



Load Short Form Entire House e3 Power

Job:
Date:
By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

Project Information

For: Sample Company

Design Information

	Htg	Clg	Method	Infiltration	
Outside db (°F)	7	92			
Inside db (°F)	68	75	Construction quality		Simplified
Design TD (°F)	61	17	Fireplaces		Average
Daily range	-	H			
Inside humidity (%)	30	50			
Moisture difference (gr/lb)	30	-36			

HEATING EQUIPMENT

Make	Aire-Flo
Trade	AIRE-FLO
Model	95AF2UH045V12B-*
AHRI ref	5321024
Efficiency	95 AFUE
Heating input	44000 Btuh
Heating output	42000 Btuh
Temperature rise	39 °F
Actual air flow	1200 cfm
Air flow factor	0.030 cfm/Btuh
Static pressure	0.70 in H2O
Space thermostat	

COOLING EQUIPMENT

Make	Day & Night
Trade	DAY & NIGHT
Cond	CCA936GKA2*
Coil	EN(A,D)4X43L24**+*9MV*0802120A**
AHRI ref	6654647
Efficiency	14.0 EER, 18 SEER
Sensible cooling	25200 Btuh
Latent cooling	10800 Btuh
Total cooling	36000 Btuh
Actual air flow	1200 cfm
Air flow factor	0.050 cfm/Btuh
Static pressure	0.70 in H2O
Load sensible heat ratio	1.00

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Nook	144	1875	533	56	27
Great Room	396	6700	6521	200	326
Kitchen	352	5782	5489	173	274
Master Bedroom	248	2818	1956	84	98
Entry Staris	236	2534	1443	76	72
M Bath	84	1176	805	35	40
WC	53	1163	390	35	19
Loft	286	3895	1709	116	85
Bedroom 2	210	2204	1160	66	58
Hallway	60	0	0	0	0
Bath	144	1074	155	32	8
Bedroom 3	252	3869	1339	116	67
Family Room	694	7053	2536	211	127

Bold/italic values have been manually overridden

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Entire House	3158	40142	24036	1200	1200
Other equip loads		1843	507		
Equip. @ 0.97 RSM			23758		
Latent cooling			0		
TOTALS	3158	41985	23758	1200	1200

Bold/italic values have been manually overridden

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Project Information

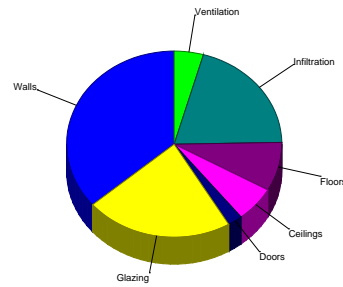
For: Sample Company

Design Conditions

Location:		Indoor:		Heating	Cooling
Denver Intl AP, CO, US		Indoor temperature (°F)		68	75
Elevation: 5430 ft		Design TD (°F)		61	17
Latitude: 40°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		29.6	-35.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	7	92	Method	Simplified	
Daily range (°F)	-	27 (H)	Construction quality	Average	
Wet bulb (°F)	-	60	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

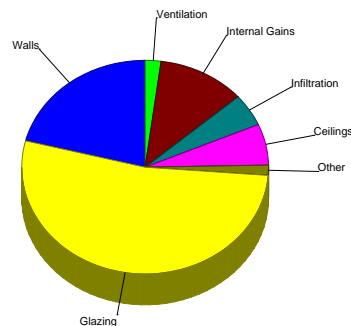
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	5.1	15238	36.3
Glazing	18.0	9314	22.2
Doors	22.0	924	2.2
Ceilings	1.7	2573	6.1
Floors	2.6	3569	8.5
Infiltration	2.9	8525	20.3
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		1843	4.4
Adjustments		0	0
Total		41985	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.7	5159	21.0
Glazing	25.0	12950	52.8
Doors	8.9	372	1.5
Ceilings	1.0	1531	6.2
Floors	0	0	0
Infiltration	0.4	1204	4.9
Ducts		0	0
Ventilation		507	2.1
Internal gains		2820	11.5
Blower		0	0
Adjustments		0	0
Total		24543	100.0



Latent Cooling Load = 0 Btuh
 Overall U-value = 0.078 Btuh/ft²-°F

Data entries checked.



Component Constructions
Entire House
e3 Power

Job:
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Project Information

For: Sample Company

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Elevation: 5430 ft		Design TD (°F)		61	17
Latitude: 40°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		29.6	-35.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	7	92	Method	Simplified	
Daily range (°F)	-	27 (H)	Construction quality	Average	
Wet bulb (°F)	-	60	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

Construction descriptions

Walls

Construction descriptions	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
12B-3sw: Frm wall, vnl ext, 1/2" wood shth, r-11 cav ins, 1/2" gypsum board int fnsh, r-3 ext bd ins, 2"x4" wood frm, 16" o.c. stud	n	257	0.079	14.0	4.83	1238	1.39	357
	n	78	0.079	14.0	4.83	376	1.39	108
	ne	176	0.079	14.0	4.83	850	1.39	245
	e	206	0.079	14.0	4.83	994	1.39	286
	se	184	0.079	14.0	4.83	890	1.39	256
	s	138	0.079	14.0	4.83	666	1.39	192
	s	78	0.079	14.0	4.83	376	1.39	108
	w	418	0.079	14.0	4.83	2015	1.39	580
	w	155	0.079	14.0	4.83	747	1.39	215
	all	1689	0.079	14.0	4.83	8154	1.39	2349
	15B11-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, 10" thk, 1/2" gypsum board int fnsh	n	162	0.056	11.0	4.30	696	0.31
ne		244	0.056	11.0	4.26	1039	0.30	73
e		54	0.056	11.0	4.30	232	0.31	17
se		238	0.056	11.0	4.27	1018	0.30	73
s		103	0.056	11.0	4.30	440	0.31	32
w		28	0.056	11.0	4.30	118	0.31	9
all	828	0.056	11.0	4.28	3543	0.31	254	
12E-0sw: Frm wall, wd ext, 1/2" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	s	45	0.068	19.0	4.15	185	1.05	47
	w	300	0.068	19.0	4.15	1244	1.05	316
	all	344	0.068	19.0	4.15	1429	1.05	363
16A-0ad: Knee wall, asphalt shingles roof mat	s	78	0.408	0	24.9	1944	27.8	2167

Partitions

12C-0sw: Frm wall, stucco ext, r-13 cav ins, 2"x4" wood frm, 16" o.c. stud		30	0.091	13.0	5.56	167	0.88	26
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Windows

4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; NFRC rated (SHGC=0.27); 50% blinds 45°, medium; 6.67 ft head ht	ne	47	0.290	0	17.7	831	19.2	899
	ne	6	0.290	0	17.7	100	19.2	109
	se	44	0.290	0	17.7	780	23.3	1024
	se	3	0.290	0	17.7	59	23.3	78
	s	15	0.290	0	17.7	266	14.0	210
	s	15	0.290	0	17.7	266	14.0	210
	w	126	0.290	0	17.7	2233	19.0	2389
	w	60	0.290	0	17.7	1063	27.1	1625
	w	21	0.290	0	17.7	376	27.1	574
	all	337	0.290	0	17.7	5973	21.1	7118
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; NFRC rated (SHGC=0.27); 50% blinds 45°, medium; 6 ft overhang (7 ft window ht, 0 ft sep.); 6.67 ft head ht	ne	13	0.470	0	28.7	364	27.2	344
10D-v: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; NFRC rated (SHGC=0.27); 50% blinds 45°, medium; 6 ft overhang (7 ft window ht, 0 ft sep.); 6.67 ft head ht	w	168	0.290	0	17.7	2977	10.1	1695

Doors

11K0: Door, mtl fbrgl type, mtl strm	e	21	0.360	6.3	22.0	462	8.86	186
	n	21	0.360	6.3	22.0	462	8.86	186
	all	42	0.360	6.3	22.0	924	8.86	372

Ceilings

16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		941	0.026	38.0	1.59	1494	1.25	1176
18A-38ad: Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board int fnsh, 8" thkns, r-38 ceil ins		609	0.029	38.0	1.77	1078	0.58	355

Floors

21A-24t: Bg floor, heavy dry or light damp soil, 6' depth, carp 80% flr fnsh		1195	0.025	0	1.53	1825	0	0
22A-tpm: Bg floor, heavy dry or light damp soil, on grade depth		1	1.180	0	72.1	96	0	0
22D-5tpm: Bg floor, heavy dry or light damp soil, prm ext ins cov, on grade depth, r-3 edge ins, r-10 ins		61	0.442	5.0	27.0	1647	0	0



Component Constructions
Family Room
e3 Power

Job:
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 By:

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Project Information

For: Sample Company

Design Conditions

Location:		Indoor:		Heating	Cooling
Denver Intl AP, CO, US		Indoor temperature (°F)		68	75
Elevation: 5430 ft		Design TD (°F)		61	17
Latitude: 40°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		29.6	-35.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	7	92	Method		
Daily range (°F)	-	27 (H)	Construction quality		
Wet bulb (°F)	-	60	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
			Average		
			0		

Construction descriptions

Walls

15B11-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, 10" thk, 1/2" gypsum board int fnsh

Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
n	162	0.056	11.0	4.30	696	0.31	51
ne	244	0.056	11.0	4.26	1039	0.30	73
e	27	0.056	11.0	4.30	116	0.31	8
w	14	0.056	11.0	4.30	60	0.31	4
all	447	0.056	11.0	4.28	1911	0.31	137
w	154	0.068	19.0	4.15	640	1.05	162

12E-0sw: Frm wall, wd ext, 1/2" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud

Partitions

(none)

Windows

4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; NFRC rated (SHGC=0.27); 50% blinds 45°, medium; 6.67 ft head ht

ne	6	0.290	0	17.7	100	19.2	109
w	84	0.290	0	17.7	1488	10.1	848

10D-v: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; NFRC rated (SHGC=0.27); 50% blinds 45°, medium; 6 ft overhang (7 ft window ht, 0 ft sep.); 6.67 ft head ht

Doors

(none)

Ceilings

(none)

Floors

21A-24t: Bg floor, heavy dry or light damp soil, 6' depth, carp 80% flr fnsh

	610	0.025	0	1.53	932	0	0
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22D-5tpm: Bg floor, heavy dry or light damp soil, prm ext ins cov, on grade depth, r-3 edge ins, r-10 ins

	31	0.442	5.0	27.0	837	0	0
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Component Constructions
Bedroom 2
 e3 Power

Job:
 Date:
 By:

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Project Information

For: Sample Company

Design Conditions

Location:		Indoor:		Heating	Cooling
Denver Intl AP, CO, US		Indoor temperature (°F)		68	75
Elevation: 5430 ft		Design TD (°F)		61	17
Latitude: 40°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		29.6	-35.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	7	92	Method		
Daily range (°F)	-	27 (H)	Construction quality		
Wet bulb (°F)	-	60	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
			Average		
			0		

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
15B11-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, 10" thk, 1/2" gypsum board int fnsh	w	8	0.056	11.0	4.30	32	0.31	2
12E-0sw: Frm wall, wd ext, 1/2" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	w	86	0.068	19.0	4.15	355	1.05	90
Partitions								
(none)								
Windows								
10D-v: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; NFRC rated (SHGC=0.27); 50% blinds 45°, medium; 6 ft overhang (7 ft window ht, 0 ft sep.); 6.67 ft head ht	w	42	0.290	0	17.7	744	10.1	424
Doors								
(none)								
Ceilings								
(none)								
Floors								
21A-24t: Bg floor, heavy dry or light damp soil, 6' depth, carp 80% flr fnsh		165	0.025	0	1.53	252	0	0
22D-5tpm: Bg floor, heavy dry or light damp soil, prm ext ins cov, on grade depth, r-3 edge ins, r-10 ins		15	0.442	5.0	27.0	405	0	0



Project Information

For: Sample Company

Design Conditions

Location:		Indoor:		Heating	Cooling
Denver Intl AP, CO, US		Indoor temperature (°F)		68	75
Elevation: 5430 ft		Design TD (°F)		61	17
Latitude: 40°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		29.6	-35.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	7	92	Method		
Daily range (°F)	-	27 (H)	Construction quality		
Wet bulb (°F)	-	60	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
			Average		
			0		

Construction descriptions

	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls (none)								
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings (none)								
Floors 21A-24t: Bg floor, heavy dry or light damp soil, 6' depth, carp 80% flr fnsh		60	0.025	0	1.53	92	0	0



Component Constructions
Bath
 e3 Power

Job:
 Date:
 By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

Project Information

For: Sample Company

Design Conditions

Location:		Indoor:		Heating	Cooling
Denver Intl AP, CO, US		Indoor temperature (°F)		68	75
Elevation: 5430 ft		Design TD (°F)		61	17
Latitude: 40°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		29.6	-35.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	7	92	Method	Simplified	
Daily range (°F)	-	27 (H)	Construction quality	Average	
Wet bulb (°F)	-	60	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
15B11-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, 10" thk, 1/2" gypsum board int fnsh								
	e	27	0.056	11.0	4.30	116	0.31	8
	se	117	0.056	11.0	4.25	499	0.30	35
	all	144	0.056	11.0	4.26	615	0.30	43
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; NFRC rated (SHGC=0.27); 50% blinds 45°, medium; 6.67 ft head ht								
	se	3	0.290	0	17.7	59	23.3	78
Doors (none)								
Ceilings (none)								
Floors								
21A-24t: Bg floor, heavy dry or light damp soil, 6' depth, carp 80% flr fnsh								
		144	0.025	0	1.53	220	0	0



Component Constructions
Bedroom 3
 e3 Power

Job:
 Date:
 By:

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Project Information

For: Sample Company

Design Conditions

Location:		Indoor:		Heating	Cooling
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Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	7	92	Method		
Daily range (°F)	-	27 (H)	Construction quality		
Wet bulb (°F)	-	60	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
			Average		
			0		

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
15B11-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, 10" thk, 1/2" gypsum board int fnsh	se	121	0.056	11.0	4.30	519	0.31	38
	s	103	0.056	11.0	4.30	440	0.31	32
	w	6	0.056	11.0	4.30	26	0.31	2
	all	229	0.056	11.0	4.30	985	0.31	72
12E-0sw: Frm wall, wd ext, 1/2" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	s	45	0.068	19.0	4.15	185	1.05	47
	w	60	0.068	19.0	4.15	249	1.05	63
	all	105	0.068	19.0	4.15	434	1.05	110
Partitions								
(none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; NFRC rated (SHGC=0.27); 50% blinds 45°, medium; 6.67 ft head ht	s	15	0.290	0	17.7	266	14.0	210
10D-v: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; NFRC rated (SHGC=0.27); 50% blinds 45°, medium; 6 ft overhang (7 ft window ht, 0 ft sep.); 6.67 ft head ht	w	42	0.290	0	17.7	744	10.1	424
Doors								
(none)								
Ceilings								
(none)								
Floors								
21A-24t: Bg floor, heavy dry or light damp soil, 6' depth, carp 80% flr fnsh		216	0.025	0	1.53	330	0	0
22D-5tpm: Bg floor, heavy dry or light damp soil, prm ext ins cov, on grade depth, r-3 edge ins, r-10 ins		15	0.442	5.0	27.0	405	0	0





Component Constructions
Nook
 e3 Power

Job:
 Date:
 By:

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Dry bulb (°F)	7	92	Method	Simplified	
Daily range (°F)	-	27 (H)	Construction quality	Average	
Wet bulb (°F)	-	60	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12B-3sw: Frm wall, vnl ext, 1/2" wood shth, r-11 cav ins, 1/2" gypsum board int fnsh, r-3 ext bd ins, 2"x4" wood frm, 16" o.c. stud	n	77	0.079	14.0	4.83	369	1.39	106
	w	136	0.079	14.0	4.83	656	1.39	189
	all	213	0.079	14.0	4.83	1026	1.39	295
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		144	0.026	38.0	1.59	229	1.25	180
Floors (none)								



Component Constructions

Great Room

e3 Power

Job:
Date:
By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

Project Information

For: Sample Company

Design Conditions

Location:		Indoor:		Heating	Cooling
Denver Intl AP, CO, US		Indoor temperature (°F)		68	75
Elevation: 5430 ft		Design TD (°F)		61	17
Latitude: 40°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		29.6	-35.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	7	92	Method		
Daily range (°F)	-	27 (H)	Construction quality		
Wet bulb (°F)	-	60	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
			Average		
			0		

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12B-3sw: Frm wall, vnl ext, 1/2" wood shth, r-11 cav ins, 1/2" gypsum board int fnsh, r-3 ext bd ins, 2"x4" wood frm, 16" o.c. stud								
	n	39	0.079	14.0	4.83	188	1.39	54
	n	39	0.079	14.0	4.83	188	1.39	54
	s	39	0.079	14.0	4.83	188	1.39	54
	w	103	0.079	14.0	4.83	497	1.39	143
	w	155	0.079	14.0	4.83	747	1.39	215
	all	375	0.079	14.0	4.83	1809	1.39	521
16A-0ad: Knee wall, asphalt shingles roof mat								
	s	39	0.408	0	24.9	972	27.8	1084
Partitions								
(none)								
Windows								
10D-v: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; NFRC rated (SHGC=0.27); 50% blinds 45°, medium; 6.67 ft head ht								
	w	84	0.290	0	17.7	1488	19.0	1593
	w	21	0.290	0	17.7	376	27.1	574
	all	105	0.290	0	17.7	1864	20.6	2167
Doors								
(none)								
Ceilings								
18A-38ad: Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board int fnsh, 8" thkns, r-38 ceil ins								
		304	0.029	38.0	1.77	539	0.58	177
Floors								
(none)								



Component Constructions

Kitchen

e3 Power

Job:
Date:
By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

Project Information

For: Sample Company

Design Conditions

Location:		Indoor:		Heating	Cooling
Denver Intl AP, CO, US		Indoor temperature (°F)		68	75
Elevation: 5430 ft		Design TD (°F)		61	17
Latitude: 40°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		29.6	-35.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	7	92	Method		
Daily range (°F)	-	27 (H)	Construction quality		
Wet bulb (°F)	-	60	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
			Average		
			0		

