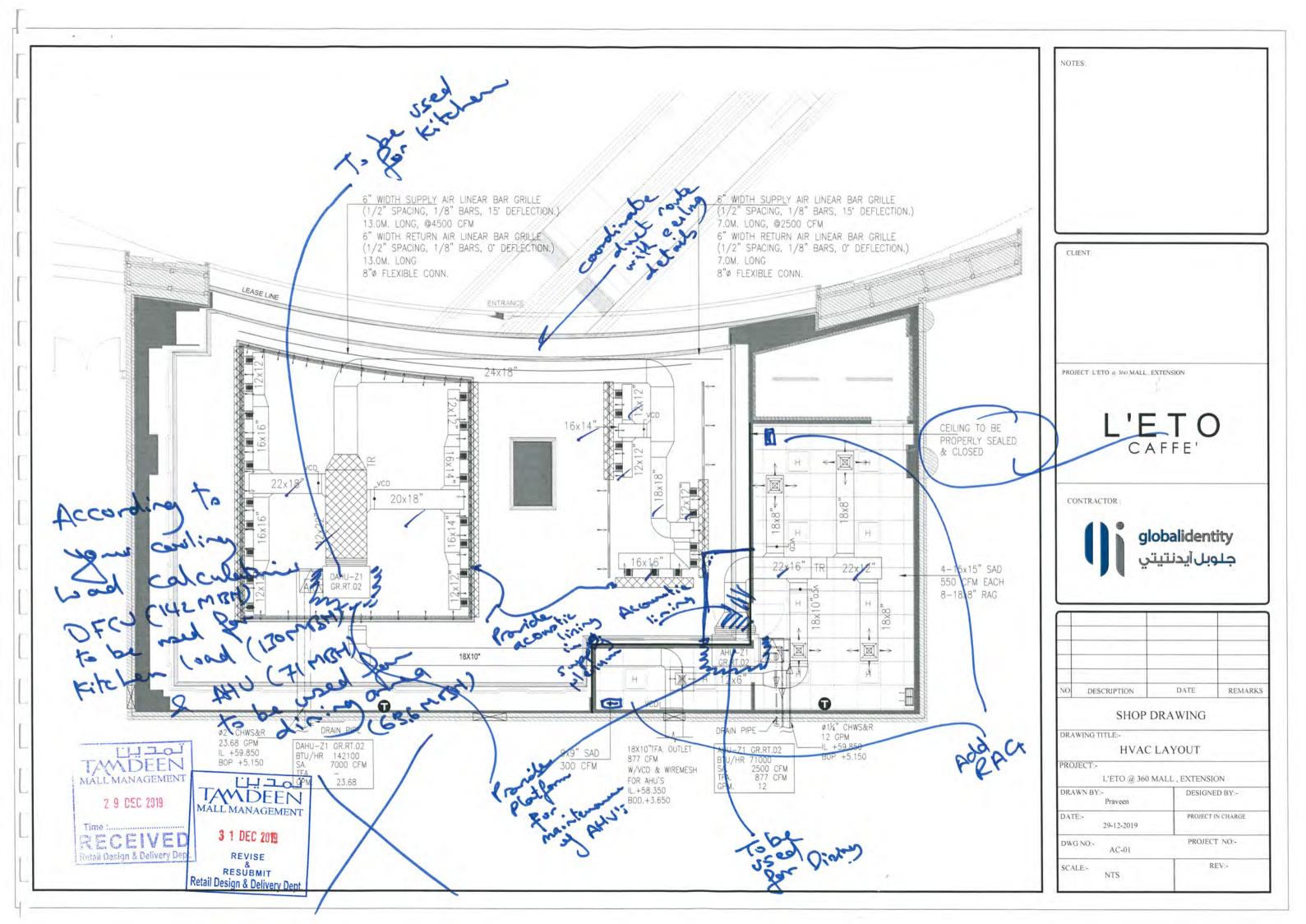
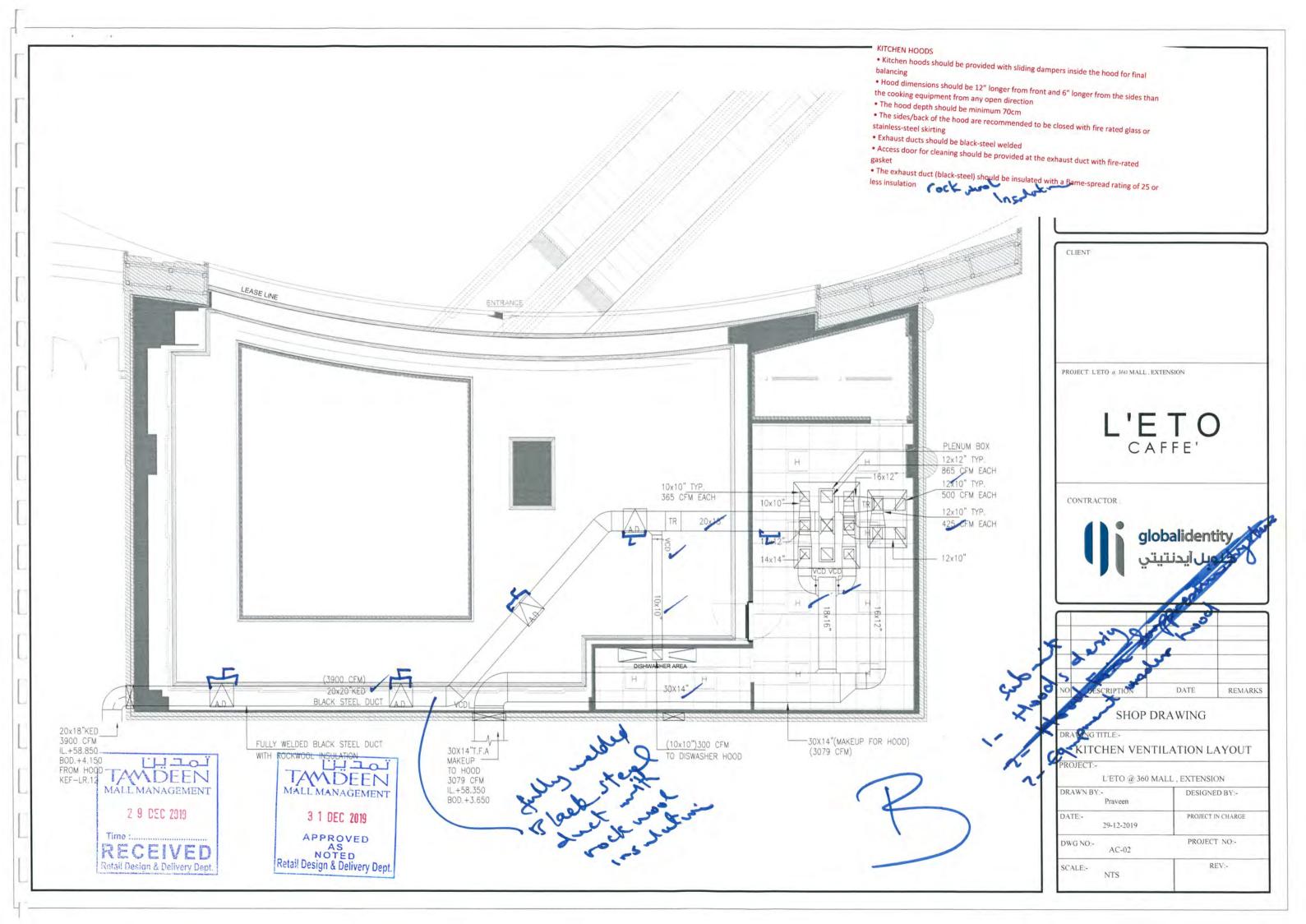


