cooling LLC

Job: 1
Date: May 23, 2022
By: DL Williams Heating & C...

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Project Information

For: Brittany's Cupcakes, DMC Contracting
Lake City, FL 32055



Zone: storage

LWH: 7.0 x 4.0 x 8.0

1. DESIGN CONDITIONS - COOLING

(Jul 1700 LDT)

		Dry Blb	RH	Moisture	Range	Wet Blb
Outdoor Conditions	—>	92	48		18	76
Indoor Conditions	—>	75	50			63
TOD Correction	—>	1				

Difference	17	43.8
------------	----	------

[Mult = 1.0] —

2. GLAZING SOLAR HEAT GAIN

(Lat = 29.69 °N Const Wt = M)

Type	Orien	Area	Tilt	ShdF	IntShd	SCMult	SC	Sens/A	Sens
------	-------	------	------	------	--------	--------	----	--------	------

3. TRANSMISSION GAINS

Type	Orien	GrArea	NtArea	Uval	Grp	CLTD	Shad	Clr	Sens
FLOR-01	-	28	28	0.049		6.0	-	-	8
CEIL-01	-	28	28	0.032	55	52.7	-	d	47

4. INTERNAL HEAT GAIN PEOPLE

Activity	Schedule	ft²/prsn	#	Total people	Sensible Btuh/prsn	Latent Btuh/prsn	Sens	Latent
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0

LIGHTS

Lamp/blst + fixture	Schedule	W/ft²	W	Total W	Factor	Space fract	Sens
		0	0	0	1.00	0	0
		0	0	0	1.00	0	0
		0	0	0	1.00	0	0
		0	0	0	1.00	0	0

APPLIANCES / PLUG LOADS

 Application
Schedule

Usage

 Sensible
Btuh

 Latent
Btuh

Sens

Latent

 #/ft²

#

1.00

0

0

0

0

 #/ft²

#

1.00

0

0

0

0

 #/ft²

#

1.00

0

0

0

0

 #/ft²

#

1.00

0

0

0

0

 #/ft²

#

1.00

0

0

0

0

 #/ft²

#

1.00

0

0

0

0

MOTORS

 Power (hp)
Schedule

 #/ft²

#

Total

 Per mtr
Btuh

 Load
factor

Sens

0

0

0

0

0

1.00

0

0

0

0

0

0

1.00

0

0

0

0

0

0

1.00

0

5. INFILTRATION

0 cfm

—————>

x

db Temp Diff

16.7 x 1.10

Sens

Latent

—————>

x

Moist. Diff

43.8 x 0.68

0

0

6. SUBTOTAL COOLING LOAD FOR SPACE

Envelope

Less external cooling

Redistribution

Sensible

55

Latent

0

55

32

7. SUPPLY DUCT HEAT GAIN

Gain factor 0.16

x Line 6 Sensible Gain

9

8. COOLING FAN SIZING

Sum of Duct Gain

(7)

Line

(6)

& Drawthru Fan

=

64

Est Cooling

cfm

=

(

64

) /

(

1.10

x

20.0

) =

3

Actual Cooling Fan

=

(

64

) /

(

1.10

x

20.0

) =

3

9. VENTILATION

OA

0 cfm

—————>

x

db Temp Diff

16.7 x 1.10

0

—————>

x

Moist. Diff

43.8 x 0.68

0

10. RETURN AIR PLENUM

Lights

Transmission load (plenum upper surface)

Space load credit (plenum lower surface)

Total power (W)

0

0

0

0

11. RETURN DUCT HEAT GAIN

Gain factor 0.09

x Line 6 Sensible Gain

5

12. TOTAL COOLING LOADS ON EQUIPMENT (Btuh)

69

32

SPACE HEATING LOAD CALCULATION

13. HEATING DESIGN TEMPERATURE

$$\text{Heating TD} = (\text{Inside DB} - \text{Outside DB}) = (70 - 33) = 37$$

$$[\text{Mult} = 1.0]$$

14. TRANSMISSION LOSSES

Type	Expos	GrArea	NetArea	Uval	HTD	Loss
FLO-01	-	28	28	0.049	36.8	50
CEIL-01	-	28	28	0.032	36.8	33

