
Hawai'i Department of Education K-12 Energy Systems Study
Part 1: Research and Planning
Contract #: Pending
Task 1.1 Report: Preliminary Collection and Assessment of Available Data
April 2014

PREPARED FOR:
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INTRODUCTION

In support of the Hawai'i Department of Education and the University of Hawai'i's K-12 Energy Systems Study, MKThink instrumented a series of rooms on the Campbell High School, Ilima Middle School, Kaimiloa Elementary School, and Pohakea Elementary School campuses for testing. In accordance with the project task order, MKThink collected data from a network of sensors deployed on the Campbell School Complex in Ewa Beach, Hawaii. The team formatted, scrubbed, and entered the data into the 4Daptive database platform where it was then assessed for quality and relevance. Upon determining the quality of the data, MKThink identified areas where the data could be more robust, and developed means for improving data quality and collection.

The **Task 1.1 Report** describes and illustrates the data collected during this phase of the project. Task 1.1. Description of the deliverable is as follows:

Report identifying sources of available data with annotation regarding quality of data, sources of data, responsibility for acquisition of data and recommendations.

Initial database output showing existing assets (asset cards) and data collected through field measurements (data cards) in tabular and graphical format.

The initial database can be accessed at www.4dapt.com.

User name: Hawaii Schools

Password: HIDOEGuest

Section One provides a review of the site and building asset cards for the permanent and portable buildings where sensors were deployed.

Section Two includes data summary tables for three environmental variables: temperature, relative humidity, and illuminance for the full study period and for the months July through November.

Section Three includes a set of data cards describing and illustrating a sample of the data collected through field measurement for three environmental factors (temperature, relative humidity, and illuminance). Data cards show data in month to month, single day, and full study period formats. The full data series can be found at www.4dapt.com.

Section Four includes a comprehensive list of data types, indicating source, usability status, and acquisition responsibility for each data set collected.

Section Five includes recommendations for data collection methodologies for the next phases of the project.

The analytic period covered by this report is **23 July 2013 through 19 November 2013**.

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000 ASSET CARDS

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000 DATA SUMMARY TABLES

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000 DATA CARDS

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000 DATA SOURCE SUMMARY

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ASSET CARDS 	SITES 000	001 Kaimiloa Elementary
		002 Pohakea Elementary
		003 Ilima Intermediate
		004 Campbell High
	PORTABLES 100	101 Kaimiloa
		102 Pohakea
		103 Campbell
	BUILDINGS 200	201 Kaimiloa E
		202 Kaimiloa F
		203 Pohakea A
		204 Pohakea B
		205 Ilima C
		206 Ilima D
		207 Ilima I
		208 Ilima J
		209 Ilima R
		210 Campbell D
		211 Campbell O
		212 Campbell F
		213 Campbell J
		214 Campbell N
DATA SUMMARY TABLES 	TEMPERATURE 000	001 Full Study Period 002-006 Monthly (July - November 2013)
	RELATIVE HUMIDITY 100	101 Full Study Period 102-106 Monthly (July - November 2013)
	ILLUMINANCE 200	201 Full Study Period 202-206 Monthly (July - November 2013)
DATA CARDS (Kaimiloa Building F) 	TEMPERATURE 000	001 Full Study Period 002-006 Monthly (July - November 2013) 007 Single Day (October 23, 2013)
	RELATIVE HUMIDITY 100	101 Full Study Period 102-106 Monthly (July - November 2013) 107 Single Day (October 23, 2013)
	ILLUMINANCE 200	201 Full Study Period 202-206 Monthly (July - November 2013) 207 Single Day (October 23, 2013)
DATA SOURCE SUMMARY 		001-011 Rooms 012-017 Sensors 018-020 Buildings