Construction descriptions

	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12B-3sw: Frm wall, vnl ext, 1/2" wood shth, r-11 cav ins, 1/2" gypsum board int fnsh, r-3 ext bd ins, 2"x4" wood frm, 16" o.c. stud	n	102	0.079	14.0	4.83	492	1.39	142
	ne	113	0.079	14.0	4.83	545	1.39	157
	w	64	0.079	14.0	4.83	309	1.39	89
	all	279	0.079	14.0	4.83	1346	1.39	388
Partitions								
12C-0sw: Frm wall, stucco ext, r-13 cav ins, 2"x4" wood frm, 16" o.c. stud		30	0.091	13.0	5.56	167	0.88	26
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; NFRC rated (SHGC=0.27); 50% blinds 45°, medium; 6.67 ft head ht	ne	27	0.290	0	17.7	470	19.2	508
	w	42	0.290	0	17.7	744	19.0	796
	w	30	0.290	0	17.7	532	27.1	813
	all	99	0.290	0	17.7	1745	21.5	2117
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; 6.67 ft head ht	ne	13	0.470	0	28.7	364	27.2	344
Doors								
11K0: Door, mtl fbrgl type, mtl strm	n	21	0.360	6.3	22.0	462	8.86	186
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		352	0.026	38.0	1.59	559	1.25	440
Floors								
(none)								



Component Constructions
Master Bedroom
e3 Power

Job:
 Date:
 By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

Project Information

For: Sample Company

Design Conditions

Location:		Indoor:		Heating	Cooling
Denver Intl AP, CO, US		Indoor temperature (°F)		68	75
Elevation: 5430 ft		Design TD (°F)		61	17
Latitude: 40°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		29.6	-35.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	7	92	Method		
Daily range (°F)	-	27 (H)	Construction quality		
Wet bulb (°F)	-	60	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
			Average		
			0		

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12B-3sw: Frm wall, vnl ext, 1/2" wood shth, r-11 cav ins, 1/2" gypsum board int fnsh, r-3 ext bd ins, 2"x4" wood frm, 16" o.c. stud								
	s	79	0.079	14.0	4.83	379	1.39	109
	w	115	0.079	14.0	4.83	553	1.39	159
	all	193	0.079	14.0	4.83	932	1.39	268
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; NFRC rated (SHGC=0.27); 50% blinds 45°, medium; 6.67 ft head ht								
	s	15	0.290	0	17.7	266	14.0	210
	w	30	0.290	0	17.7	532	27.1	813
	all	45	0.290	0	17.7	797	22.7	1023
Doors (none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh								
		248	0.026	38.0	1.59	394	1.25	310
Floors (none)								



Component Constructions
Entry Staris
e3 Power

Job:
 Date:
 By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

Project Information

For: Sample Company

Design Conditions

Location:		Indoor:		Heating	Cooling
Denver Intl AP, CO, US		Indoor temperature (°F)		68	75
Elevation: 5430 ft		Design TD (°F)		61	17
Latitude: 40°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		29.6	-35.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	7	92	Method		
Daily range (°F)	-	27 (H)	Construction quality		
Wet bulb (°F)	-	60	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
			Average		
			0		

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12B-3sw: Frm wall, vnl ext, 1/2" wood shth, r-11 cav ins, 1/2" gypsum board int fnsh, r-3 ext bd ins, 2"x4" wood frm, 16" o.c. stud								
	ne	63	0.079	14.0	4.83	306	1.39	88
	e	30	0.079	14.0	4.83	145	1.39	42
	se	45	0.079	14.0	4.83	216	1.39	62
	all	138	0.079	14.0	4.83	666	1.39	192
Partitions								
(none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; NFRC rated (SHGC=0.27); 50% blinds 45°, medium; 6.67 ft head ht								
	ne	20	0.290	0	17.7	362	19.2	391
	se	20	0.290	0	17.7	354	23.3	465
	all	40	0.290	0	17.7	716	21.2	857
Doors								
11K0: Door, mtl fbrgl type, mtl strm								
	e	21	0.360	6.3	22.0	462	8.86	186
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh								
		60	0.026	38.0	1.59	95	1.25	74
Floors								
22A-tpm: Bg floor, heavy dry or light damp soil, on grade depth								
		0	1.180	0	72.1	13	0	0



Component Constructions
M Bath
e3 Power

Job:
 Date:
 By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

Project Information

For: Sample Company

Design Conditions

Location:		Indoor:		Heating	Cooling
Denver Intl AP, CO, US		Indoor temperature (°F)		68	75
Elevation: 5430 ft		Design TD (°F)		61	17
Latitude: 40°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		29.6	-35.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	7	92	Method		
Daily range (°F)	-	27 (H)	Construction quality		
Wet bulb (°F)	-	60	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
			Average		
			0		

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12B-3sw: Frm wall, vnl ext, 1/2" wood shth, r-11 cav ins, 1/2" gypsum board int fnsh, r-3 ext bd ins, 2"x4" wood frm, 16" o.c. stud	se	75	0.079	14.0	4.83	362	1.39	104
Partitions								
(none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; NFRC rated (SHGC=0.27); 50% blinds 45°, medium; 6.67 ft head ht	se	20	0.290	0	17.7	354	23.3	465
Doors								
(none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		84	0.026	38.0	1.59	134	1.25	105
Floors								
22A-tpm: Bg floor, heavy dry or light damp soil, on grade depth		1	1.180	0	72.1	48	0	0



Project Information

For: Sample Company

Design Conditions

Location:		Indoor:		Heating	Cooling
Denver Intl AP, CO, US		Indoor temperature (°F)		68	75
Elevation: 5430 ft		Design TD (°F)		61	17
Latitude: 40°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		29.6	-35.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	7	92	Method		
Daily range (°F)	-	27 (H)	Construction quality		
Wet bulb (°F)	-	60	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
			Average		
			0		

Construction descriptions

	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12B-3sw: Frm wall, vnl ext, 1/2" wood shth, r-11 cav ins, 1/2" gypsum board int fnsh, r-3 ext bd ins, 2"x4" wood frm, 16" o.c. stud	se	65	0.079	14.0	4.83	311	1.39	90
	s	60	0.079	14.0	4.83	287	1.39	83
	all	124	0.079	14.0	4.83	599	1.39	172
Partitions								
(none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/8" thk; NFRC rated (SHGC=0.27); 50% blinds 45°, medium; 6.67 ft head ht	se	4	0.290	0	17.7	71	23.3	93
Doors								
(none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		53	0.026	38.0	1.59	84	1.25	66
Floors								
22A-tpm: Bg floor, heavy dry or light damp soil, on grade depth		0	1.180	0	72.1	36	0	0



Project Information

For: Sample Company

Design Conditions

Location: Denver Intl AP, CO, US Elevation: 5430 ft Latitude: 40°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 68 61 30 29.6	Cooling 75 17 50 -35.5
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 7 - - 15.0	Cooling 92 27 (H) 60 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Average 0	

Construction descriptions

	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12B-3sw: Frm wall, vnl ext, 1/2" wood shth, r-11 cav ins, 1/2" gypsum board int fnsh, r-3 ext bd ins, 2"x4" wood frm, 16" o.c. stud	n	39	0.079	14.0	4.83	188	1.39	54
	n	39	0.079	14.0	4.83	188	1.39	54
	e	176	0.079	14.0	4.83	850	1.39	245
	s	39	0.079	14.0	4.83	188	1.39	54
	all	293	0.079	14.0	4.83	1414	1.39	407
16A-0ad: Knee wall, asphalt shingles roof mat	s	39	0.408	0	24.9	972	27.8	1084

Partitions
(none)

Windows
(none)

Doors
(none)

Ceilings 18A-38ad: Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board int fnsh, 8" thkns, r-38 ceil ins	304	0.029	38.0	1.77	539	0.58	177
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Floors
(none)



Project Summary
Entire House
e3 Power

Job:
 Date:
 By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

Project Information

For: Sample Company

Notes:

Design Information

Weather: Denver Intl AP, CO, US

Winter Design Conditions

Outside db 7 °F
 Inside db 68 °F
 Design TD 61 °F

Summer Design Conditions

Outside db 92 °F
 Inside db 75 °F
 Design TD 17 °F
 Daily range H
 Relative humidity 50 %
 Moisture difference -36 gr/lb

Heating Summary

Structure 40142 Btuh
 Ducts 0 Btuh
 Central vent (67 cfm) 1843 Btuh
 Humidification 0 Btuh
 Piping 0 Btuh
 Equipment load 41985 Btuh

Sensible Cooling Equipment Load Sizing

Structure 24036 Btuh
 Ducts 0 Btuh
 Central vent (67 cfm) 507 Btuh
 Blower 0 Btuh
 Use manufacturer's data n
 Rate/swing multiplier 0.97
 Equipment sensible load 23758 Btuh

Infiltration

Method Simplified
 Construction quality Average
 Fireplaces 0

	Heating	Cooling
Area (ft ²)	3159	3159
Volume (ft ³)	25122	25122
Air changes/hour	0.37	0.19
Equip. AVF (cfm)	155	80

Latent Cooling Equipment Load Sizing

Structure -774 Btuh
 Ducts 0 Btuh
 Central vent (67 cfm) -1325 Btuh
 Equipment latent load 0 Btuh
 Equipment total load 23758 Btuh
 Req. total capacity at 0.70 SHR 2.8 ton

Heating Equipment Summary

Make Aire-Flo
 Trade AIRE-FLO
 Model 95AF2UH045V12B-*
 AHRI ref 5321024

Efficiency 95 AFUE
 Heating input 44000 Btuh
 Heating output 42000 Btuh
 Temperature rise 39 °F
 Actual air flow 1200 cfm
 Air flow factor 0.030 cfm/Btuh
 Static pressure 0.70 in H2O
 Space thermostat

Cooling Equipment Summary

Make Day & Night
 Trade DAY & NIGHT
 Cond CCA936GKA2*
 Coil EN(A,D)4X43L24**+*9MV*0802120A**
 AHRI ref 6654647

Efficiency 14.0 EER, 18 SEER
 Sensible cooling 25200 Btuh
 Latent cooling 10800 Btuh
 Total cooling 36000 Btuh
 Actual air flow 1200 cfm
 Air flow factor 0.050 cfm/Btuh
 Static pressure 0.70 in H2O
 Load sensible heat ratio 1.00

Bold/italic values have been manually overridden

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.