15. INFILTRATION

0	cfm	x	db Temp Diff	36.8	x	1.10	Loss
							0

16. SUBTOTAL HEATING LOAD FOR SPACE

Envelope	83
Less external heating	0
Less transfer	0
Redistribution	0

17. SUPPLY DUCT HEAT LOSS

Loss factor	0.20	x	Line 16 Loss	17
Less transfer				0
Redistribution				0

18. VENTILATION

OA	0	cfm	x	db Temp Diff	36.8	x	1.10	0
----	---	-----	---	--------------	------	---	------	---

19. HUMIDIFICATION

Inside RH desired	:	40.0	(Max = 32.0 for 1 pane)
# of Glazing panes	:	0	(Max = 52.0 for 2 pane)

20. RETURN DUCT HEAT LOSS

0	cfm	x	0.052	g/100cfm/d	=	0	gpd	6
Piping								0

21. TOTAL HEATING LOAD ON EQUIPMENT (Btuh)

Loss factor	x	Line 16 Loss	105
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Loads for Multiple Orientations

Entire House

DL Williams Heating & Cooling LLC

Job: 1
Date: May 23, 2022
By: DL Williams Heating & C...

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Project Information

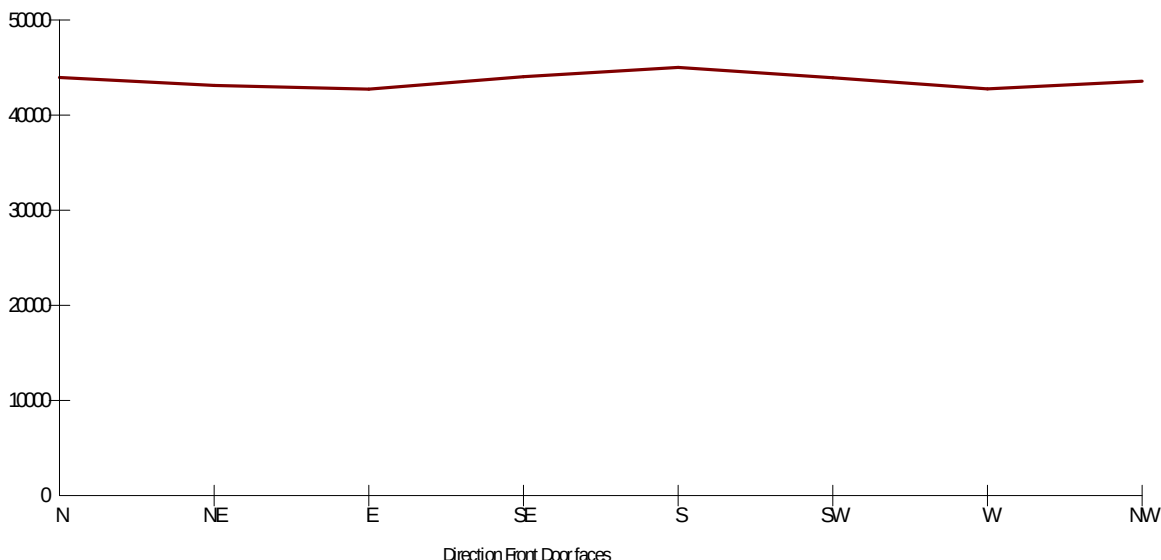
For: Brittany's Cupcakes, DMC Contracting
Lake City, FL 32055

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		70	75
Elevation: 123 ft		Design TD (°F)		37	17
Latitude: 30°N		Relative humidity (%)		40	50
		Moisture difference (gr/lb)		10.4	43.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92			
Daily range (°F)	-	18 (M)			
Wet bulb (°F)	-	76			
Wind speed (mph)	15.0	7.5			

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	35865	35020	34630	35948	36899	35839	34650	35461
Latent Load (Btuh)	8106	8102	8098	8106	8115	8106	8098	8107
Total Load (Btuh)	43971	43122	42727	44054	45014	43945	42747	43567
Heating AVF (cfm)	1800	1800	1800	1800	1800	1800	1800	1800
Cooling AVF (cfm)	1800	1800	1800	1800	1800	1800	1800	1800

Building Orientation Cooling Load



Current Orientation: Front Door faces North
Highest Cooling Load: Front Door faces South



Right-Suite® Universal 2022 Scenario

Automotive Facility - Default Automotive Facility conditions

DL Williams Heating & Cooling LLC

Job: 1
Date: May 23, 2022
By: DL Williams Heating & C...