ASSET CARDS





LOCATION



LATITUDE 21.3197° N

LONGITUDE 158.0085° W

ELEVATION 13 ft MSL

ADDRESS 91-1028 Kaunolu St
Ewa Beach, HI 96706

PLAN



CONFIGURATION

ACREAGE 8

NSF 58,164 ft²

CONSTRUCTION

BUILT 1972

LAST RENOVATED

CHARACTERISTICS

BUILDINGS 19

PARKING SPACES 76

SPACE USE



SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services



LOCATION



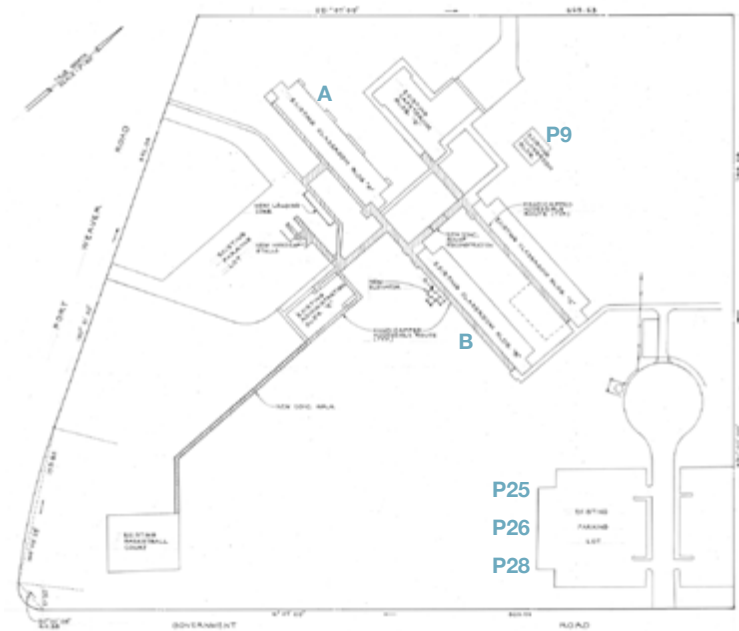
LATITUDE 21.3140° N

LONGITUDE 158.0103° W

ELEVATION 7 ft MSL

ADDRESS 91-750 Fort Weaver Rd,
Ewa Beach, HI 96706

PLAN



CONFIGURATION

ACREAGE 10

NSF 54,281 ft²

CONFIGURATION

BUILT 1963

LAST RENOVATED

CONFIGURATION

BUILDINGS 12

PARKING SPACES 61

SPACE USE



SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services

LOCATION



LATITUDE 21.3160° N

LONGITUDE 158.0118° W

ELEVATION 10 ft MSL

ADDRESS 91-884 Fort Weaver Rd,
Ewa Beach, HI 96706

PLAN



CONFIGURATION

ACREAGE 16

NSF 117,018 ft²

CONSTRUCTION

BUILT 1961

LAST RENOVATED

CHARACTERISTICS

BUILDINGS 20

PARKING SPACES 131

SPACE USE



SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services



LOCATION



LATITUDE 21.3158° N

LONGITUDE 158.0073° W

ELEVATION 10 ft MSL

ADDRESS 91-980 North Rd,
Ewa Beach, HI 96706

PLAN



CONFIGURATION

ACREAGE 30

NSF 253,112 ft²

CONSTRUCTION

BUILT 1961

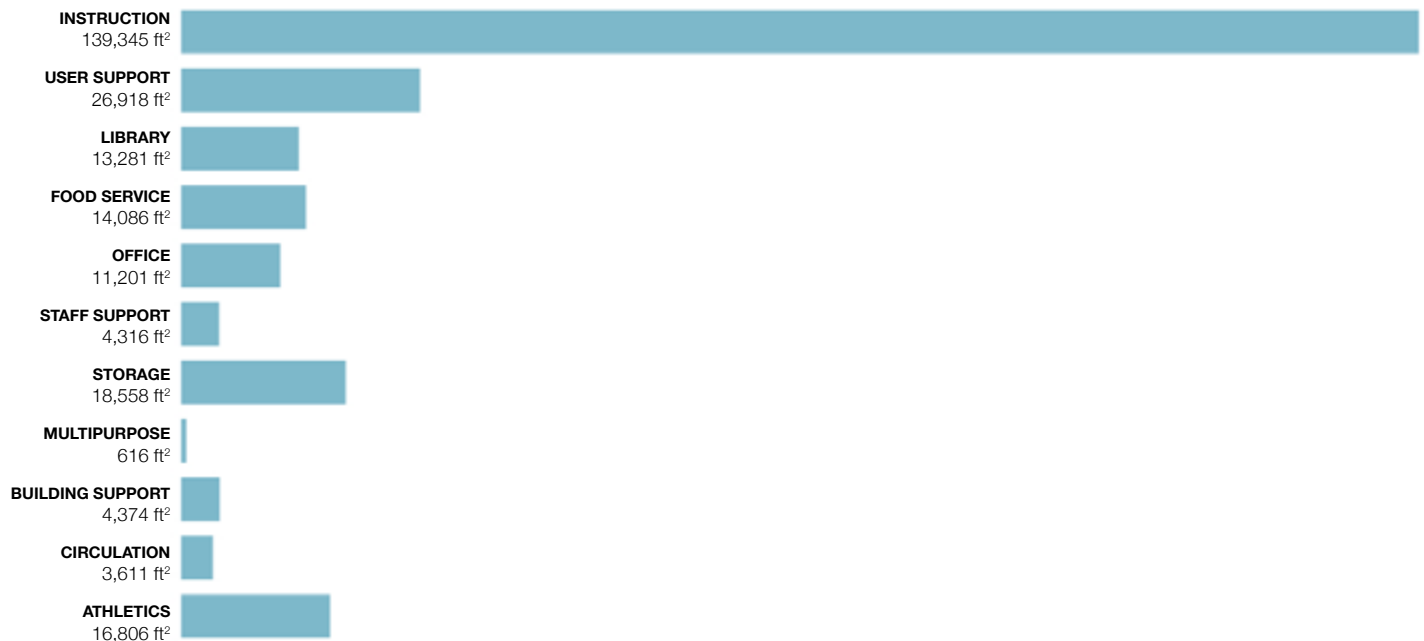
LAST RENOVATED

CHARACTERISTICS

BUILDINGS 26

PARKING SPACES 142

SPACE USE



SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services

LOCATION



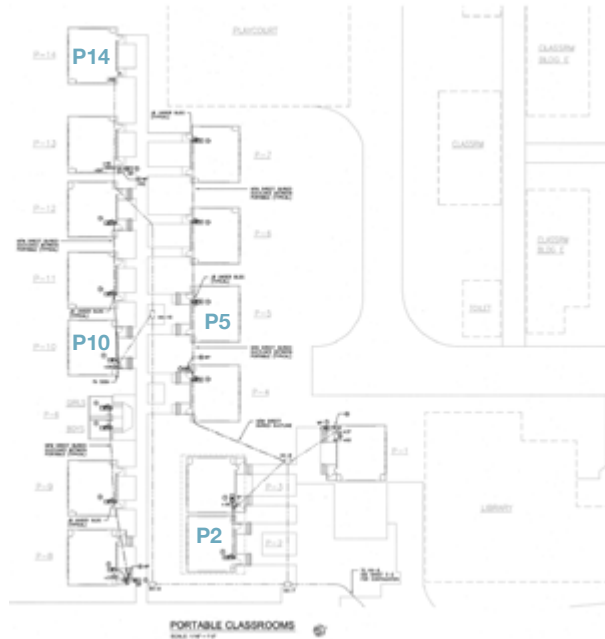
LATITUDE 21.3190° N

LONGITUDE 158.0092° W

ELEVATION 13 ft MSL

ADDRESS 91-1028 Kaunolu St
Ewa Beach, HI 96706

PLAN



CONFIGURATION

CONSTRUCTION

CHARACTERISTICS

	NSF	ORIENTATION		STRUCTURE	ROOF COLOR		USE TYPE	HVAC
P2	826 ft ²	220°	P2	Wood	Brown	P2	Classroom	No
P5	826 ft ²	220°	P5	Wood	Dark Gray	P5	Classroom	Yes
P10	826 ft ²	40°	P10	Wood	Brown	P10	Classroom	No
P14	826 ft ²	40°	P14	Wood	Brown	P14	Classroom	Yes

AREA COMPARISON

Kaimiloa Portables (P2, P5, P10, P14)
826 ft²

Pohakea Portables (P9, P25, P26, P28)
856 ft²

Campbell Portables (P1, P6, P11)
784 ft²

SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services

LOCATION



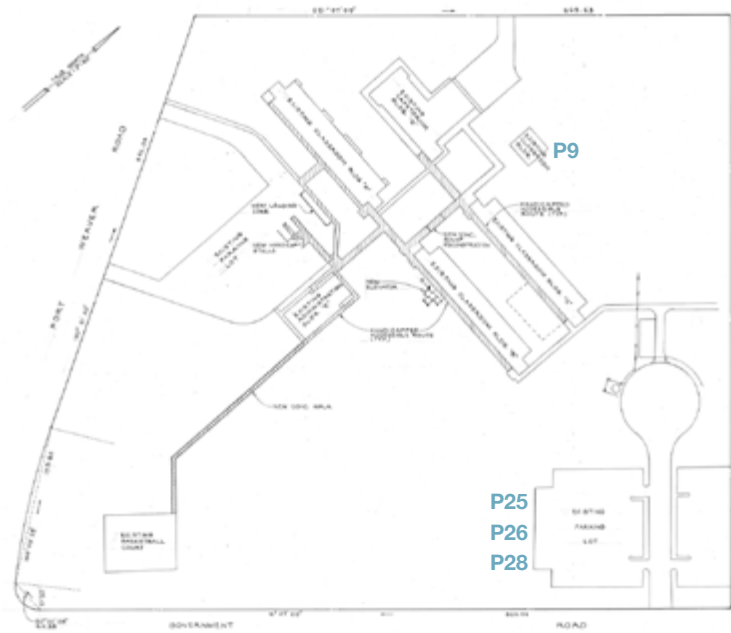
LATITUDE 21.3138° N

LONGITUDE 158.0090° W

ELEVATION 7 ft MSL

ADDRESS 91-750 Fort Weaver Rd,
Ewa Beach, HI 96706

PLAN



CONFIGURATION

CONSTRUCTION

CHARACTERISTICS

	NSF	ORIENTATION		STRUCTURE	ROOF COLOR		USE TYPE	HVAC
P9	856 ft ²	0°	P9	Wood	Brown	P9	Classroom	Yes
P25	856 ft ²	220°	P25	Wood	Brown	P25	Classroom	Yes
P26	856 ft ²	220°	P26	Wood	Light Gray	P26	Classroom	Yes
P28	856 ft ²	220°	P28	Wood	Brown	P28	Classroom	Yes

AREA COMPARISON

Kaimiloa Portables (P2, P5, P10, P14)
826 ft²

Pohakea Portables (P9, P25, P26, P28)
856 ft²

Campbell Portables (P1, P6, P11)
784 ft²

SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services



LOCATION



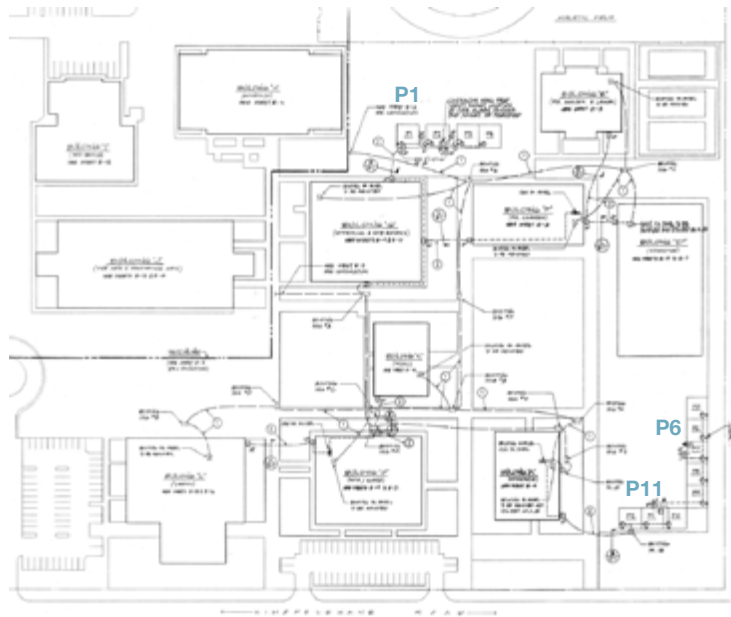
LATITUDE 21.3163° N

LONGITUDE 158.0070° W

ELEVATION 10 ft MSL

ADDRESS 91-980 North Rd,
Ewa Beach, HI 96706

PLAN



CONFIGURATION

CONSTRUCTION

CHARACTERISTICS

	NSF	ORIENTATION		STRUCTURE	ROOF COLOR		USE TYPE	HVAC
P1	784 ft ²	130°	P1	Wood	Brown	P1	Classroom	No
P6	784 ft ²	220°	P6	Wood	Brown	P6	Classroom	No
P11	784 ft ²	310°	P11	Wood	Brown	P11	Classroom	No