Project Information

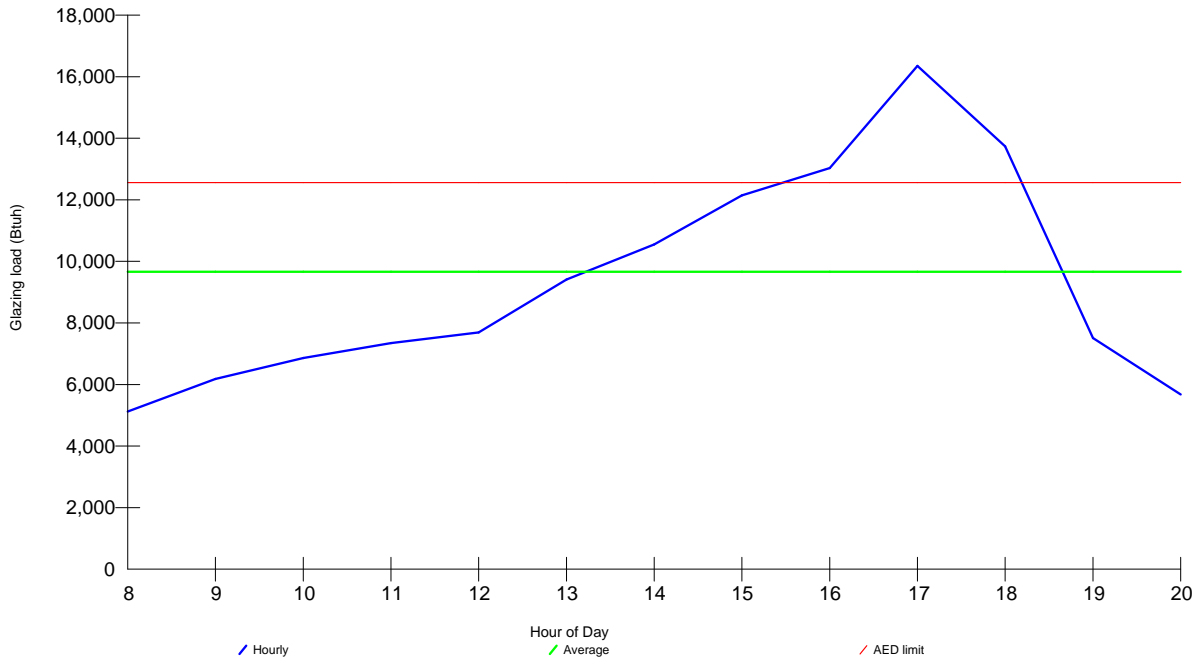
For: Sample Company

Design Conditions

Location:		Indoor:		Heating	Cooling
Denver Intl AP, CO, US		Indoor temperature (°F)		68	75
Elevation: 5430 ft		Design TD (°F)		61	17
Latitude: 40°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		29.6	-35.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	7	92			
Daily range (°F)	-	27 (H)			
Wet bulb (°F)	-	60			
Wind speed (mph)	15.0	7.5			

Test for Adequate Exposure Diversity

Hourly Glazing Load



Maximum hourly glazing load exceeds average by 69.3%.

House does not have adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 3793 Btuh (PFG - 1.3*AFG)



Right-J® Worksheet Entire House e3 Power

Job:
Date:
By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

1		Room name		Entire House					Nook					
2		Exposed wall		9.4 ft					25.0 ft					
3		Room height		369.8 ft					8.5 ft					
4		Room dimensions		3158.5 ft²					16.0 x 9.0 ft					
5		Room area		3158.5 ft²					144.0 ft²					
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12B-3sw	0.079	n	4.83	1.39	257	257	1238	357	77	77	369	106
	W	12B-3sw	0.079	n	4.83	1.39	78	78	376	108	0	0	0	0
	W	15B11-0wc-6	0.099	n	4.30	0.31	162	162	696	51	0	0	0	0
	W	12B-3sw	0.079	ne	4.83	1.39	236	176	850	245	0	0	0	0
11	G	4A5-2ov	0.290	ne	17.72	19.16	47	0	831	899	0	0	0	0
	G	4A5-2ov	0.470	ne	28.72	27.16	13	0	364	344	0	0	0	0
	W	15B11-0wc-6	0.099	ne	4.26	0.30	250	244	1039	73	0	0	0	0
	G	4A5-2ov	0.290	ne	17.72	19.16	6	0	100	109	0	0	0	0
	W	12B-3sw	0.079	e	4.83	1.39	227	206	994	286	0	0	0	0
	D	11K0	0.360	e	22.00	8.86	21	21	462	186	0	0	0	0
	W	15B11-0wc-6	0.099	e	4.30	0.31	54	54	232	17	0	0	0	0
	W	12B-3sw	0.079	se	4.83	1.39	228	184	890	256	0	0	0	0
	G	4A5-2ov	0.290	se	17.72	23.27	44	0	780	1024	0	0	0	0
	W	15B11-0wc-6	0.099	se	4.27	0.30	241	238	1018	73	0	0	0	0
	G	4A5-2ov	0.290	se	17.72	23.27	3	0	59	78	0	0	0	0
	W	12B-3sw	0.079	s	4.83	1.39	153	138	666	192	0	0	0	0
	G	4A5-2ov	0.290	s	17.72	14.01	15	0	266	210	0	0	0	0
	W	12B-3sw	0.079	s	4.83	1.39	78	78	376	108	0	0	0	0
	W	12E-0sw	0.068	s	4.15	1.05	60	45	185	47	0	0	0	0
	G	4A5-2ov	0.290	s	17.72	14.01	15	0	266	210	0	0	0	0
	W	15B11-0wc-6	0.099	s	4.30	0.31	103	103	440	32	0	0	0	0
	W	16A-0ad	0.408	s	24.93	27.78	78	78	1944	2167	0	0	0	0
	W	12B-3sw	0.079	w	4.83	1.39	604	418	2015	580	136	136	656	189
	G	10D-v	0.290	w	17.72	18.96	126	0	2233	2389	0	0	0	0
	G	4A5-2ov	0.290	w	17.72	27.09	60	0	1063	1625	0	0	0	0
	W	12B-3sw	0.079	w	4.83	1.39	176	155	747	215	0	0	0	0
	G	4A5-2ov	0.290	w	17.72	27.09	21	0	376	574	0	0	0	0
	W	12E-0sw	0.068	w	4.15	1.05	468	300	1244	316	0	0	0	0
	G	10D-v	0.290	w	17.72	10.09	168	233	2977	1695	0	0	0	0
	W	15B11-0wc-6	0.099	w	4.30	0.31	28	28	118	9	0	0	0	0
	P	12C-0sw	0.091	-	5.56	0.88	51	30	167	26	0	0	0	0
	D	11K0	0.360	n	22.00	8.86	21	21	462	186	0	0	0	0
	C	16B-38ad	0.026	-	1.59	1.25	941	941	1494	1176	144	144	229	180
	C	18A-38ad	0.029	-	1.77	0.58	609	609	1078	355	0	0	0	0
	F	21A-24t	0.025	-	1.53	0.00	1195	1195	1825	0	0	0	0	0
	F	22A-tpm	1.180	-	72.10	0.00	9	1	96	0	0	0	0	0
	F	22D-5tpm	0.442	-	27.01	0.00	165	61	1647	0	0	0	0	0
6	c) AED excursion									3793				-30
	Envelope loss/gain								31617	20012			1254	446
12	a) Infiltration								8525	1204			620	88
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			4		920	1900	0			0
			Appliances/other											0
	Subtotal (lines 6 to 13)								40142	24036			1875	533
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								40142	24036			1875	533
15	Duct loads						0%	0%	0	0	-0%	0%	0	0
	Total room load								40142	24036			1875	533
	Air required (cfm)								1200	1200			56	27

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Right-J® Worksheet Entire House e3 Power