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com Web: www.dlwilliamsheatingandcooling.com

Cooling set point schedule: Clg75
Cooling inside relative humidity: 50 %
Heating set point: 70 °F

People

Activity	ft²/prsn	#	Sensible Btuh/prsn	Latent Btuh/prsn	Schedule
Garage	200	0	565	1035	8ato8p

Lights

Lamp/blst + fixture	W/ft²	W	Factor	Space fract	Schedule
Fluor MB + Rec trof	1.31	0	1.20	1.00	8ato8p

Appliances / Plug Loads

Application			Usage	Sensible (Btuh)	Latent (Btuh)	Schedule
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Motors

Power (hp)	#/ft²	#	Load factor	Sensible (Btuh)	Schedule
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Right-Suite® Universal 2022 Scenario

Court House - Default Court House conditions

DL Williams Heating & Cooling LLC

Job: 1
Date: May 23, 2022
By: DL Williams Heating & C...

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com Web: www.dlwilliamsheatingandcooling.com

Cooling set point schedule: Clg75
Cooling inside relative humidity: 50 %
Heating set point: 70 °F

People

Activity	ft²/prsn	#	Sensible Btuh/prsn	Latent Btuh/prsn	Schedule
Assembly	50	0	225	105	7ato10p

Lights

Lamp/blst + fixture	W/ft²	W	Factor	Space fract	Schedule
Fluor MB + Rec trof	2.07	0	1.20	1.00	7ato10p

Appliances / Plug Loads

Application			Usage	Sensible (Btuh)	Latent (Btuh)	Schedule
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Motors

Power (hp)	#/ft²	#	Load factor	Sensible (Btuh)	Schedule
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Right-Suite® Universal 2022 Scenario

Dining: Cafeteria/Fast Food - Default Dining: Cafeteria/Fast Food
conditions
DL Williams Heating & Cooling LLC

Job: 1
Date: May 23, 2022
By: DL Williams Heating & C...

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com Web: www.dlwilliamsheatingandcooling.com

Cooling set point schedule: Clg75
Cooling inside relative humidity: 50 %
Heating set point: 70 °F

People

Activity	ft²/prsn	#	Sensible Btuh/prsn	Latent Btuh/prsn	Schedule
Restaurant	100	0	255	225	9ato1a

Lights

Lamp/blst + fixture	W/ft²	W	Factor	Space fract	Schedule
Fluor MB + Rec trof	1.31	0	1.20	1.00	9ato1a

Appliances / Plug Loads

Application			Usage	Sensible (Btuh)	Latent (Btuh)	Schedule
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Motors

Power (hp)	#/ft²	#	Load factor	Sensible (Btuh)	Schedule
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Right-Suite® Universal 2022 Short Form

Entire House

DL Williams Heating & Cooling LLC

Job: 1
Date: May 23, 2022
By: DL Williams Heating & C...

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Brittany's Cupcakes, DMC Contracting
Lake City, FL 32055

Outside db	(°F)	Htg	Clg
Outside RH	(%)	-	48
Outside wb	(°F)	-	76
Daily range	(°F)	-	18
Moisture diff.	(gr/lb)	-	44

Inside db	(°F)	Htg	Clg
Inside RH	(%)	-	50
Inside wb	(°F)	-	63
Design TD	(°F)	37	17

Heating Equipment

Make	Generic
Model	SEER 14.0, HSPF 8.1
Type	Split ASHP
Efficiency	8.1 HSPF
Heating Input	
Heating Output	53.7 MBtuh @ 47°F
Humidifier	13.5 gpd
Leaving Air Temp	97.3 °F
Actual Heating Fan	1800 cfm

Cooling Equipment

Make	Generic
Model	SEER 14.0, HSPF 8.1
Type	Split ASHP
COP / EER / SEER	14.0
Sensible Cooling	37.8 MBtuh
Latent Cooling	16.2 MBtuh
Total Cooling	54.0 MBtuh
Leaving Air Temp	55.0 °F
Actual Cooling Fan	1800 cfm

Equipment Location	Entire House
System Type	PEAKCV
Fan Motor Heat Type	PACKAGE
Fan & Motor Combined Efficiency	0 %
Static Pressure Across Fan	0 in H2O

NAME	Area ft²	Heat Loss	Sensible Gain	Latent Gain	Htg cfm	Clg cfm	Time
shop	1001	29691	35022	7621	1677	1756	Jul 1700 LDT
restroom	49	1723	557	352	94	30	Jul 1700 LDT
storage	28	105	69	32	7	3	Jul 1700 LDT
office	88	331	216	101	22	11	Jul 1700 LDT
Entire House	1166	31850	35865	8106	1800	1800	Jul 1700 LDT



Right-Suite® Universal 2022 Load Summary

Entire House

DL Williams Heating & Cooling LLC

Job: 1
Date: May 23, 2022
By: DL Williams Heating & C...