			RETAIL DESIG	GN & DI	LIVERY	SUBMI	TTAL &	TRANSMITTAL FORM					MALI MANAGEMENT
MA	ALL / PROPERTY	NAME: 360 MALL Extensio	n	BRAND	NAME:				L'ETO			UNIT NUMBER:	G-05
	SUBMITTAL / TRA	ANSMITTAL NO.:			5	00	14	-1	SUB	MITTAL DAT	E	29/D	ec/19
AL	STOR and/or JTHORIZED RESENTATIVE	NAME of Investor / Author	ized Representat	ive		CON	TACT	No. of Investor / Auth	orized Represe	ntative	E-mail Address	of Investor / Authoriz	red Representative
	NTRACTOR'S	COMPANY N	IAME			N#	ME of	Contractor's Project N	Manager	CONT	TACT No.	E-mail	Address
	JTHORIZED RESENTATIVE	Global Ide	ntity					Eng hany		666	551805	hany@global-id.net	kevork@global-id.net
		ONE (1) SUBMITTAL / TRANSM	AITTAL for each S	SUBMIT	TAL TYP	E			☐ NEV	W SUBMITTAL	V	RE-SUBMITTAL	OTHERS
	DRAV	VING TITLE / DESCRIPTION		ď	NO.					RD8	D ACTION		
ITEM NO.	DESIGN; SIGNA FIGHTING, EM	SUBMITTAL TYPE IGN; ARCHITECTURAL & MEP DETAILED GE; HOARDING; KFD/FIRE ALARM, FIRE ERGENCY & EXIT; AS BUILT; MATERIAL FICATIONS; SURVEYS; INSURANCE, ETC.	DRAWING NO.	REVISION NO.	ELECTRONIC (CD)	HARDCOPY OF (A3 ONLY)	A B X	APPROVED APPROVED AS NOTED REVISE & RESUBMIT			COMMENTS /	REMARKS	
1	HVAC LAYOUT		AC-01		1	1	X						
2	KITCHEN VENTIL	ATION LAYOUT	AC-02		1	1	13						
3	HEAT LOAD CAL	CULATION	AC-03		1	1	5						
4	HEAT LOAD CAL	CULATION	AC-04		1	1		potery					
5	HEAT LOAD CAL	CULATION	AC-05		1	1	(123					
6	HEAT LOAD CAL		AC-06		1	1							
7	HEAT LOAD CAL	MALL MANAGEMENT 2 9 DEC 2019 Time: 2:05 RECEIVED	AC-07		1 MI	1 M							
			GN & DELIVERY								Investor / C		
R	eceived By:	MEP Engineer Sr. MEP Ma		ct Man roject	ager / lanager			neral Manager neral Manager	Name:	En	g hany	reviewed in detail and are co	ye submitted Items have been rrect in the strict comformance intexcept as otherwise stated.
		_ (U		H	+				Tel. No.:	66	651805	17.3	19 10 1 ×
Name	e/Signature/Date	Name/Signature/Dat/ Name/Signature	pate Name,	/Signatu	re/Date	1	lame/Si	gnature/Date	Date:	29/	/Dec/19	Authorized Si	gnature / Date 👺