Job:
Date:
By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

1		Room name		Great Room		Kitchen								
2		Exposed wall		14.3 ft		22.0 ft								
3		Room height		22.0		18.0								
4		Room dimensions		396.0 ft ²		352.0 ft ²								
5		Room area		396.0 ft ²		352.0 ft ²								
	Ty	Construction number	U-value (Btuh/ft ² -°F)	Or	HTM (Btuh/ft ²)		Area (ft ²) or perimeter (ft)		Load (Btuh)		Area (ft ²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12B-3sw	0.079	n	4.83	1.39	39	39	188	54	102	102	492	142
	W	12B-3sw	0.079	n	4.83	1.39	39	39	188	54	0	0	0	0
	W	15B11-0wc-6	0.099	n	4.30	0.31	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	ne	4.83	1.39	0	0	0	0	152	113	545	157
11	G	4A5-2ov	0.290	ne	17.72	19.16	0	0	0	0	27	0	470	508
	G	4A5-2ov	0.470	ne	28.72	27.16	0	0	0	0	13	0	364	344
	W	15B11-0wc-6	0.099	ne	4.26	0.30	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	ne	17.72	19.16	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	e	4.83	1.39	0	0	0	0	0	0	0	0
	D	11K0	0.360	e	22.00	8.86	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	e	4.30	0.31	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	se	4.83	1.39	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	se	17.72	23.27	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	se	4.27	0.30	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	se	17.72	23.27	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	s	4.83	1.39	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	s	17.72	14.01	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	s	4.83	1.39	39	39	188	54	0	0	0	0
	W	12E-0sw	0.068	s	4.15	1.05	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	s	17.72	14.01	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	s	4.30	0.31	0	0	0	0	0	0	0	0
	W	16A-0ad	0.408	s	24.93	27.78	39	39	972	1084	0	0	0	0
	W	12B-3sw	0.079	w	4.83	1.39	187	103	497	143	136	64	309	89
	G	10D-v	0.290	w	17.72	18.96	84	0	1488	1593	42	0	744	796
	G	4A5-2ov	0.290	w	17.72	27.09	0	0	0	0	30	0	532	813
	W	12B-3sw	0.079	w	4.83	1.39	176	155	747	215	0	0	0	0
	G	4A5-2ov	0.290	w	17.72	27.09	21	0	376	574	0	0	0	0
	W	12E-0sw	0.068	w	4.15	1.05	0	0	0	0	0	0	0	0
	G	10D-v	0.290	w	17.72	10.09	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	w	4.30	0.31	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	5.56	0.88	0	0	0	0	51	30	167	26
	D	11K0	0.360	n	22.00	8.86	0	0	0	0	21	21	462	186
	C	16B-38ad	0.026	-	1.59	1.25	0	0	0	0	352	352	559	440
	C	18A-38ad	0.029	-	1.77	0.58	304	304	539	177	0	0	0	0
	F	21A-24t	0.025	-	1.53	0.00	0	0	0	0	0	0	0	0
	F	22A-tpm	1.180	-	72.10	0.00	0	0	0	0	0	0	0	0
	F	22D-5tpm	0.442	-	27.01	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									998				367
	Envelope loss/gain								5185	4947			4643	3869
12	a) Infiltration								1515	214			1139	161
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			2		460	900	2		460	1000
			Appliances/other											
	Subtotal (lines 6 to 13)								6700	6521			5782	5489
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								6700	6521			5782	5489
15	Duct loads								0	0			0	0
	Total room load								6700	6521			5782	5489
	Air required (cfm)								200	326			173	274

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Right-J® Worksheet Entire House e3 Power

Job:
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By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

1 Room name		Master Bedroom 28.0 ft						Entry Stairs 23.4 ft						
2 Exposed wall		8.5 ft 1.0 x 248.0 ft heat/cool						8.5 ft 1.0 x 235.5 ft heat/cool						
3 Room height		248.0 ft²						235.5 ft²						
4 Room dimensions														
5 Room area														
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12B-3sw	0.079	n	4.83	1.39	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	n	4.83	1.39	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	n	4.30	0.31	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	ne	4.83	1.39	0	0	0	0	84	63	306	88
11	G	4A5-2ov	0.290	ne	17.72	19.16	0	0	0	0	20	0	362	391
	G	4A5-2ov	0.470	ne	28.72	27.16	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	ne	4.26	0.30	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	ne	17.72	19.16	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	e	4.83	1.39	0	0	0	0	51	30	145	42
	D	11K0	0.360	e	22.00	8.86	0	0	0	0	21	21	462	186
	W	15B11-0wc-6	0.099	e	4.30	0.31	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	se	4.83	1.39	0	0	0	0	65	45	216	62
	G	4A5-2ov	0.290	se	17.72	23.27	0	0	0	0	20	0	354	465
	W	15B11-0wc-6	0.099	se	4.27	0.30	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	se	17.72	23.27	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	s	4.83	1.39	94	79	379	109	0	0	0	0
	G	4A5-2ov	0.290	s	17.72	14.01	15	0	266	210	0	0	0	0
	W	12B-3sw	0.079	s	4.83	1.39	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	s	4.15	1.05	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	s	17.72	14.01	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	s	4.30	0.31	0	0	0	0	0	0	0	0
	W	16A-0ad	0.408	s	24.93	27.78	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	w	4.83	1.39	145	115	553	159	0	0	0	0
	G	10D-v	0.290	w	17.72	18.96	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	w	17.72	27.09	30	0	532	813	0	0	0	0
	W	12B-3sw	0.079	w	4.83	1.39	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	w	17.72	27.09	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	w	4.15	1.05	0	0	0	0	0	0	0	0
	G	10D-v	0.290	w	17.72	10.09	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	w	4.30	0.31	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	5.56	0.88	0	0	0	0	0	0	0	0
	D	11K0	0.360	n	22.00	8.86	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.59	1.25	248	248	394	310	60	60	95	74
	C	18A-38ad	0.029	-	1.77	0.58	0	0	0	0	0	0	0	0
	F	21A-24t	0.025	-	1.53	0.00	0	0	0	0	0	0	0	0
	F	22A-tpm	1.180	-	72.10	0.00	0	0	0	0	2	0	13	0
	F	22D-5tpm	0.442	-	27.01	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									256				51
	Envelope loss/gain								2123	1858			1951	1360
12	a) Infiltration								695	98			582	82
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0		0	0			0	0
			Appliances/other						0	0			0	0
	Subtotal (lines 6 to 13)								2818	1956			2534	1443
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								2818	1956			2534	1443
15	Duct loads						-0%	0%	0	0			0	0
	Total room load								2818	1956			2534	1443
	Air required (cfm)								84	98			76	72

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Right-J® Worksheet Entire House e3 Power

Job:
Date:
By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

1 Room name				M Bath		WC								
2 Exposed wall				8.5 ft		15.0 ft								
3 Room height				1.0		1.0								
4 Room dimensions				84.2 ft		52.8 ft								
5 Room area				84.2 ft²		52.8 ft²								
Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)		
				Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12B-3sw	0.079	n	4.83	1.39	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	n	4.83	1.39	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	n	4.30	0.31	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	ne	4.83	1.39	0	0	0	0	0	0	0	0
11	G	4A5-2ov	0.290	ne	17.72	19.16	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	ne	28.72	27.16	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	ne	4.26	0.30	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	ne	17.72	19.16	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	e	4.83	1.39	0	0	0	0	0	0	0	0
	D	11K0	0.360	e	22.00	8.86	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	e	4.30	0.31	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	se	4.83	1.39	95	75	362	104	69	65	311	90
	G	4A5-2ov	0.290	se	17.72	23.27	20	0	354	465	4	0	71	93
	W	15B11-0wc-6	0.099	se	4.27	0.30	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	se	17.72	23.27	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	s	4.83	1.39	0	0	0	0	60	60	287	83
	G	4A5-2ov	0.290	s	17.72	14.01	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	s	4.83	1.39	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	s	4.15	1.05	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	s	17.72	14.01	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	s	4.30	0.31	0	0	0	0	0	0	0	0
	W	16A-0ad	0.408	s	24.93	27.78	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	w	4.83	1.39	0	0	0	0	0	0	0	0
	G	10D-v	0.290	w	17.72	18.96	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	w	17.72	27.09	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	w	4.83	1.39	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	w	17.72	27.09	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	w	4.15	1.05	0	0	0	0	0	0	0	0
	G	10D-v	0.290	w	17.72	10.09	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	w	4.30	0.31	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	5.56	0.88	0	0	0	0	0	0	0	0
	D	11K0	0.360	n	22.00	8.86	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.59	1.25	84	84	134	105	53	53	84	66
	C	18A-38ad	0.029	-	1.77	0.58	0	0	0	0	0	0	0	0
	F	21A-24t	0.025	-	1.53	0.00	0	0	0	0	0	0	0	0
	F	22A-tpm	1.180	-	72.10	0.00	5	1	48	0	2	0	36	0
	F	22D-5tpm	0.442	-	27.01	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion								91				5	
	Envelope loss/gain								898	766			789	337
12	a) Infiltration								277	39			374	53
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0		0	0			0	0
			Appliances/other						0	0			0	0
	Subtotal (lines 6 to 13)								1176	805			1163	390
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								1176	805			1163	390
15	Duct loads						-0%	0%	0	0			0	0
	Total room load								1176	805			1163	390
	Air required (cfm)								35	40			35	19