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Brittany's Cupcakes, DMC Contracting
Lake City, FL 32055

Zone: Entire House

COOLING LOAD

1. DESIGN CONDITIONS	at Jul 1700 LDT	Peak load at Jul 1700 LDT		
Inside: 75 °F	Outside: 92 °F	TD: 17 °F		
RH: 48 %	MoistDiff: 43.8 gr/lb	Mult: 1.0	Ins.wb	63 °F
			Sensible	Latent
2. SOLAR RADIATION THROUGH GLASS			444	-
3. TRANSMISSION GAINS	Sensible		8437	-
Walls:	4238		-	-
Glass:	184		-	-
Doors:	0		-	-
Partitions:	0		-	-
Floors:	48		-	-
Ceilings:	3968		-	-
4. INTERNAL HEAT GAIN	Sensible	Latent	17171	2252
Occupants:	2425	2252	-	-
Lights:	4946	-	-	-
Motors:	0	-	-	-
Appliances:	9800	0	-	-
5. INFILTRATION:	Outside air cfm:	152	2779	4516
6. SUBTOTAL:	Space load	Sensible	Latent	
Envelope	28832	6769	28832	6769
Less external	0	-	-	-
Redistribution	0	0	-	-
7. SUPPLY DUCT			4538	-
8. SUBTOTAL:	Space load + supply duct		33369	-
Actual cfm:	1800	at supply TD: 20	-	-
9. VENTILATION:	Make-up air cfm:	0	0	0
10. RETURN AIR LOAD:	Lighting + plenum (net)		0	-
11. RETURN DUCT			2496	-
12. TOTAL LOADS ON EQUIPMENT			35865	8106

HEATING LOAD

13. DESIGN CONDITIONS		Mult: 1.0		
Inside: 70 °F	Outside: 33 °F	TD: 37 °F		
14. TRANSMISSION LOSSES			9205	
Walls:	4135		-	
Glass:	580		-	
Doors:	0		-	
Partitions:	0		-	
Floors:	1717		-	
Ceilings:	2773		-	
15. INFILTRATION:	Outside air cfm:	299	12049	
16. SUBTOTAL:	Space load		21254	
Envelope	21254		-	
Less external	0		-	
Less transfer	0		-	
Redistribution	0		-	
17. SUPPLY DUCT:			4326	
18. VENTILATION:	Make-up air cfm:	0	0	
19. HUMIDIFICATION			5055	
Piping			0	
20. RETURN DUCT			1216	
21. TOTAL HEATING LOAD ON EQUIPMENT			31850	



Right-Suite® Universal 2022 Load Summary

office

DL Williams Heating & Cooling LLC

Job: 1
Date: May 23, 2022
By: DL Williams Heating & C...

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Brittany's Cupcakes, DMC Contracting
Lake City, FL 32055

Zone: office

COOLING LOAD

1. DESIGN CONDITIONS	at Jul 1700 LDT	Peak load at Jul 1600 LDT		
Inside: 75 °F	Outside: 92 °F	TD: 17 °F		
RH: 48 %	MoistDiff: 43.8 gr/lb	Mult: 1.0	Ins.wb	63 °F
			Sensible	Latent
2. SOLAR RADIATION THROUGH GLASS			0	-
3. TRANSMISSION GAINS	Sensible		174	-
Walls:	0		-	-
Glass:	0		-	-
Doors:	0		-	-
Partitions:	0		-	-
Floors:	26		-	-
Ceilings:	148		-	-
4. INTERNAL HEAT GAIN	Sensible	Latent	0	0
Occupants:	0	0	-	-
Lights:	0	-	-	-
Motors:	0	-	-	-
Appliances:	0	0	-	-
5. INFILTRATION:	Outside air cfm:	0	0	0
6. SUBTOTAL:	Space load	Sensible	Latent	0
Envelope	174	0	-	-
Less external	0	-	-	-
Redistribution	0	0	-	-
7. SUPPLY DUCT			27	-
8. SUBTOTAL:	Space load + supply duct		201	-
Actual cfm:	11 at supply TD:	20	-	-
9. VENTILATION:	Make-up air cfm:	0	0	0
10. RETURN AIR LOAD:	Lighting + plenum (net)		0	-
11. RETURN DUCT			15	-
12. TOTAL LOADS ON EQUIPMENT			216	101