AREA COMPARISON

Kaimiloa Portables (P2, P5, P10, P14)
826 ft²Pohakea Portables (P9, P25, P26, P28)
856 ft²Campbell Portables (P1, P6, P11)
784 ft²

SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services



LOCATION



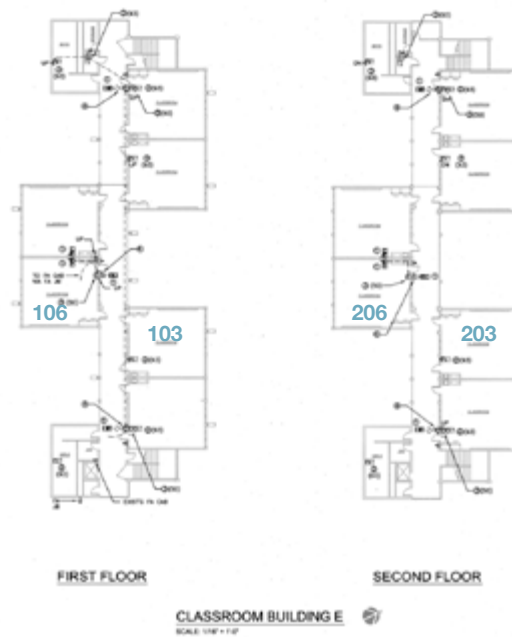
LATITUDE 21.3196° N

LONGITUDE 158.0092° W

ELEVATION 13 ft MSL

ADDRESS 91-1028 Kaunolu St
Ewa Beach, HI 96706

PLAN



CONFIGURATION

FOOTPRINT 7,118 ft²GSF 14,236 ft²NSF 12,279 ft²

ORIENTATION 220°

FLOORS 2

ROOMS 25

CONSTRUCTION

SHAPE Box

STRUCTURE Masonry

ROOF COLOR Black

HEIGHT

BUILT

LAST RENOVATED

CHARACTERISTICS

USE TYPE Classrooms

HVAC No (only 204)

LIGHTING

LEED No

ENERGY STAR No

NET ENERGY NEUTRAL No

SPACE USE



SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services



LOCATION



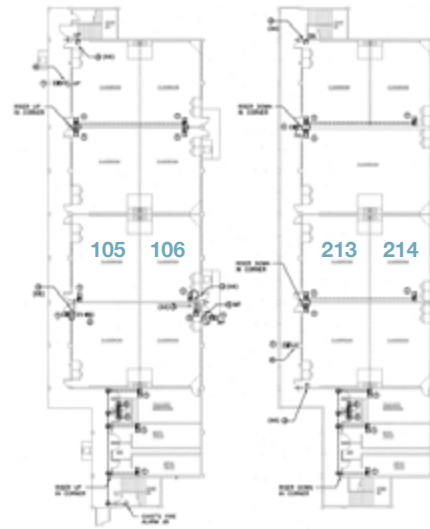
LATITUDE 21.3199° N

LONGITUDE 158.0089° W

ELEVATION 13 ft MSL

ADDRESS 91-1028 Kaunolu St
Ewa Beach, HI 96706

PLAN



FIRST FLOOR

SECOND FLOOR

CLASSROOM BUILDING F
SCALE: 1/8" = 1'-0"

CONFIGURATION

FOOTPRINT 9,998 ft²GSF 19,996 ft²NSF 17,886 ft²

ORIENTATION 220°

FLOORS 2

ROOMS 27

CONSTRUCTION

SHAPE Box

STRUCTURE Masonry

ROOF COLOR Dark Gray

HEIGHT

BUILT

LAST RENOVATED

CHARACTERISTICS

USE TYPE

HVAC No (only 212)

LIGHTING

LEED No

ENERGY STAR No

NET ENERGY NEUTRAL No

SPACE USE

INSTRUCTION
15,398 ft²USER SUPPORT
1,434 ft²BUILDING SUPPORT
224 ft²STORAGE
0 ft²OFFICE
0 ft²STAFF SUPPORT
830 ft²CIRCULATION
0 ft²

SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services



LOCATION



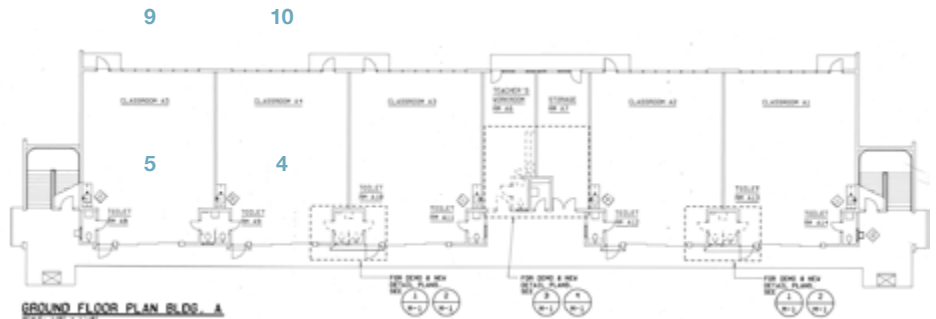
LATITUDE 21.3143° N

LONGITUDE 158.0104° W

ELEVATION 7 ft MSL

ADDRESS 91-750 Fort Weaver Rd,
Ewa Beach, HI 96706

PLAN



CONFIGURATION

FOOTPRINT 6,977 ft²

GSF 13,954 ft²

NSF 11,936 ft²

ORIENTATION 180°

FLOORS 2

ROOMS 28

CONSTRUCTION

SHAPE Razor

STRUCTURE Masonry

ROOF COLOR Black

HEIGHT

BUILT

LAST RENOVATED

CHARACTERISTICS

USE TYPE Classrooms

HVAC Yes

LIGHTING

LEED No

ENERGY STAR No

NET ENERGY NEUTRAL No

SPACE USE



SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services



LOCATION



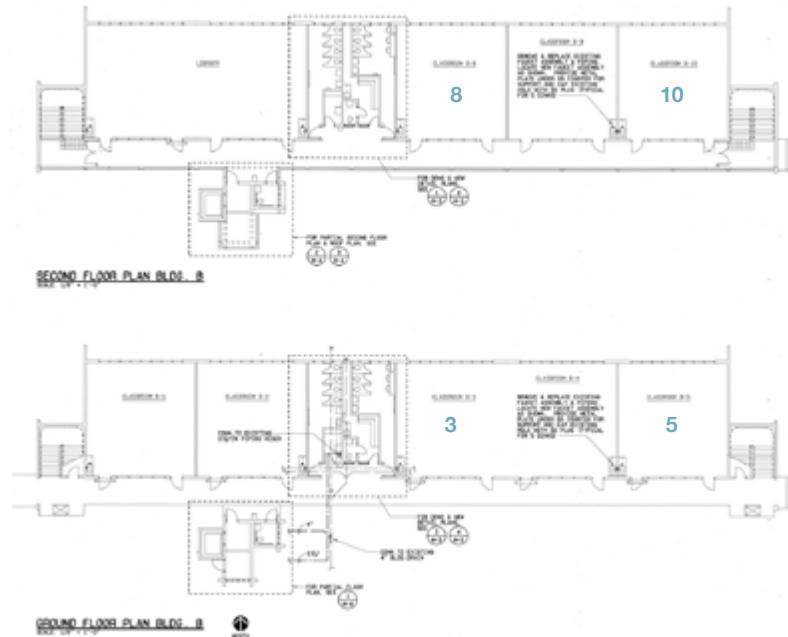
LATITUDE 21.3143° N

LONGITUDE 158.0095° W

ELEVATION 7 ft MSL

ADDRESS 91-750 Fort Weaver Rd,
Ewa Beach, HI 96706

PLAN



CONFIGURATION

FOOTPRINT 5,712 ft²

GSF 11,424 ft²

NSF 10,238 ft²

ORIENTATION 180°

FLOORS 2

ROOMS 23

CONSTRUCTION

SHAPE Razor

STRUCTURE Masonry

ROOF COLOR Black

HEIGHT

BUILT

LAST RENOVATED

CHARACTERISTICS

USE TYPE Classrooms

HVAC Yes

LIGHTING

LEED No

ENERGY STAR No

NET ENERGY NEUTRAL No

SPACE USE



SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services



LOCATION



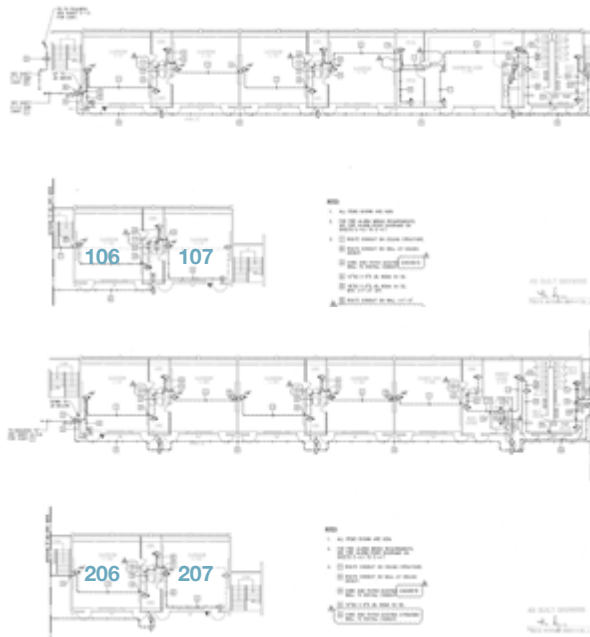
LATITUDE 21.3173° N

LONGITUDE 158.0108° W

ELEVATION 10 ft MSL

ADDRESS 91-884 Fort Weaver Rd,
Ewa Beach, HI 96706

PLAN



CONFIGURATION

FOOTPRINT 8,695 ft²

GSF 17,390 ft²

NSF 15,590 ft²

ORIENTATION 170°

FLOORS 2

ROOMS 40

CONSTRUCTION

SHAPE Razor

STRUCTURE Masonry

ROOF COLOR Brown

HEIGHT

BUILT

LAST RENOVATED

CHARACTERISTICS

USE TYPE

HVAC No

LIGHTING

LEED No

ENERGY STAR No

NET ENERGY NEUTRAL No

SPACE USE



SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services



LOCATION



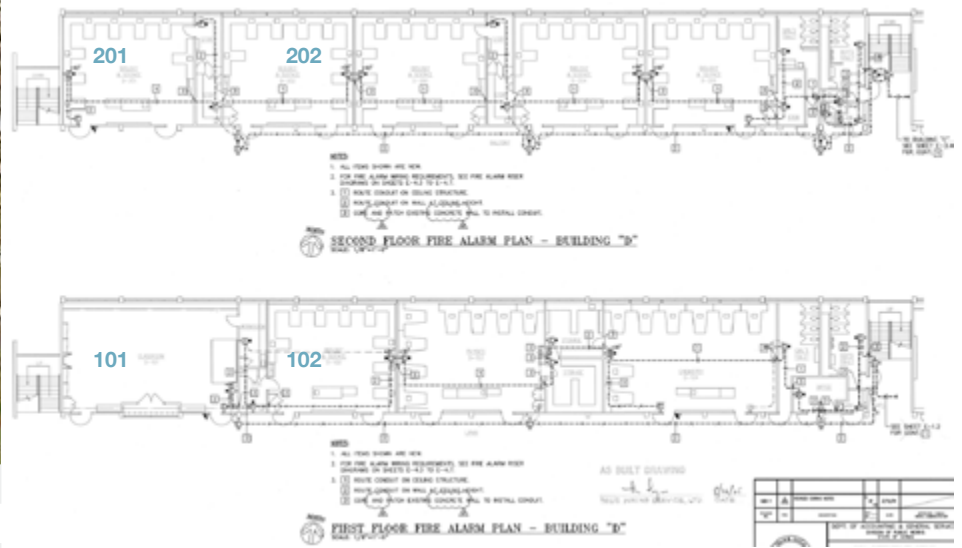
LATITUDE 21.3171° N

LONGITUDE 158.0166° W

ELEVATION 10 ft MSL

ADDRESS 91-884 Fort Weaver Rd,
Ewa Beach, HI 96706

PLAN



CONFIGURATION

FOOTPRINT 7,065 ft²GSF 14,130 ft²NSF 12,732 ft²

ORIENTATION 170°

FLOORS 2

ROOMS 24

CONSTRUCTION

SHAPE Razor

STRUCTURE Masonry

ROOF COLOR Brown

HEIGHT

BUILT

LAST RENOVATED

CHARACTERISTICS

USE TYPE

HVAC No

LIGHTING

LEED No

ENERGY STAR No

NET ENERGY NEUTRAL No

SPACE USE



SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services

LOCATION



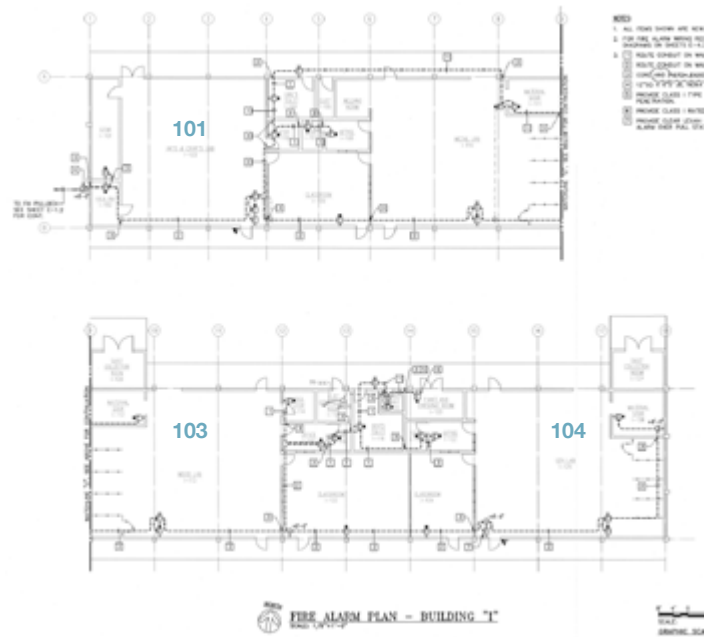
LATITUDE 21.3176° N

LONGITUDE 158.0109° W

ELEVATION 10 ft MSL

ADDRESS 91-884 Fort Weaver Rd,
Ewa Beach, HI 96706

PLAN



CONFIGURATION

FOOTPRINT 12,647 ft²

GSF 12,647 ft²

NSF 11,438 ft²

ORIENTATION 170°

FLOORS 1

ROOMS 29

CONSTRUCTION

SHAPE Razor

STRUCTURE Masonry

ROOF COLOR Light Gray

HEIGHT

BUILT

LAST RENOVATED

CHARACTERISTICS

USE TYPE Classrooms

HVAC No

LIGHTING

LEED No

ENERGY STAR No

NET ENERGY NEUTRAL No

SPACE USE



SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services

LOCATION



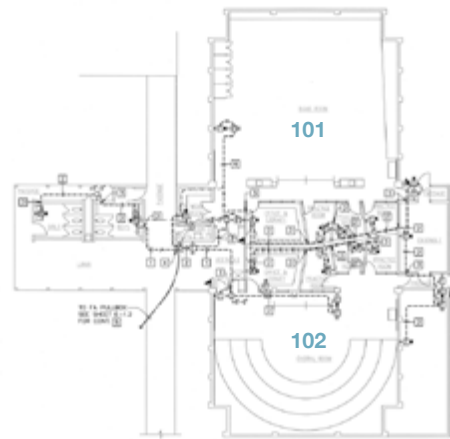
LATITUDE 21.3153° N

LONGITUDE 158.0116° W

ELEVATION 10 ft MSL

ADDRESS 91-884 Fort Weaver Rd,
Ewa Beach, HI 96706

PLAN



NOTES:

1. ALL FLOOR DEVICES ARE NEW
2. NEW FLOOR ALARM DEVICES REQUIREMENTS: SEE FIRE ALARM DEVICES REQUIREMENTS ON SHEETS 1-12 TO 1-13
3. [X] FLOOR CONTROL ON EXISTING CONDUIT
4. [X] FLOOR CONTROL ON NEW 1/2" RIGID CONDUIT
5. [X] CONDUIT/PATHWAY DEVICES (CONDUIT/PATHWAY) SHALL CONDUIT
6. [X] 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW
7. [X] SHALL BE IN PLACE EXISTING CONDUIT UNLESS TO BE REMOVED
8. [X] FLOOR CONTROL ON WALL 4'-0" MIN.