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Right-J® Worksheet Entire House e3 Power

Job:
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By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

1 Room name				Loft		Bedroom 2								
2 Exposed wall				48.0 ft		15.0 ft								
3 Room height				8.0 ft		9.0 ft								
4 Room dimensions				22.0 x 13.0 ft		15.0 x 14.0 ft								
5 Room area				286.0 ft²		210.0 ft²								
6	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12B-3sw	0.079	n	4.83	1.39	39	39	188	54	0	0	0	0
	W	12B-3sw	0.079	n	4.83	1.39	39	39	188	54	0	0	0	0
	W	15B11-0wc-6	0.099	n	4.30	0.31	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	ne	4.83	1.39	0	0	0	0	0	0	0	0
11	G	4A5-2ov	0.290	ne	17.72	19.16	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	ne	28.72	27.16	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	ne	4.26	0.30	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	ne	17.72	19.16	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	e	4.83	1.39	176	176	850	245	0	0	0	0
	D	11K0	0.360	e	22.00	8.86	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	e	4.30	0.31	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	se	4.83	1.39	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	se	17.72	23.27	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	se	4.27	0.30	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	se	17.72	23.27	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	s	4.83	1.39	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	s	17.72	14.01	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	s	4.83	1.39	39	39	188	54	0	0	0	0
	W	12E-0sw	0.068	s	4.15	1.05	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	s	17.72	14.01	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	s	4.30	0.31	0	0	0	0	0	0	0	0
	W	16A-0ad	0.408	s	24.93	27.78	39	39	972	1084	0	0	0	0
	W	12B-3sw	0.079	w	4.83	1.39	0	0	0	0	0	0	0	0
	G	10D-v	0.290	w	17.72	18.96	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	w	17.72	27.09	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	w	4.83	1.39	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	w	17.72	27.09	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	w	4.15	1.05	0	0	0	0	128	86	355	90
	G	10D-v	0.290	w	17.72	10.09	0	0	0	0	42	29	744	424
	W	15B11-0wc-6	0.099	w	4.30	0.31	0	0	0	0	8	8	32	2
	P	12C-0sw	0.091	-	5.56	0.88	0	0	0	0	0	0	0	0
	D	11K0	0.360	n	22.00	8.86	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.59	1.25	0	0	0	0	0	0	0	0
	C	18A-38ad	0.029	-	1.77	0.58	304	304	539	177	0	0	0	0
	F	21A-24t	0.025	-	1.53	0.00	0	0	0	0	165	165	252	0
	F	22A-tpm	1.180	-	72.10	0.00	0	0	0	0	0	0	0	0
	F	22D-5tpm	0.442	-	27.01	0.00	0	0	0	0	45	15	405	0
6	c) AED excursion													590
	Envelope loss/gain								2926	1572			1789	1106
12	a) Infiltration								969	137			380	54
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0		0	0			0	0
			Appliances/other						0	0			0	0
	Subtotal (lines 6 to 13)								3895	1709			2168	1160
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			36	0
14	Subtotal								3895	1709			2204	1160
15	Duct loads						-0%	0%	0	0			0	0
	Total room load								3895	1709			2204	1160
	Air required (cfm)								116	85			66	58

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Right-J® Worksheet Entire House e3 Power

Job:
Date:
By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

		Hallway 0 ft		Bath 16.3 ft											
		9.0 ft 15.0 x 4.0 ft		9.0 ft 1.0 x 144.0 ft											
		60.0 ft²		144.0 ft²											
1	Room name	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
						Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12B-3sw		0.079	n	4.83	1.39	0	0	0	0	0	0	0	0
	W	12B-3sw		0.079	n	4.83	1.39	0	0	0	0	0	0	0	0
	W	15B11-0wc-6		0.099	n	4.30	0.31	0	0	0	0	0	0	0	0
	W	12B-3sw		0.079	ne	4.83	1.39	0	0	0	0	0	0	0	0
11	G	4A5-2ov		0.290	ne	17.72	19.16	0	0	0	0	0	0	0	0
	G	4A5-2ov		0.470	ne	28.72	27.16	0	0	0	0	0	0	0	0
	W	15B11-0wc-6		0.099	ne	4.26	0.30	0	0	0	0	0	0	0	0
	G	4A5-2ov		0.290	ne	17.72	19.16	0	0	0	0	0	0	0	0
	W	12B-3sw		0.079	e	4.83	1.39	0	0	0	0	0	0	0	0
	D	11K0		0.360	e	22.00	8.86	0	0	0	0	0	0	0	0
	W	15B11-0wc-6		0.099	e	4.30	0.31	0	0	0	0	27	27	116	8
	W	12B-3sw		0.079	se	4.83	1.39	0	0	0	0	0	0	0	0
	G	4A5-2ov		0.290	se	17.72	23.27	0	0	0	0	0	0	0	0
	W	15B11-0wc-6		0.099	se	4.27	0.30	0	0	0	0	121	117	499	35
	G	4A5-2ov		0.290	se	17.72	23.27	0	0	0	0	3	0	59	78
	W	12B-3sw		0.079	s	4.83	1.39	0	0	0	0	0	0	0	0
	G	4A5-2ov		0.290	s	17.72	14.01	0	0	0	0	0	0	0	0
	W	12B-3sw		0.079	s	4.83	1.39	0	0	0	0	0	0	0	0
	W	12E-0sw		0.068	s	4.15	1.05	0	0	0	0	0	0	0	0
	G	4A5-2ov		0.290	s	17.72	14.01	0	0	0	0	0	0	0	0
	W	15B11-0wc-6		0.099	s	4.30	0.31	0	0	0	0	0	0	0	0
	W	16A-0ad		0.408	s	24.93	27.78	0	0	0	0	0	0	0	0
	W	12B-3sw		0.079	w	4.83	1.39	0	0	0	0	0	0	0	0
	G	10D-v		0.290	w	17.72	18.96	0	0	0	0	0	0	0	0
	G	4A5-2ov		0.290	w	17.72	27.09	0	0	0	0	0	0	0	0
	W	12B-3sw		0.079	w	4.83	1.39	0	0	0	0	0	0	0	0
	G	4A5-2ov		0.290	w	17.72	27.09	0	0	0	0	0	0	0	0
	W	12E-0sw		0.068	w	4.15	1.05	0	0	0	0	0	0	0	0
	G	10D-v		0.290	w	17.72	10.09	0	0	0	0	0	0	0	0
	W	15B11-0wc-6		0.099	w	4.30	0.31	0	0	0	0	0	0	0	0
	P	12C-0sw		0.091	-	5.56	0.88	0	0	0	0	0	0	0	0
	D	11K0		0.360	n	22.00	8.86	0	0	0	0	0	0	0	0
	C	16B-38ad		0.026	-	1.59	1.25	0	0	0	0	0	0	0	0
	C	18A-38ad		0.029	-	1.77	0.58	0	0	0	0	0	0	0	0
	F	21A-24t		0.025	-	1.53	0.00	60	60	92	0	144	144	220	0
	F	22A-tpm		1.180	-	72.10	0.00	0	0	0	0	0	0	0	0
	F	22D-5tpm		0.442	-	27.01	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									0				14	
	Envelope loss/gain									92	0			894	135
12	a) Infiltration									0	0			144	20
	b) Room ventilation									0	0			0	0
13	Internal gains:		Occupants @	230				0		0	0			0	0
			Appliances/other							0	0			0	0
	Subtotal (lines 6 to 13)									92	0			1038	155
	Less external load									0	0			0	0
	Less transfer									0	0			0	0
	Redistribution									-92	0			36	0
14	Subtotal									0	0			1074	155
15	Duct loads									0	0			0	0
	Total room load									0	0			1074	155
	Air required (cfm)									0	0			32	8

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Right-J® Worksheet Entire House e3 Power