HEATING LOAD

13. DESIGN CONDITIONS		Mult: 1.0	
Inside: 70 °F	Outside: 33 °F	TD: 37 °F	
14. TRANSMISSION LOSSES			262
Walls:	0		-
Glass:	0		-
Doors:	0		-
Partitions:	0		-
Floors:	159		-
Ceilings:	104		-
15. INFILTRATION:	Outside air cfm:	0	0
16. SUBTOTAL:	Space load		262
Envelope	262		-
Less external	0		-
Less transfer	0		-
Redistribution	0		-
17. SUPPLY DUCT:			53
18. VENTILATION:	Make-up air cfm:	0	0
19. HUMIDIFICATION			0
Piping			0
20. RETURN DUCT			15
21. TOTAL HEATING LOAD ON EQUIPMENT			331



Right-Suite® Universal 2022 Load Summary

restroom

DL Williams Heating & Cooling LLC

Job: 1
Date: May 23, 2022
By: DL Williams Heating & C...

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Brittany's Cupcakes, DMC Contracting
Lake City, FL 32055

Zone: restroom

COOLING LOAD

1. DESIGN CONDITIONS	at Jul 1700 LDT	Peak load at Jul 1900 LDT		
Inside: 75 °F	Outside: 92 °F	TD: 17 °F		
RH: 48 %	MoistDiff: 43.8 gr/lb	Mult: 1.0	Ins.wb	63 °F
			Sensible	Latent
2. SOLAR RADIATION THROUGH GLASS			0	-
3. TRANSMISSION GAINS	Sensible		266	-
Walls:	169		-	-
Glass:	0		-	-
Doors:	0		-	-
Partitions:	0		-	-
Floors:	14		-	-
Ceilings:	83		-	-
4. INTERNAL HEAT GAIN	Sensible	Latent	0	0
Occupants:	0	0	-	-
Lights:	0	-	-	-
Motors:	0	-	-	-
Appliances:	0	0	-	-
5. INFILTRATION:	Outside air cfm:	10	182	296
6. SUBTOTAL:	Space load	Sensible	Latent	
Envelope	448	296	448	296
Less external	0	-	-	-
Redistribution	0	0	-	-
7. SUPPLY DUCT			71	-
8. SUBTOTAL:	Space load + supply duct		519	-
Actual cfm:	30 at supply TD:	20	-	-
9. VENTILATION:	Make-up air cfm:	0	0	0
10. RETURN AIR LOAD:	Lighting + plenum (net)		0	-
11. RETURN DUCT			39	-
12. TOTAL LOADS ON EQUIPMENT			557	352

HEATING LOAD

13. DESIGN CONDITIONS		Mult: 1.0		
Inside: 70 °F	Outside: 33 °F	TD: 37 °F		
14. TRANSMISSION LOSSES			334	
Walls:	188		-	
Glass:	0		-	
Doors:	0		-	
Partitions:	0		-	
Floors:	88		-	
Ceilings:	58		-	
15. INFILTRATION:	Outside air cfm:	19	775	
16. SUBTOTAL:	Space load		1109	
Envelope	1109		-	
Less external	0		-	
Less transfer	0		-	
Redistribution	0		-	
17. SUPPLY DUCT:			226	
18. VENTILATION:	Make-up air cfm:	0	0	
19. HUMIDIFICATION			325	
Piping			0	
20. RETURN DUCT			63	
21. TOTAL HEATING LOAD ON EQUIPMENT			1723	



Right-Suite® Universal 2022 Load Summary

shop

DL Williams Heating & Cooling LLC

Job: 1
Date: May 23, 2022
By: DL Williams Heating & C...

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Brittany's Cupcakes, DMC Contracting
Lake City, FL 32055