FIRE ALARM PLAN - BUILDING "J"

CONFIGURATION

FOOTPRINT 6,146 ft²

GSF 6,146 ft²

NSF 5,329 ft²

ORIENTATION 80°

FLOORS 1

ROOMS 18

CONSTRUCTION

SHAPE Box

STRUCTURE Masonry

ROOF COLOR Light Gray

HEIGHT

BUILT

LAST RENOVATED

CHARACTERISTICS

USE TYPE Classrooms

HVAC Yes

LIGHTING

LEED No

ENERGY STAR No

NET ENERGY NEUTRAL No

SPACE USE



SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services

LOCATION



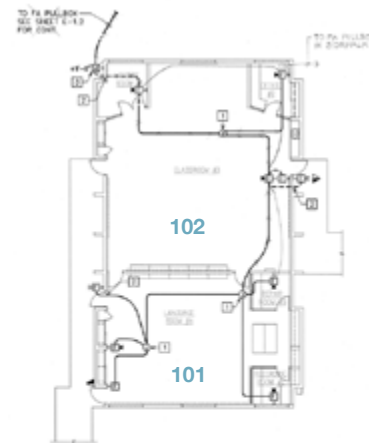
LATITUDE 21.3156° N

LONGITUDE 158.0114° W

ELEVATION 10 ft MSL

ADDRESS 91-884 Fort Weaver Rd,
Ewa Beach, HI 96706

PLAN



NOTES:

1. ALL ITEMS SHOWN ARE NEW.
2. FOR FIRE ALARM NOTING REQUIREMENTS, SEE FIRE ALARM RISE, DRAWINGS ON SHEETS E-4.3 TO E-4.7.
3. (1) MOUNT ALARM SIGNAL SOUNDING POINT.
- (2) CONDUIT AND PULLBOX/TERMINAL CONDUIT SHALL TO INSTALL CONDUIT.
- (3) 1/2" DIA. 1/2" X 1/2" AL. RISE, 40' L.

FIRE ALARM PLAN - BUILDING "R"
SCALE: 1/8"=1'-0"

CONFIGURATION

FOOTPRINT 2,975 ft²

GSF 2,975 ft²

NSF 2,734 ft²

ORIENTATION 80°

FLOORS 1

ROOMS 6

CONSTRUCTION

SHAPE Box

STRUCTURE Masonry

ROOF COLOR White

HEIGHT

BUILT

LAST RENOVATED

CHARACTERISTICS

USE TYPE Classrooms

HVAC Yes

LIGHTING

LEED No

ENERGY STAR No

NET ENERGY NEUTRAL No

SPACE USE

INSTRUCTION
2,481 ft²

USER SUPPORT
0 ft²

BUILDING SUPPORT
0 ft²

STORAGE
98 ft²

OFFICE
98 ft²

STAFF SUPPORT
57 ft²

CIRCULATION
0 ft²

SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services



LOCATION



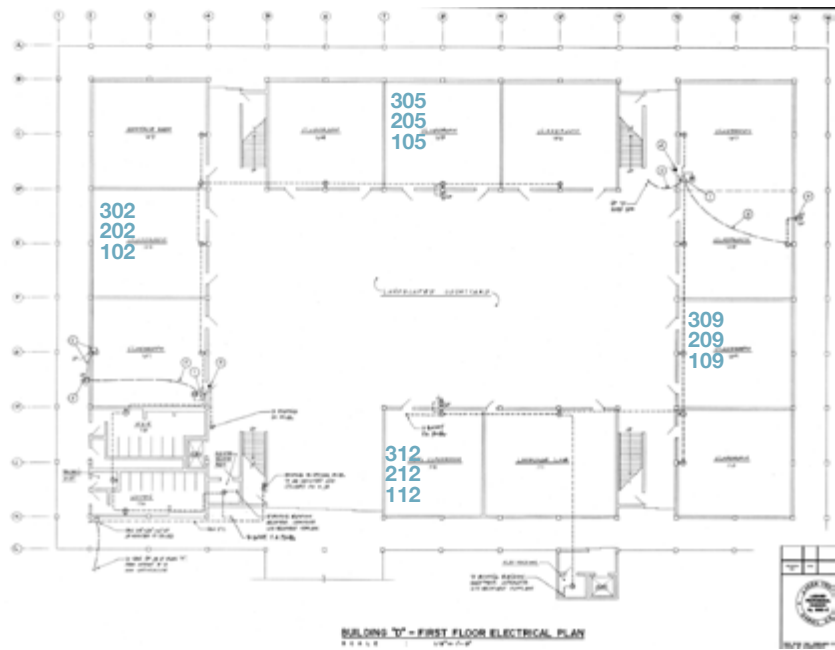
LATITUDE 21.3167° N

LONGITUDE 158.0074° W

ELEVATION 10 ft MSL

ADDRESS 91-980 North Rd,
Ewa Beach, HI 96706

PLAN



CONFIGURATION

FOOTPRINT 13,148 ft²

GSF

NSF 46,212 ft²

ORIENTATION 220°

FLOORS 3

ROOMS 54

CONSTRUCTION

SHAPE Donut

STRUCTURE Masonry

ROOF COLOR Light Gray

HEIGHT

BUILT

LAST RENOVATED

CHARACTERISTICS

USE TYPE Classrooms

HVAC No

LIGHTING

LEED No

ENERGY STAR No

NET ENERGY NEUTRAL No

SPACE USE

INSTRUCTION
43,056 ft²USER SUPPORT
2,523 ft²BUILDING SUPPORT
445 ft²STORAGE
188 ft²OFFICE
0 ft²STAFF SUPPORT
0 ft²CIRCULATION
0 ft²

SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services



LOCATION



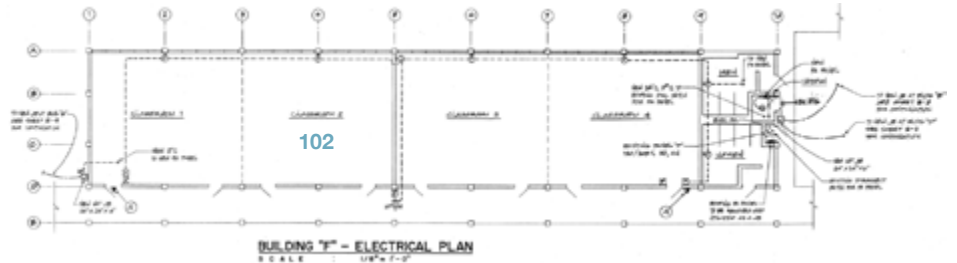
LATITUDE 21.3167° N

LONGITUDE 158.0082° W

ELEVATION 10 ft MSL

ADDRESS 91-980 North Rd,
Ewa Beach, HI 96706

PLAN

BUILDING "F" - ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"

CONFIGURATION

FOOTPRINT 4,760 ft²GSF 4,760 ft²NSF 4,215 ft²

ORIENTATION 130°

FLOORS 1

ROOMS 8

CONSTRUCTION

SHAPE Box

STRUCTURE Masonry

ROOF COLOR Black

HEIGHT

BUILT

LAST RENOVATED

CHARACTERISTICS

USE TYPE Classrooms

HVAC Yes

LIGHTING

LEED No

ENERGY STAR No

NET ENERGY NEUTRAL No

SPACE USE

INSTRUCTION
3,813 ft²USER SUPPORT
392 ft²BUILDING SUPPORT
10 ft²STORAGE
0 ft²OFFICE
0 ft²STAFF SUPPORT
0 ft²CIRCULATION
0 ft²

SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services



LOCATION



LATITUDE 21.3155° N

LONGITUDE 158.0088° W

ELEVATION 10 ft MSL

ADDRESS 91-980 North Rd,
Ewa Beach, HI 96706

PLAN



CONFIGURATION

CONSTRUCTION

CHARACTERISTICS

FOOTPRINT	SHAPE Donut	USE TYPE Classrooms
GSF	STRUCTURE Masonry	HVAC No (only 102 & 108)
NSF 16,427 ft ²	ROOF COLOR White	LIGHTING
ORIENTATION 130°	HEIGHT	LEED No
FLOORS 1	BUILT	ENERGY STAR No
ROOMS 33	LAST RENOVATED	NET ENERGY NEUTRAL No