NOTE: DOCUMENTS & DRAWING SUBMITTAL(S) MUST BE SUBMITTED AT 360 MALL EXPANSION - CENTER MANAGEMENT OFFICE FROM 8:00AM TO 3:30PM (SUNDAY TO THURSDAY). SUBMITTAL(S) AFTER 3:30PM WILL BE STAMPED THE

- ALL DRAWING SUBMITTALS MUST BE IN: A) A3 SIZE PAPER; B) COLOR; C) SOFTCOPY ON CD WHICH INCLUDES AUTOCAD DRAWINGS (DWG) & ACROBAT (PDF) FILES.
 IF NEEDED, Project Managers / Asst. PM MAY REQUEST DRAWINGS IN OTHER PAPER SIZE OTHER THAN A3.
 OTHER DOCUMENTS SUCH AS INSURANCE(Original), CERTFICATIONS, LETTERS, CATALOGUES, SPECIFICATIONS, ETC. SHOULD BE SUBMITTED ONLY IN A4 or A3 PAPER SIZE TOGETHER WITH SOFTCOPY ON CD.





Air System Sizing Summary for AHU-RESTAURANT

Project Name: LETO(REV 01) Prepared by: f

12/28/2019 09:02PM

Air System Information Air System Name

AHU-RESTAURANT Equipment Class CW AHU Air System Type

Number of zones 1684.6 ft² Floor Area Kuwait City, Kuwait

Sizing Calculation Information

Calculation Months Jan to Dec Sizing Data ...