Job:
Date:
By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

1		Room name		Bedroom 3		Family Room								
2		Exposed wall		43.3 ft		76.7 ft								
3		Room height		9.0 ft		9.0 ft								
4		Room dimensions		1.0 x 252.0 ft		1.0 x 694.0 ft								
5		Room area		252.0 ft²		694.0 ft²								
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12B-3sw	0.079	n	4.83	1.39	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	n	4.83	1.39	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	n	4.30	0.31	0	0	0	0	162	162	696	51
	W	12B-3sw	0.079	ne	4.83	1.39	0	0	0	0	0	0	0	0
11	G	4A5-2ov	0.290	ne	17.72	19.16	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	ne	28.72	27.16	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	ne	4.26	0.30	0	0	0	0	250	244	1039	73
	G	4A5-2ov	0.290	ne	17.72	19.16	0	0	0	0	6	0	100	109
	W	12B-3sw	0.079	e	4.83	1.39	0	0	0	0	0	0	0	0
	D	11K0	0.360	e	22.00	8.86	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	e	4.30	0.31	0	0	0	0	27	27	116	8
	W	12B-3sw	0.079	se	4.83	1.39	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	se	17.72	23.27	0	0	0	0	0	0	0	0
	W	15B11-0wc-6	0.099	se	4.27	0.30	121	121	519	38	0	0	0	0
	G	4A5-2ov	0.290	se	17.72	23.27	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	s	4.83	1.39	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	s	17.72	14.01	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	s	4.83	1.39	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	s	4.15	1.05	60	45	185	47	0	0	0	0
	G	4A5-2ov	0.290	s	17.72	14.01	15	0	266	210	0	0	0	0
	W	15B11-0wc-6	0.099	s	4.30	0.31	103	103	440	32	0	0	0	0
	W	16A-0ad	0.408	s	24.93	27.78	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	w	4.83	1.39	0	0	0	0	0	0	0	0
	G	10D-v	0.290	w	17.72	18.96	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	w	17.72	27.09	0	0	0	0	0	0	0	0
	W	12B-3sw	0.079	w	4.83	1.39	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.290	w	17.72	27.09	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	w	4.15	1.05	102	60	249	63	238	154	640	162
	G	10D-v	0.290	w	17.72	10.09	42	29	744	424	84	58	1488	848
	W	15B11-0wc-6	0.099	w	4.30	0.31	6	6	26	2	14	14	60	4
	P	12C-0sw	0.091	-	5.56	0.88	0	0	0	0	0	0	0	0
	D	11K0	0.360	n	22.00	8.86	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.59	1.25	0	0	0	0	0	0	0	0
	C	18A-38ad	0.029	-	1.77	0.58	0	0	0	0	0	0	0	0
	F	21A-24t	0.025	-	1.53	0.00	216	216	330	0	610	610	932	0
	F	22A-tpm	1.180	-	72.10	0.00	0	0	0	0	0	0	0	0
	F	22D-5tpm	0.442	-	27.01	0.00	36	15	405	0	84	31	837	0
6	c) AED excursion									425				1121
	Envelope loss/gain								3164	1241			5908	2376
12	a) Infiltration								695	98			1135	160
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							0				0
	Subtotal (lines 6 to 13)								3859	1339			7044	2536
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								10	0			10	0
14	Subtotal								3869	1339			7053	2536
15	Duct loads						-0%	0%	0	0			0	0
	Total room load								3869	1339			7053	2536
	Air required (cfm)								116	67			211	127

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Loads for Multiple Orientations

Entire House

e3 Power

Job:
Date:
By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

Project Information

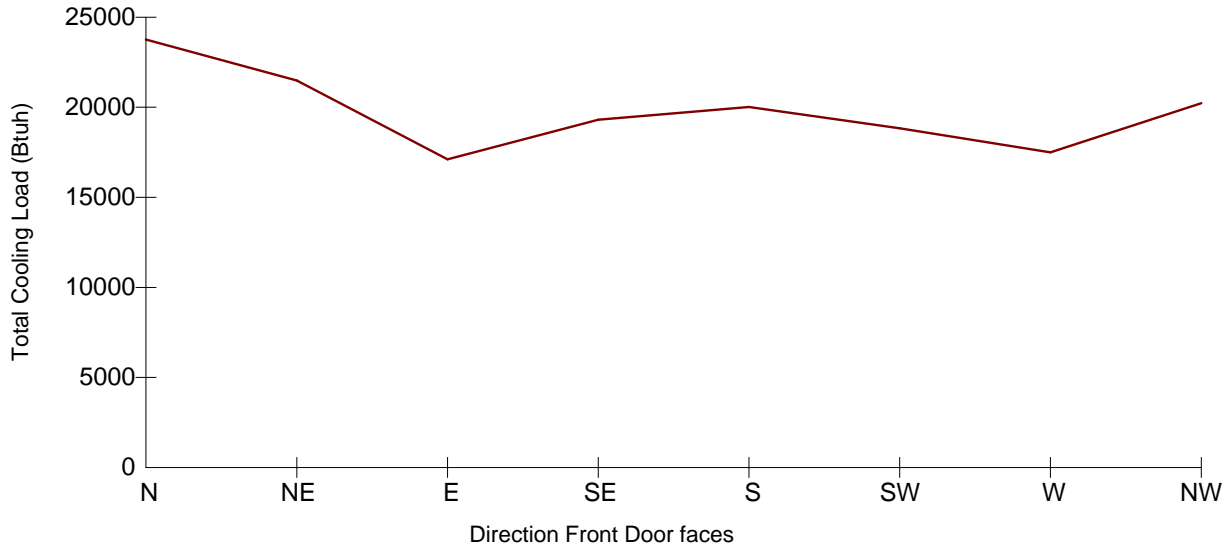
For: Sample Company

Design Conditions

Location:				Indoor:	Heating	Cooling
Denver Intl AP, CO, US				Indoor temperature (°F)	68	75
Elevation: 5430 ft				Design TD (°F)	61	17
Latitude: 40°N				Relative humidity (%)	30	50
				Moisture difference (gr/lb)	29.6	-35.5
Outdoor:	Heating	Cooling				
Dry bulb (°F)	7	92				
Daily range (°F)	-	27 (H)				
Wet bulb (°F)	-	60				
Wind speed (mph)	15.0	7.5				

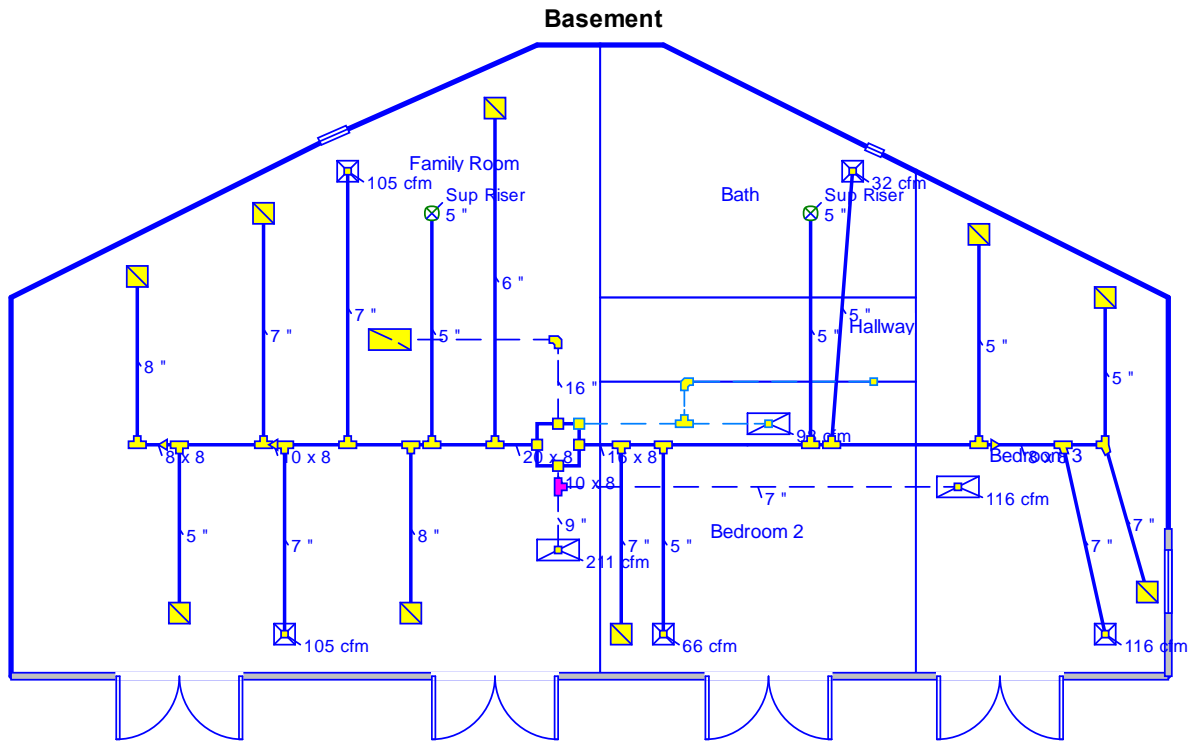
	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Front Door								
Sensible Load (Btuh)	23758	21483	17109	19308	20019	18838	17498	20225
Latent Load (Btuh)	0	0	0	0	0	0	0	0
Total Load (Btuh)	23758	21483	17109	19308	20019	18838	17498	20225
Heating AVF (cfm)	1200	1200	1200	1200	1200	1200	1200	1200
Cooling AVF (cfm)	1200	1200	1200	1200	1200	1200	1200	1200