SPACE USE



SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services



LOCATION



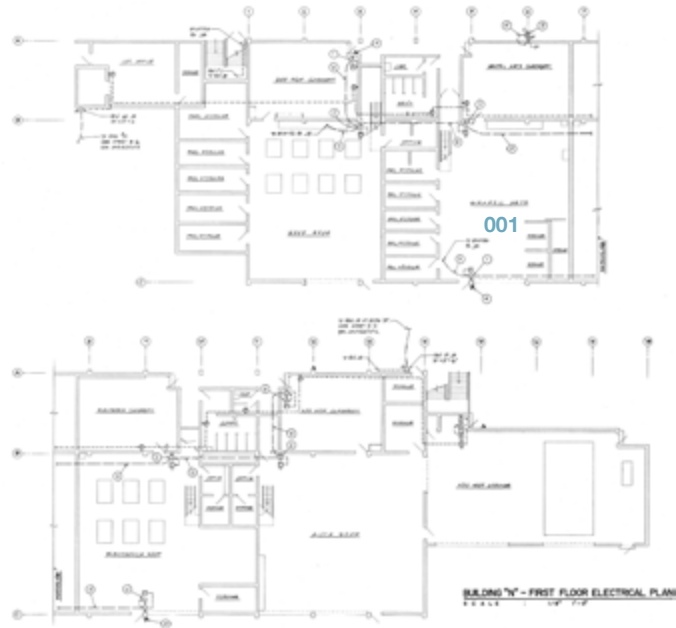
LATITUDE 21.3161° N

LONGITUDE 158.0099° W

ELEVATION 10 ft MSL

ADDRESS 91-980 North Rd,
Ewa Beach, HI 96706

PLAN



CONFIGURATION

FOOTPRINT

GSF

NSF 21,281 ft²

ORIENTATION 170°

FLOORS 2

ROOMS 52

CONSTRUCTION

SHAPE Box

STRUCTURE Masonry

ROOF COLOR Brown

HEIGHT

BUILT

LAST RENOVATED

CHARACTERISTICS

USE TYPE Classrooms

HVAC No (only 103, 104 & 204)

LIGHTING

LEED No

ENERGY STAR No

NET ENERGY NEUTRAL No

SPACE USE

INSTRUCTION
14,179 ft²USER SUPPORT
373 ft²BUILDING SUPPORT
102 ft²STORAGE
5,821 ft²OFFICE
528 ft²STAFF SUPPORT
118 ft²CIRCULATION
160 ft²

SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services



LOCATION



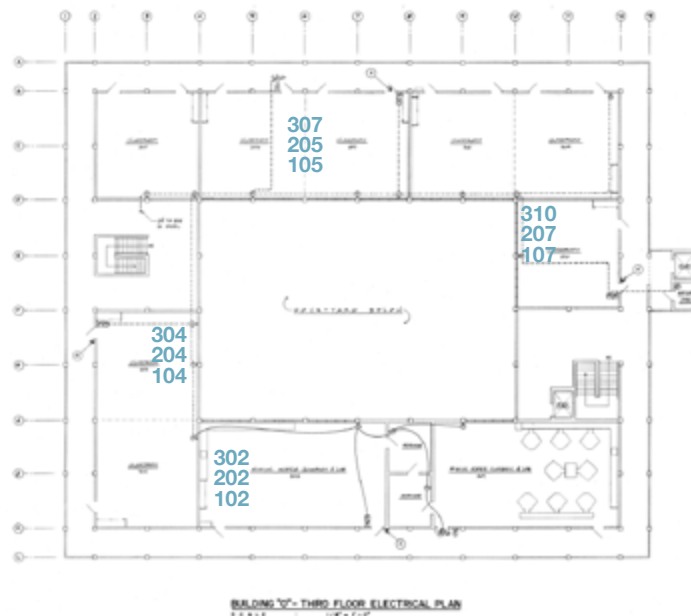
LATITUDE 21.3155° N

LONGITUDE 158.0076° W

ELEVATION 10 ft MSL

ADDRESS 91-980 North Rd,
Ewa Beach, HI 96706

PLAN



CONFIGURATION

CONSTRUCTION

CHARACTERISTICS

FOOTPRINT	SHAPE Donut	USE TYPE Classrooms
GSF	STRUCTURE Masonry	HVAC No
NSF 29,454 ft ²	ROOF COLOR Black	LIGHTING
ORIENTATION 130°	HEIGHT	LEED No
FLOORS 3	BUILT	ENERGY STAR No
ROOMS 46	LAST RENOVATED	NET ENERGY NEUTRAL No

SPACE USE



SOURCES

MAP Bing Maps

PLANS State of Hawaii Dept. of Accounting & General Services

DATA SUMMARY TABLES

000

Temperature (°F) Summary: Full Study Period

001

Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA				
		MAX	AVG	MIN
BLACK ROOFS	E103	97.1	82.8	76.9
	E106	96.9	85.0	74.9
	avg	97.0	83.9	75.9
	E203	96.4	82.6	74.1
	E206	97.9	83.5	74.4
	avg	97.2	83.1	74.3
DARK GRAY ROOFS	F105	101.4	84.1	78.2
	F106	99.5	84.6	77.5
	avg	100.5	84.4	77.9
	F213	99.0	85.7	77.2
	F214	99.6	85.1	74.9
	avg	99.3	85.4	76.1
BROWN ROOFS	P5	98.4	82.5	66.3
	P10	101.5	83.6	64.7
	P12	101.1	82.9	65.1
	P14	99.8	80.4	71.5
	avg	100.2	82.4	66.9

POHAKEA				
		MAX	AVG	MIN
BLACK ROOFS	A4	97.0	75.3	68.5
	A5	99.6	75.0	67.3
	avg	98.3	75.2	67.9
	A9	101.1	75.7	67.3
	A10	97.8	76.2	66.4
	avg	99.5	76.0	66.9
	B3	82.9	77.5	70.2
	B5	83.7	76.6	68.2
	avg	83.3	77.1	69.2
	B8	85.3	79.9	69.0
	B10	86.6	77.9	66.0
	avg	86.0	78.9	67.5
BROWN ROOFS	P9	86.8	78.1	70.1
	P25	90.1	80.6	71.5
	P26	89.3	79.5	70.5
	P28	87.7	78.2	69.6
	avg	88.5	79.1	70.4

ILIMA				
		MAX	AVG	MIN
BROWN ROOFS	C106	92.1	84.0	71.5
	C107	92.2	84.3	71.7
	avg	92.2	84.2	71.6
	C206	90.0	84.9	71.6
	C207	90.0	84.8	71.4
	avg	90.0	84.9	71.5
LIGHT GRAY ROOFS	D101	86.4	83.8	71.2
	D102	93.6	84.0	71.1
	avg	90.0	83.9	71.2
	D201	90.6	84.9	71.1
	D202	91.2	84.5	71.3
	avg	90.9	84.7	71.2
WHITE	I101	89.3	86.1	71.4
	I103	86.2	82.5	71.7
	I104	87.3	84.1	71.8
	avg	87.6	84.2	71.6
	J101	86.3	75.3	67.9
	J102	86.1	72.4	60.1
	avg	86.2	73.9	64.0
WHITE	R101	86.5	72.5	71.0
	R102	86.4	73.3	70.9
	avg	86.5	72.9	71.0

OUTDOORS			
	MAX	AVG	MIN
Ewa Elementary	91.7	78.8	64.6

CAMPBELL				
		MAX	AVG	MIN
LIGHT GRAY ROOFS	D102	86.8	83.5	74.7
	D105	86.5	82.8	71.3
	D109	85.8	82.3	74.0
	D112	87.4	82.8	74.0
	avg	86.6	82.9	73.5
	D202	86.8	82.8	72.7
	D205	89.1	83.7	73.9
	D209	86.4	82.7	75.3
	D212	86.8	82.4	71.7
	avg	87.3	82.9	73.4
	D302	86.4	83.4	72.3
	D305	85.7	82.6	74.3
WHITE	D309	85.9	82.9	74.2
	D312	86.4	82.3	73.2
	avg	86.1	82.8	73.5
	F102	90.6	83.2	73.5
	J105	90.7	82.6	70.2
	J109	86.8	82.7	74.1
	avg	88.8	82.7	72.2
BLACK ROOFS	N001	92.0	86.3	79.6
	O102	88.2	83.9	74.9
	O104	87.4	82.5	76.2
	O105	87.0	75.2	70.2
	O107	87.3	81.3	73.8
	avg	87.5	80.7	73.8
	O202	86.4	82.8	73.7
	O204	85.6	82.5	73.9
	O205	87.1	83.4	73.7
	O207	85.9	82.6	72.6
	avg	86.3	82.8	73.5
	O302	92.4	84.5	75.3
BROWN ROOFS	O304	88.3	83.9	73.7
	O310	87.1	82.5	71.4
	avg	89.3	83.6	73.5
	P1	94.6	85.4	74.2
	P6	91.8	84.5	77.3
	P11	91.9	84.7	78.5
	avg	92.8	84.9	76.7