Zone CFM Sizing Peak zone sensible load Space CFM Sizing

Central Cooling Coil Sizing Data

Total coil load	5.3	Ton
Total coil load	63.6	MBH
Sensible coil load	58.0	MBH
Coil CFM at Jan 0800	2605	CFN
Max block CFM	2605	CFN
Sum of peak zone CFM	2605	CFN
Sensible heat ratio	0.911	
CFM/Ton	491.2	
ft²/Ton	317.6	
BTU/(hr-ft²)	. 37.8	
Water flow @ 10.0 °F rise		gpn

Load occurs at	
OA DB / WB 67.4 / 42.1	°F
Entering DB / WB 75.3 / 62.0	°F
Leaving DB / WB 54.6 / 53.3	°F
Coil ADP 52.3	oF
Bypass Factor 0.100	
Resulting RH	%
Design supply temp. 57.2	°F
Zone T-stat Check 0 of 1	0
Max zone temperature deviation 0.0	op

Central Heating Coil Sizing Data
No central heating coil loads occurred during this calculation.

Supply Fan Sizing Data

Actual max CFM	2605	CFM
Standard CFM	2588	CFM
Actual max CFM/ft ²	1.55	CFM/ft

Outdoor Ventilation Air Data Design airflow CFMCFM/ft² 0 CFM

Fan motor BHP	2.52	BHP
Fan motor kW	2.00	kW

CFM/person .		0.00	CFM/person	
--------------	--	------	------------	--

Zone Sizing Summary for AHU-RESTAURANT

Project Name: LETO(REV 01) Prepared by: f

12/28/2019 09:02PM

Air System Information Air System Name AHU-RESTAURANT CW AHU Equipment Class Air System Type

Number of zones 1684.6 ft² Floor Area Kuwait City, Kuwait

Sizing Calculation Information

Calculation Months Jan to Dec Sizing Data

Zone CFM Sizing ... Space CFM Sizing Peak zone sensible load Individual peak space loads

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (CFM)	Minimum Supply Airflow (CFM)	Zone CFM/ft²	Reheat Coil Load (MBH)	Reheat Coil Water gpm @ 20.0 °F	Zone Htg Unit Coil Load (MBH)	Zone Htg Unit Water gpm @ 20.0 °F	Mixing Box Fan Airflow (CFM)
AHU-RESTAURANT	2605	2605	1.55	0.0	0.00	0.0	0.00	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (MBH)	Time of Peak Sensible Cooling Load	Zone Heating Load (MBH)	Zone Floor Area (ft²)
AHU-RESTAURANT	50.3	Jan 2300	0.0	1684.6

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (MBH)	Time of Peak Sensible Load	Air Flow (CFM)	Heating Load (MBH)	Floor Area (ft²)	Space CFM/ft ²
AHU-RESTAURANT							
RESTAURANT	1	50.3	Jan 2300	2605	0.0	1684.6	1.5

NOTES:

CLIENT

PROJECT: L'ETO a 360 MALL EXTENSION



CONTRACTOR



REMARKS

SHOP DRAWING

DRAWING TITLE:-

HEAT LOAD CALCULATION

DRAWN BY:-

Page 2 of 5

L'ETO @ 360 MALL, EXTENSION

DESIGNED BY:-

PROJECT NO:-

DATE:-PROJECT IN CHARGE 29-12-2019

DWG NO:-AC-03

REV:-SCALE:-NTS

تمديل Hourly Analysis Program 5.11 MALL MANAGEMENT 2 9 DEC 2019 Time :... RECEIVED

Retail Design & Delivery Dept.

Hourly Analysis Program 5.11

Page 1 of 5

Air System Design Load Summary for AHU-RESTAURANT
Project Name: LETO(REV 01)