Zone: shop

COOLING LOAD

1. DESIGN CONDITIONS	at Jul 1700 LDT	Peak load at Jul 1700 LDT		
Inside: 75 °F	Outside: 92 °F	TD: 17 °F		
RH: 48 %	MoistDiff: 43.8 gr/lb	Mult: 1.0	Ins.wb	63 °F
			Sensible	Latent
2. SOLAR RADIATION THROUGH GLASS			444	-
3. TRANSMISSION GAINS	Sensible		7942	-
Walls:	4068		-	-
Glass:	184		-	-
Doors:	0		-	-
Partitions:	0		-	-
Floors:	0		-	-
Ceilings:	3690		-	-
4. INTERNAL HEAT GAIN	Sensible	Latent	17171	2252
Occupants:	2425	2252	-	-
Lights:	4946	-	-	-
Motors:	0	-	-	-
Appliances:	9800	0	-	-
5. INFILTRATION:	Outside air cfm:	142	2597	4221
6. SUBTOTAL:	Space load	Sensible	Latent	
Envelope	28154	6473	28154	6473
Less external	0	-	-	-
Redistribution	0	0	-	-
7. SUPPLY DUCT			4431	-
8. SUBTOTAL:	Space load + supply duct		32585	-
Actual cfm:	1756	at supply TD: 20	-	-
9. VENTILATION:	Make-up air cfm:	0	0	0
10. RETURN AIR LOAD:	Lighting + plenum (net)		0	-
11. RETURN DUCT			2437	-
12. TOTAL LOADS ON EQUIPMENT			35022	7621

HEATING LOAD

13. DESIGN CONDITIONS		Mult: 1.0		
Inside: 70 °F	Outside: 33 °F	TD: 37 °F		
14. TRANSMISSION LOSSES			8525	
Walls:	3948		-	
Glass:	580		-	
Doors:	0		-	
Partitions:	0		-	
Floors:	1419		-	
Ceilings:	2579		-	
15. INFILTRATION:	Outside air cfm:	280	11274	
16. SUBTOTAL:	Space load		19799	
Envelope	19799		-	
Less external	0		-	
Less transfer	0		-	
Redistribution	0		-	
17. SUPPLY DUCT:			4030	
18. VENTILATION:	Make-up air cfm:	0	0	
19. HUMIDIFICATION			4729	
Piping			0	
20. RETURN DUCT			1132	
21. TOTAL HEATING LOAD ON EQUIPMENT			29691	



Right-Suite® Universal 2022 Load Summary

storage

DL Williams Heating & Cooling LLC

Job: 1
Date: May 23, 2022
By: DL Williams Heating & C...

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Brittany's Cupcakes, DMC Contracting
Lake City, FL 32055

Zone: storage

COOLING LOAD

1. DESIGN CONDITIONS	at Jul 1700 LDT	Peak load at Jul 1600 LDT		
Inside: 75 °F	Outside: 92 °F	TD: 17 °F		
RH: 48 %	MoistDiff: 43.8 gr/lb	Mult: 1.0	Ins.wb	63 °F
			Sensible	Latent
2. SOLAR RADIATION THROUGH GLASS			0	-
3. TRANSMISSION GAINS	Sensible		55	-
Walls:	0		-	-
Glass:	0		-	-
Doors:	0		-	-
Partitions:	0		-	-
Floors:	8		-	-
Ceilings:	47		-	-
4. INTERNAL HEAT GAIN	Sensible	Latent	0	0
Occupants:	0	0	-	-
Lights:	0	-	-	-
Motors:	0	-	-	-
Appliances:	0	0	-	-
5. INFILTRATION:	Outside air cfm:	0	0	0
6. SUBTOTAL:	Space load	Sensible	Latent	55
Envelope	55	0	-	-
Less external	0	-	-	-
Redistribution	0	0	-	-
7. SUPPLY DUCT			9	-
8. SUBTOTAL:	Space load + supply duct		64	-
Actual cfm:	3 at supply TD:	20	-	-
9. VENTILATION:	Make-up air cfm:	0	0	0
10. RETURN AIR LOAD:	Lighting + plenum (net)		0	-
11. RETURN DUCT			5	-
12. TOTAL LOADS ON EQUIPMENT			69	32

HEATING LOAD

13. DESIGN CONDITIONS		Mult: 1.0		
Inside: 70 °F	Outside: 33 °F	TD: 37 °F		
14. TRANSMISSION LOSSES			83	
Walls:	0		-	
Glass:	0		-	
Doors:	0		-	
Partitions:	0		-	
Floors:	50		-	
Ceilings:	33		-	
15. INFILTRATION:	Outside air cfm:	0	0	
16. SUBTOTAL:	Space load		83	
Envelope	83		-	
Less external	0		-	
Less transfer	0		-	
Redistribution	0		-	
17. SUPPLY DUCT:			17	
18. VENTILATION:	Make-up air cfm:	0	0	
19. HUMIDIFICATION			0	
Piping			0	
20. RETURN DUCT			5	
21. TOTAL HEATING LOAD ON EQUIPMENT			105	