Temperature (°F) Summary: July 2013

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA				
		MAX	AVG	MIN
BLACK ROOFS	E103	97.1	82.8	82.0
	E106	96.9	84.1	80.9
	avg	97.0	83.5	81.5
	E203	96.4	83.6	82.6
	E206	97.9	83.4	80.8
	avg	97.2	83.5	81.7
DARK GRAY ROOFS	F105	101.4	85.2	84.1
	F106	99.5	85.9	83.5
	avg	100.5	85.6	83.8
	F213	99.0	87.6	83.3
	F214	99.6	87.1	83.5
	avg	99.3	87.4	83.4
P	P5	98.2	83.8	73.1
	P10	101.5	85.5	72.8
	P12	101.1	85.9	73.6
	P14	99.8	84.3	78.6
	avg	100.2	84.9	74.5

POHAKEA				
		MAX	AVG	MIN
BLACK ROOFS	A4	97.0	76.5	69.1
	A5	99.6	76.1	68.6
	avg	98.3	76.3	68.9
	A9	101.1	77.4	68.4
	A10	97.8	76.6	67.9
	avg	99.5	77.0	68.2
	B3	82.9	79.6	71.6
	B5	83.7	79.4	69.9
	avg	83.3	79.5	70.8
	B8	85.3	82.2	72.6
	B10	85.4	83.1	72.6
	avg	85.4	82.7	72.6
P	P9	86.8	80.2	73.9
	P25	88.6	82.2	72.4
	P26	87.1	80.6	71.4
	P28	85.6	78.2	71.3
avg		87.0	80.3	72.3

ILIMA				
		MAX	AVG	MIN
BROWN ROOFS	C106	86.3	83.6	71.5
	C107	86.4	83.7	71.7
	avg	86.4	83.7	71.6
	C206	89.8	86.0	71.6
	C207	89.9	86.0	71.4
	avg	89.8	86.0	71.5
D	D101	85.6	84.6	71.2
	D102	86.8	83.3	71.1
	avg	86.2	84.0	71.2
	D201	89.4	85.9	71.1
	D202	87.1	84.1	71.3
	avg	88.3	85.0	71.2
LIGHT GRAY ROOFS	I101	87.6	86.6	71.4
	I103	85.4	83.2	71.7
	I104	85.4	84.6	71.8
	avg	86.1	84.8	71.6
	J101	86.3	76.5	71.5
	J102	86.1	76.0	68.2
WHITE	avg	86.2	76.3	69.9
	R101	86.5	72.6	71.3
	R102	86.4	73.5	71.1
	avg	86.5	73.1	71.2

OUTDOORS			
	MAX	AVG	MIN
Ewa Elementary	90.3	79.7	69.7

CAMPBELL				
		MAX	AVG	MIN
LIGHT GRAY ROOFS	D102	85.5	82.7	81.5
	D105	85.7	83.5	81.8
	D109	85.8	82.8	81.3
	D112	85.6	83.7	82.1
	avg	85.7	83.2	81.7
	D202	85.9	82.8	81.1
	D205	87.8	83.9	81.6
	D209	85.1	83.5	82.0
	D212	86.6	84.1	82.1
	avg	86.4	83.6	81.7
	D302	85.1	83.5	81.6
	D305	85.7	83.3	81.4
D	D309	85.6	84.2	80.9
	D312	86.4	84.3	82.0
	avg	85.7	83.8	81.5
WHITE	F102	90.6	87.3	79.8
	J105	90.7	84.0	80.6
	J109	84.5	82.2	79.9
	avg	87.6	83.1	80.3
BLACK ROOFS	N001	90.0	86.1	83.5
	O102	87.9	83.6	81.4
	O104	87.4	83.6	82.5
	O105	87.0	75.6	72.5
	O107	87.3	81.6	79.2
	avg	87.4	81.1	78.9
	O202	86.3	83.7	81.3
	O204	85.3	83.7	82.7
	O205	86.5	84.0	82.0
	O207	85.4	82.8	81.6
	avg	85.9	83.6	81.9
	O302	87.6	85.0	80.8
BROWN ROOFS	O304	87.4	85.2	80.8
	O310	87.1	85.1	82.0
	avg	87.4	85.1	81.2
	P1	96.2	85.2	75.0
	P6	91.0	83.7	77.6
	P11	91.5	84.2	78.2
avg		92.9	84.4	76.9

Temperature (°F) Summary: August 2013

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA				
		MAX	AVG	MIN
BLACK ROOFS	E103	86.2	83.7	82.0
	E106	89.7	84.8	80.1
	avg	88.0	84.3	81.1
	E203	85.5	83.6	81.6
	E206	86.6	84.0	80.2
	avg	86.1	83.8	80.9
DARK GRAY ROOFS	F105	86.8	84.9	82.9
	F106	87.4	85.5	82.7
	avg	87.1	85.2	82.8
	F213	89.1	86.9	82.4
	F214	89.1	86.3	82.1
	avg	89.1	86.6	82.3
P	P5	96.4	83.3	72.6
	P10	99.9	85.0	72.6
	P12	100.4	84.4	72.7
	P14	89.2	80.9	72.8
	avg	96.5	83.4	72.7

POHAKEA				
		MAX	AVG	MIN
BLACK ROOFS	A4	81.0	75.3	68.5
	A5	80.1	74.8	67.3
	avg	80.6	75.1	67.9
	A9	82.8	76.2	67.3
	A10	83.2	76.1	68.0
	avg	83.0	76.2	67.7
	B3	82.5	77.7	70.9
	B5	81.9	76.6	68.2
	avg	82.2	77.2	69.6
	B8	84.8	80.3	69.2
	B10	86.6	79.4	66.0
	avg	85.7	79.9	67.6
P	P9	86.3	78.6	73.3
	P25	89.6	80.9	71.5
	P26	88.9	80.0	71.2
	P28	87.4	78.5	69.6
	avg	88.1	79.5	71.4

ILIMA				
		MAX	AVG	MIN
BROWN ROOFS	C106	86.8	83.7	80.1
	C107	87.3	83.9	81.1
	avg	87.1	83.8	80.6
	C206	88.6	85.1	81.0
	C207	88.8	85.1	80.4
	avg	88.7	85.1	80.7
D	D101	86.2	84.5	81.0
	D102	87.1	83.5	80.5
	avg	86.7	84.0	80.8
	D201	89.3	85.5	79.9
	D202	88.8	84.3	80.5
	avg	89.1	84.9	80.2
LIGHT GRAY ROOFS	I101	89.3	87.2	83.6
	I103	85.9	83.4	80.7
	I104	86.8	85.0	82.4
	avg	87.3	85.2	82.2
	J101	83.7	77.1	67.9
	J102	80.5	74.1	65.7
WHITE	avg	82.1	75.6	66.8
	R101	76.5	72.6	71.3
	R102	75.6	73.6	71.3
	avg	76.1	73.1	71.3