12/28/2019 09:02PM

	DES	IGN COOLING		DES	IGN HEATING	
	COOLING DATA A			HEATING DATA A	T DES HTG	4.77
	COOLING OA DB		42.1 °F	HEATING OA DB /	WB 40.1 °F/	35.6 °F
ZONE LOADS	Details	Sensible (BTU/hr)	Latent (BTU/hr)	Details	Sensible (BTU/hr)	Laten (BTU/hr
Window & Skylight Solar Loads	O ft²	0		O ft²		
Wall Transmission	0 ft²	0		0 ft²	0	
Roof Transmission	O ft²	0	-	0 ft²	0	
Window Transmission	O ft²	0	-	0 ft²	0	
Skylight Transmission	O ft²	0	-	0 ft ²	0	
Door Loads	0 ft²	0	-	0 ft²	0	
Floor Transmission	O ft²	0		0 ft²	0	
Partitions	O ft²	0		0 ft ²	0	
Ceiling	O ft²	0	-	O ft ²	0	
Overhead Lighting	1690 W	5767	*	0	0	
Task Lighting	0 W	0	-	0	0	
Electric Equipment	8750 W	29855		0	0	
People	44	10119	5285	0	0	
Infiltration	-	0	0		0	
Miscellaneous		0	0	-	0	
Safety Factor	10% / 7%	4574	370	0%	0	
>> Total Zone Loads		50314	5655	-	0	
Zone Conditioning	-	50659	5655	-	0	
Plenum Wall Load	0%	0		0	0	-
Plenum Roof Load	0%	0	-	0	0	
Plenum Lighting Load	0%	0		. 0	0	
Return Fan Load	2605 CFM	0	-	2605 CFM	0	
Ventilation Load	0 CFM	0	0	0 CFM	0	
Supply Fan Load	2605 CFM	6824	-	2605 CFM	-6824	
Space Fan Coil Fans		0	-		0	
Duct Heat Gain / Loss	1%	503	-	1%	0	
>> Total System Loads		57987	5655	-	-6824	
Central Cooling Coil		57987	5658		-6824	
Central Heating Coil	-	0		-	0	
>> Total Conditioning		57987	5658	-	6824	
Key:		values are clg lo values are htg lo			values are htg lo	

Negative values are htg loads

Negative values are htg loads

Hourty Analysis Program 5.1 MALL MANAGEMENT

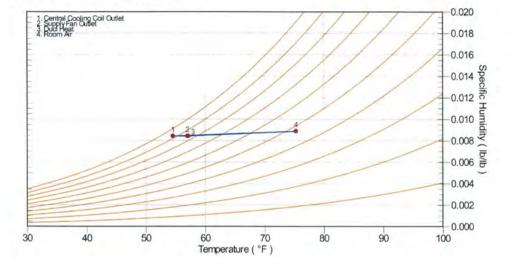
2 9 DEC 2019

RECEIVED Retail Design & Delivery Dept.

System Psychrometrics for AHU-RESTAURANT

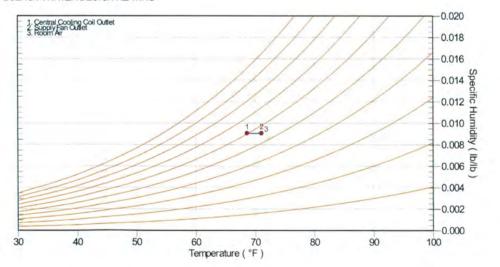
Location: Kuwait City, Kuwait Altitude: 180.0 ft.

Data for: January DESIGN COOLING DAY, 0800

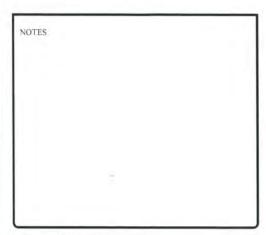


System Psychrometrics for AHU-RESTAURANT Project Name: LETO(REV 01) Prepared by: f

Location: Kuwait City, Kuwait Altitude: 180.0 ft. Data for: WINTER DESIGN HEATING