Building Orientation Cooling Load



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

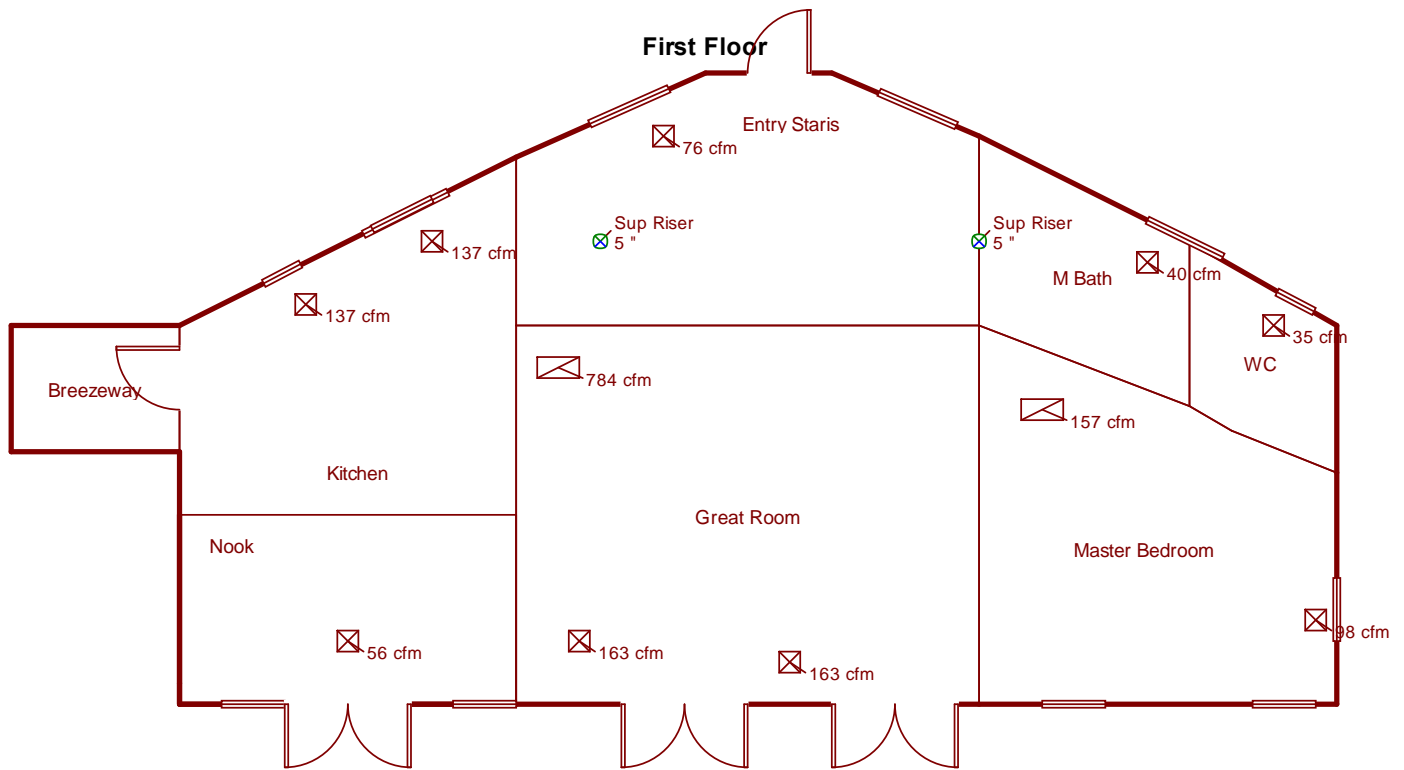
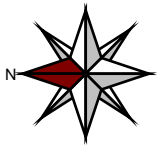
Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Job #:
Performed for:
Sample Company

e3 Power
1616 17th St #383
Denver, CO 80202
Phone: 303-292-1233
www.e3power.net andy@e3power.net

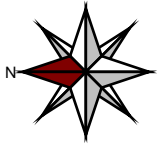
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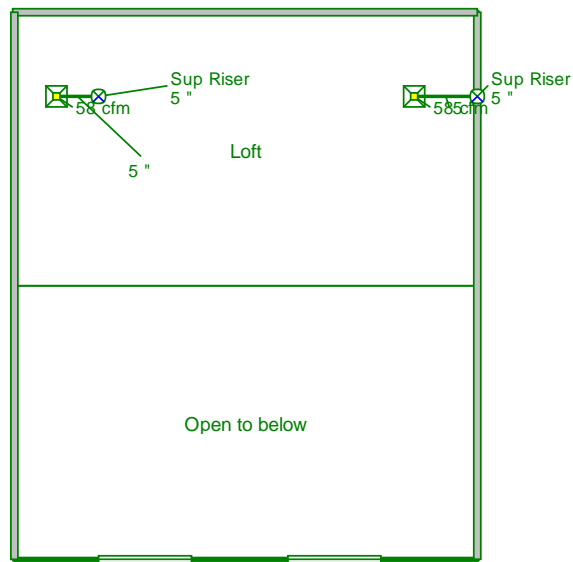
Job #:
Performed for:
Sample Company

e3 Power
1616 17th St #383
Denver, CO 80202
Phone: 303-292-1233
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Second Floor



Job #:
Performed for:
Sample Company

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1616 17th St #383
Denver, CO 80202
Phone: 303-292-1233
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Scale: 1 : 110
Page 3
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Duct System Summary

Entire House

e3 Power

Job:
Date:
By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

Project Information

For: Sample Company

	Heating	Cooling
External static pressure	0.70 in H2O	0.70 in H2O
Pressure losses	0.39 in H2O	0.39 in H2O
Available static pressure	0.31 in H2O	0.31 in H2O
Supply / return available pressure	0.196 / 0.114 in H2O	0.196 / 0.114 in H2O
Lowest friction rate	0.069 in/100ft	0.069 in/100ft
Actual air flow	1200 cfm	1200 cfm
Total effective length (TEL)	447 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
Bath	h 1074	32	8	0.078	5.0	0x0	ShMt	25.0	225.0	st1
Bedroom 2	h 2204	66	58	0.101	5.0	0x0	ShMt	13.0	180.0	st1
Bedroom 3	h 3869	116	67	0.071	7.0	0x0	ShMt	32.2	245.0	st1A
Entry Staris	h 2534	76	72	0.096	6.0	0x0	ShMt	18.0	185.0	st2
Family Room	h 3527	105	63	0.079	7.0	0x0	ShMt	22.0	225.0	st2
Family Room-A	h 3527	105	63	0.083	7.0	0x0	ShMt	21.0	215.0	st2
Great Room	c 3261	100	163	0.079	8.0	0x0	ShMt	14.0	235.0	st2
Great Room-A	c 3261	100	163	0.100	7.0	0x0	ShMt	11.0	185.0	st1
Kitchen	c 2745	86	137	0.069	8.0	0x0	ShMt	27.0	255.0	st2B
Kitchen-A	c 2745	86	137	0.073	7.0	0x0	ShMt	24.0	245.0	st2A
Loft	h 1947	58	43	0.082	5.0	0x0	ShMt	28.0	210.0	st2
Loft-A	h 1947	58	43	0.080	5.0	0x0	ShMt	35.0	210.0	st1
M Bath	c 805	35	40	0.080	5.0	0x0	ShMt	29.0	215.0	st1
Master Bedroom	c 1956	84	98	0.073	7.0	0x0	ShMt	32.3	235.0	st1A
Nook	h 1875	56	27	0.075	5.0	0x0	ShMt	25.0	235.0	st2A
WC	h 1163	35	19	0.073	5.0	0x0	ShMt	32.0	235.0	st1A

Bold/italic values have been manually overridden

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st2	Peak AVF	674	705	0.069	634	13.0	8 x 20	ShtMetl	
st1	Peak AVF	526	495	0.071	592	11.6	8 x 16	ShtMetl	
st2A	Peak AVF	229	301	0.069	541	9.5	8 x 10	ShtMetl	st2
st2B	Peak AVF	86	137	0.069	308	7.1	8 x 8	ShtMetl	st2A
st1A	Peak AVF	235	184	0.071	528	8.6	8 x 8	ShtMetl	st1

Return Branch Detail Table

Name	Grill Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb4	0x0	621	784	87.0	0.132	561	16.0	0x 0		ShMt	
rb1	0x0	211	127	149.0	0.077	477	9.0	0x 0		ShMt	rt2
rb2	0x0	116	67	165.0	0.069	433	7.0	0x 0		ShMt	rt2
rb5	0x0	154	157	0	0	0	0	0x 0		ShMt	
rb3	0x0	98	66	0	0	0	0	0x 0		ShMt	

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt2	Peak AVF	327	193	0.069	588	9.8	8 x 10	ShtMetl	



Static Pressure and Friction Rate

Entire House

e3 Power

Job:
Date:
By:

1616 17th St #383, Denver, CO 80202 Phone: 303-292-1233 Email: andy@e3power.net Web: www.e3power.net

Project Information

For: Sample Company

Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.70	0.70
Pressure losses		
Coil	0.20	0.20
Heat exchanger	0	0
Supply diffusers	0.03	0.03
Return grilles	0.03	0.03
Filter	0.10	0.10
Humidifier	0	0
Balancing damper	0.03	0.03
Other device	0	0
Available static pressure	0.31	0.31

Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	8	19
Measured length of trunk	19	1
Equivalent length of fittings	255	145
Total length	282	165
Total effective length		447

Friction Rate

	Heating (in/100ft)		Cooling (in/100ft)	
Supply Ducts	0.069	OK	0.069	OK
Return Ducts	0.069	OK	0.069	OK

Fitting Equivalent Length Details

Supply 4G=80, 2A0=35, 12H1=20, 12H1=20, 9K=65, 1C=35: TotalEL=255

Return 6M=20, 6A4=60, 5D=40, 6AB=25: TotalEL=145