Hourty Analysis Program 5.11



CLIENT PROJECT: L'ETO à 360 MALL EXTENSION

L'ETO



NO	DESCRIPTION	DATE	REMARKS

SHOP DRAWING

DRAWING TITLE:-

HEAT LOAD CALCULATION

L'ETO @ 360 MALL, EXTENSION

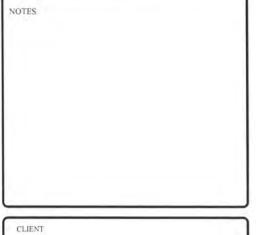
DRAWN BY -DESIGNED BY -PROJECT IN CHARGE 29-12-2019 PROJECT NO -DWG NO:-AC-04

SCALE -NTS

ETOPEVON	Space I	nput Data		40/00/0040
LETO(REV 01) f				12/28/2019 09:03PM
RESTAURANT				
. General Details:				
Floor Area				
Building Weight				
.1. OA Ventilation Requirements:				
Space Usage	CEMPAGA			
OA Requirement 1	CFM/person CFM/ft ²			
Space Usage Defaults ASHRAE Std 62.1-2007	-			
2. Internals:				
2.1. Overhead Lighting:		2.4. People:		
Fixture Type Recessed (Unvented)	LAZINE	Occupancy		People
Wattage 0.93 Ballast Multiplier 1.08	VV/II*	Activity Level Sensible	Seated at Rest	BTU/hr/person
Schedule LIGHTING SCHEDULE		Latent	120.1	BTU/hr/person
		Schedule		
2.2. Task Lighting:		2.5. Miscellaneous Loads:		
Wattage 0.00	W/ft²	Sensible		BTU/hr
Schedule None		Schedule		DTI I/br
		Schedule		510/m
2.3. Electrical Equipment:	201-0-	No harries have been been been been been been been be	**************************************	
Wattage 8750.0 Schedule ELECTRICAL EQUIP SCH	watts			
3. Walls, Windows, Doors: (No Wall, Window, Door data).				
4. Roofs, Skylights: (No Roof or Skylight data).				
5. Infiltration: Design Cooling	CEM			
Design Cooling 0.00 Design Heating 0.00				
Energy Analysis 0.00				
Infiltration occurs only when the fan is off				
5. Floors:				
Type Floor Above Conditioned Space (No additional input required for this floor type).				
(No additional imput required for this moor type).				
7. Partitions:				
(No partition data).				
المدلارا				
MADEENI				
ANDEEN				
L MANAGEMENT Hourly Analysis Program v5.11				Page 1 of 1
				age 1 of 1
2 9 DEC 2019				

RECEIVED Retail Design & Ceiline of Day

Air System Sizing Summary for AHU-KITCHEN Project Name: LETO(REV 01) Prepared by: f					
Air System Information Air System Name AHU-KITCHEN Equipment Class CW AHU Air System Type SZCAV Sizing Calculation Information	Number of zones	ft²			
Calculation Months Jan to Dec Sizing Data Calculated	Zone CFM Sizing Peak zone sensible load Space CFM Sizing Individual peak space loads				
Max block CFM 3630 Sum of peak zone CFM 3630 Sensible heat ratio 0.699 CFM/Ton 336.3 ft/Ton 56.7 BTU/(hr-ft²) 211.5	MBI OA DB / WB 66.7 / 41.8 MBH Entering DB / WB 82.5 / 69.3 CFM Leaving DB / WB 59.3 / 58.1 CFM Coil ADP 56.7 CFM Bypass Factor 0.100 Resulting RH 52 Design supply temp. 60.8	*F *F *F OK *F			
Central Heating Coil Sizing Data No central heating coil loads occurred during this ca	diculation.				
Supply Fan Sizing Data Actual max CFM	CFM Fan motor kW	BHP kW			
Actual max CFM/ft² 5.93 Outdoor Ventilation Air Data 0 Design airflow CFM 0 CFM/ft² 0.00	CFM CFM/person	CFM/person			



LIENT	
DECT L'ETO a 360	MALL . EXTENSION
	FTO
-	ETO CAFFE'
ONTRACTOR	
ONTRACTOR	
11:	globalidentity
Ui	جُلوبل أيدنتيتي
	11 11

NO	DESCRIPTION	DATE	REMARKS
	SHOP D	RAWING	
DRAV	VING TITLE:- HEAT LOAD C	ALCULAT	ION
PROJ	ECT - L'ETO @ 360 M	IALL, EXTENS	ION
DRAV	VN BY - Praveen	DESIGN	NED BY -
DATE	29-12-2019	PROJECT	I IN CHARGE
DWG	NO - AC-05	PROJE	CT NO -
SCAL	E - NTS		REV -

Hourly Analysis Program 5.11

Page 1 of 5

Zone Sizing Summary for AHU-KITCHEN						
Project Name: LETO(REV 01) Prepared by: f	12/28/2019 09:02PM					
Air System Information	Number					
Air System Information Air System Name AHU-KITCHEN Equipment Class CW AHU	Number of zones 1 Floor Area 612.5 ft²					

Page 2 of 5

Sizing Calculation Information

Calculation Months	Jan to Dec	Zone CFM Sizing Peak zone sensible loa
Sizing Data	Calculated	Space CFM Sizing Individual peak space load

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (CFM)	Minimum Supply Airflow (CFM)	Zone CFM/ft²	Reheat Coil Load (MBH)	Reheat Coil Water gpm @ 20.0 °F	Zone Htg Unit Coil Load (MBH)	Zone Htg Unit Water gpm @ 20.0 °F	Mixing Box Fan Airflow (CFM)
AHU-KITCHEN	3630	3630	5.93	0.0	0.00	0.0	0.00	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (MBH)	Time of Peak Sensible Cooling Load	Zone Heating Load (MBH)	Zone Floor Area (ft²)
AHU-KITCHEN	84.1	Jan 2300	0.0	612.5

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (MBH)	Time of Peak Sensible Load	Air Flow (CFM)	Heating Load (MBH)	Floor Area (ft²)	Space CFM/ft²
AHU-KITCHEN							
KITCHEN	1	84.1	Jan 2300	3630	0.0	612.5	5.93

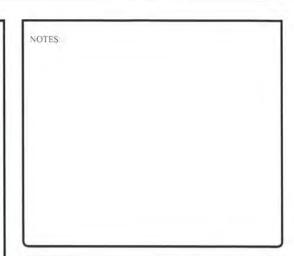
Air System Design Load Summary for AHU-KITCHEN Project Name: LETO(REV 01) Prepared by: f 12/28/2019 09:02PM

	DESIGN COOLING			DESIGN HEATING			
	COOLING DATA AT		41.8 °F	HEATING DATA AT HEATING OA DB /		35.6 °F	
ZONE LOADS	Details	Sensible (BTU/hr)	Latent (BTU/hr)	Details	Sensible (BTU/hr)	Latent (BTU/hr	
Window & Skylight Solar Loads	0 ft²	0	_	0 ft²	-		
Wall Transmission	O ft²	0		O ft²	0		
Roof Transmission	0 ft²	0		0 ft²	0		
Window Transmission	O ft²	0		0 ft²	0		
Skylight Transmission	0 ft²	0		O ft²	0		
Door Loads	0 ft²	0		O ft²	0		
Floor Transmission	0 ft ²	0	-	O ft²	0		
Partitions	0 ft²	0		0 ft²	0	-	
Ceiling	0 ft²	0		O ft²	0		
Overhead Lighting	615 W	2097	-	0	0		
Task Lighting	0 W	0		0	0		
Electric Equipment	0 W	0		0	0		
People	14	4132	6368	0	0	(
Infiltration	- F	0	0	-	0	(
Miscellaneous	4	70253	30126	-	0	(
Safety Factor	10% / 7%	7648	2555	0%	0	(
>> Total Zone Loads	-	84129	39048		0		
Zone Conditioning	-	84523	39048	-	0	(
Plenum Wall Load	0%	0		0	0		
Plenum Roof Load	0%	0		0	0		
Plenum Lighting Load	0%	0	-	0	0		
Return Fan Load	3630 CFM	0		3630 CFM	0		
Ventilation Load	0 CFM	0	0	0 CFM	0		
Supply Fan Load	3630 CFM	5118	9	3630 CFM	-5118		
Space Fan Coil Fans	-	0	-	-	0		
Duct Heat Gain / Loss	1%	841		1%	0		
>> Total System Loads		90482	39048	-	-5118		
Central Cooling Coil	-	90482	39050	-	-5118		
Central Heating Coil	-	0)	0		
>> Total Conditioning		90482	39053	1.	-5118	- 19	
Key:		alues are clg lo alues are htg lo			values are htg lo		

10 Control of the con

تمدين Houry Aparts Program 5 17 MALL MANAGEMENT 2 9 DEC 2019

RECEIVED Retail Design & Delivery Dept. Hourly Analysis Program 5.11



CLIENT	
PROJECT: L'ETO & 36	0 MALL, EXTENSION
1	'ETO
L	CAFFE'
CONTRACTOR:	
ni	globalidentity
H	globalidentity جلوبل آبدنتیتی

NO	DESCRIPTION	DATE	REMARKS

SHOP DRAWING

HEAT LOAD CALCULATION

L'ETO @ 360 MALL, EXTENSION

DRAWN BY:-DESIGNED BY:-DATE:-PROJECT IN CHARGE 29-12-2019

PROJECT NO:-DWG NO:-AC-06

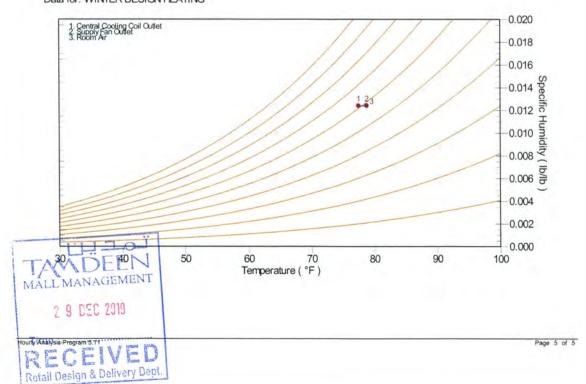
REV:-SCALE:-

System Psychrometrics for AHU-KITCHEN Project Name: LETO(REV 01) Prepared by: f Location: Kuwait City, Kuwait Altitude: 180.0 ft. Data for: January DESIGN COOLING DAY, 0100 0.020 Central Cooling Coil Outlet
 Supply Fan Outlet
 Duct Heat
 Room Ar 0.018 0.016 -0.014 0.012 ਨੇ 0.010 0.008 -0.006 ⋛ 0.004 -0.002 0.000 90 50 70 80 100 Temperature (°F) Hourly Analysis Program 5.11

System Psychrometrics for AHU-KITCHEN

Project Name: LETO(REV 01)
Prepared by: f 09:02PM
09:02PM

Location: Kuwait City, Kuwait Altitude: 180.0 ft. Data for: WINTER DESIGN HEATING



KITCHEN

 1. General Details:
 612.5
 ft²

 Floor Area
 9.8
 ft

 Avg. Ceiling Height
 9.8
 ft

 Building Weight
 70.0
 lb/ft²

 1.1. OA Ventilation Requirements:
 Space Usage
 User-Defined

 OA Requirement 1
 0.0
 CFM/person

 OA Requirement 2
 0.00
 CFM/ft²

 Space Usage Defaults
 ASHRAE Std 62.1-2007

 2. Internals:
 Recessed (Unvented)

 2.1. Overhead Lighting:
 Recessed (Unvented)

 Fixture Type
 0.93

 Wattage
 0.93

 Ballast Multiplier
 1.08

 Schedule
 LIGHTING SCHEDULE

 2.2. Task Lighting:
 0.00 W/ft²

 Wattage
 0.00 None

 2.3. Electrical Equipment:

 Wattage
 0.0
 Watts

 Schedule
 None

3. Walls, Windows, Doors: (No Wall, Window, Door data).

4. Roofs, Skylights: (No Roof or Skylight data).

 5. Infiltration:
 0.00 CFM

 Design Cooling
 0.00 CFM

 Design Heating
 0.00 CFM

 Energy Analysis
 0.00 CFM

 Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space (No additional input required for this floor type).

7. Partitions: (No partition data).

Hourly Analysis Program v5.11

Occupancy	14.0	People
Activity Level Medium	Work	
Sensible	295.2	BTU/hr/persor
		BTU/hr/persor
Schedule PEOPLE SCHE	DULE	10.00

 Sensible
 70253
 BTU/hr

 Schedule
 MISC SCHEDULE

 Latent
 30126
 BTU/hr

 Schedule
 MISC SCHEDULE

NOTES:

PROJECT L'ETO a 360 MALL EXTENSION



CONTRACTOR



NO	DESCRIPTION	DATE	REMARKS

SHOP DRAWING

DRAWING TITLE:-

HEAT LOAD CALCULATION

PROJECT:-

Page 1 of 1

L'ETO @ 360 MALL, EXTENSION

DRAWN BY:Praveen

DATE:29-12-2019

DWG NO:
DRAWN BY:PROJECT IN CHARGE

PROJECT NO:-

REV:-

DWG NO:- PROJECT
AC-07

SCALE:- NTS