OUTDOORS			
	MAX	AVG	MIN
Ewa Elementary	90.2	79.8	69.8

CAMPBELL				
		MAX	AVG	MIN
LIGHT GRAY ROOFS	D102	85.8	83.6	81.0
	D105	86.5	84.2	81.1
	D109	85.8	83.3	80.0
	D112	87.4	84.0	80.7
	avg	86.4	83.8	80.7
	D202	86.3	83.0	79.4
	D205	88.4	84.7	79.9
	D209	86.3	83.8	81.4
	D212	86.8	83.7	79.3
	avg	87.0	83.8	80.0
	D302	85.9	83.9	80.5
	D305	85.1	83.5	79.1
D	D309	85.7	84.1	80.9
	D312	85.8	83.4	79.6
	avg	85.6	83.7	80.0
WHITE	F102	90.5	84.8	74.9
	J105	90.1	84.3	79.7
	J109	85.9	82.7	79.6
	avg	88.0	83.5	79.7
BLACK ROOFS	N001	89.9	86.1	83.1
	O102	87.2	84.1	81.4
	O104	85.5	83.6	81.4
	O105	77.6	74.9	72.6
	O107	85.3	81.9	78.6
	avg	83.9	81.1	78.5
	O202	86.2	83.7	80.5
	O204	85.5	83.4	81.2
	O205	87.1	84.4	80.3
	O207	85.5	83.0	78.4
	avg	86.1	83.6	80.1
	O302	92.4	86.3	81.9
BROWN ROOFS	O304	87.9	85.2	80.7
	O310	86.5	83.9	79.9
	avg	88.9	85.1	80.8
	P1	94.6	85.4	74.2
	P6	91.8	84.5	77.3
	P11	91.9	84.7	78.5
	avg	92.8	84.9	76.7

Temperature (°F) Summary: September 2013

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA				
		MAX	AVG	MIN
BLACK ROOFS	E103	86.7	83.6	81.6
	E106	92.0	85.6	80.3
	avg	89.4	84.6	81.0
	E203	86.1	83.4	80.6
	E206	88.0	84.2	80.2
	avg	87.1	83.8	80.4
DARK GRAY ROOFS	F105	87.1	84.8	81.6
	F106	87.1	85.2	82.2
	avg	87.1	85.0	81.9
	F213	89.6	86.3	81.7
	F214	88.7	85.6	80.8
	avg	89.2	86.0	81.3
BROWN ROOFS	P5	97.1	83.1	72.1
	P10	101.3	84.5	71.3
	P12	99.1	83.4	71.6
	P14	89.1	80.9	72.5
	avg	96.7	83.0	71.9

POHAKEA				
		MAX	AVG	MIN
BLACK ROOFS	A4	80.9	75.7	69.5
	A5	81.0	75.8	67.3
	avg	81.0	75.8	68.4
	A9	82.8	75.9	67.9
	A10	84.7	78.3	68.7
	avg	83.8	77.1	68.3
	B3	82.0	77.6	70.5
	B5	79.4	76.5	69.5
	avg	80.7	77.1	70.0
	B8	84.2	79.4	69.0
	B10	84.2	76.7	66.1
	avg	84.2	78.1	67.6
BROWN ROOFS	P9	85.7	78.3	73.2
	P25	90.1	81.1	71.8
	P26	89.3	80.2	71.2
	P28	87.7	78.7	70.0
	avg	88.2	79.6	71.6

ILIMA				
		MAX	AVG	MIN
BROWN ROOFS	C106	88.0	84.2	79.6
	C107	88.5	84.3	80.5
	avg	88.3	84.3	80.1
	C206	89.6	85.2	80.3
	C207	89.7	85.0	78.6
	avg	89.7	85.1	79.5
LIGHT GRAY ROOFS	D101	86.4	84.2	80.0
	D102	88.4	84.1	80.1
	avg	87.4	84.2	80.1
	D201	90.6	85.4	80.3
	D202	90.2	84.7	79.6
	avg	90.4	85.1	80.0
WHITE	I101	89.1	86.9	83.3
	I103	86.2	83.2	80.5
	I104	87.3	84.5	80.8
	avg	87.5	84.9	81.5
	J101	80.7	74.4	68.0
	J102	78.6	74.1	67.0
	avg	79.7	74.3	67.5
WHITE	R101	76.6	72.6	71.2
	R102	75.3	73.4	71.2
	avg	76.0	73.0	71.2

OUTDOORS			
	MAX	AVG	MIN
Ewa Elementary	91.7	79.7	68.6

CAMPBELL				
		MAX	AVG	MIN
LIGHT GRAY ROOFS	D102	86.8	84.0	79.2
	D105	86.2	83.6	79.1
	D109	85.8	83.0	79.0
	D112	86.8	83.8	80.2
	avg	86.4	83.6	79.4
	D202	86.7	83.4	79.2
	D205	89.1	84.7	79.8
	D209	86.4	83.5	79.4
	D212	86.7	83.3	78.4
	avg	87.2	83.7	79.2
	D302	86.4	84.0	80.2
	D305	85.7	83.4	78.1
WHITE	D309	85.9	83.6	79.4
	D312	86.7	83.3	78.4
	avg	87.2	83.7	79.2
	F102	89.5	83.7	76.1
	J105	88.5	83.6	79.2
	J109	86.8	83.4	79.2
	avg	87.7	83.5	79.2
BLACK ROOFS	N001	91.5	86.7	82.9
	O102	88.2	84.3	80.4
	O104	84.9	83.3	81.4
	O105	81.0	76.5	73.0
	O107	85.9	82.1	78.7
	avg	85.0	81.6	78.4
	O202	86.4	83.5	78.3
	O204	85.6	83.3	79.7
	O205	87.1	84.2	80.9
	O207	85.3	83.2	78.2
	avg	86.1	83.6	79.3
	O302	89.3	85.1	79.7
BROWN ROOFS	O304	88.3	84.7	79.0
	O310	86.3	83.0	78.6
	avg	88.0	84.3	79.1
	P1	94.5	84.6	73.7
	P6	92.2	84.0	76.6
	P11	93.0	84.4	76.9
	avg	93.2	84.3	75.7

Temperature (°F) Summary: October 2013

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA				
		MAX	AVG	MIN
BLACK ROOFS	E103	85.5	82.3	80.2
	E106	91.6	82.4	78.6
	avg	88.6	82.4	79.4
	E203	84.8	82.3	79.0
	E206	86.8	83.4	77.9
	avg	85.8	82.9	78.5
DARK GRAY ROOFS	F105	86.2	83.8	81.6
	F106	86.1	84.3	81.1
	avg	86.2	84.1	81.4
	F213	88.2	85.3	81.9
	F214	88.3	84.8	79.9
	avg	88.3	85.1	80.9
BROWN ROOFS	P5	98.4	82.2	70.9
	P10	99.8	82.7	69.8
	P12	98.4	82.0	70.0
	P14	88.4	79.9	71.6
	avg	96.3	81.7	70.6

POHAKEA				
		MAX	AVG	MIN
BLACK ROOFS	A4	80.3	74.9	69.4
	A5	79.2	74.4	69.0
	avg	79.8	74.7	69.2
	A9	82.0	75.0	68.2
	A10	81.6	75.1	67.0
	avg	81.8	75.1	67.6
	B3	82.3	77.4	70.2
	B5	79.8	76.3	70.1
	avg	81.1	76.9	70.2
	B8	85.0	80.0	70.9
	B10	85.0	77.1	66.7
	avg	85.0	78.6	68.8
BROWN ROOFS	P9	86.1	77.6	71.9
	P25	90.0	80.5	72.8
	P26	88.7	79.1	72.2
	P28	87.0	78.1	71.0
	avg	88.0	78.8	72.0

ILIMA				
		MAX	AVG	MIN
BROWN ROOFS	C106	90.4	84.5	78.8
	C107	90.4	84.8	79.1
	avg	90.4	84.7	79.0
	C206	90.0	85.0	79.3
	C207	89.8	84.9	77.6
	avg	89.9	85.0	78.5
LIGHT GRAY ROOFS	D101	85.9	83.6	79.7
	D102	91.6	84.5	79.3
	avg	88.8	84.1	79.5
	D201	89.4	84.7	78.2
	D202	91.0	84.9	78.2
	avg	90.2	84.8	78.2
WHITE	I101	89.1	85.5	81.6
	I103	85.0	82.2	79.1
	I104	86.8	83.8	79.9
	avg	87.0	83.8	80.2
	J101	80.0	74.6	68.7
	J102	76.1	69.7	62.8
	avg	78.1	72.2	65.8
WHITE	R101	75.1	72.3	71.0
	R102	74.6	73.1	71.2
	avg	74.9	72.7	71.1

OUTDOORS			
	MAX	AVG	MIN
Ewa Elementary	90.3	78.1	66.7

CAMPBELL				
		MAX	AVG	MIN
LIGHT GRAY ROOFS	D102	86.6	83.8	77.3
	D105	85.6	81.9	76.1
	D109	85.4	81.8	77.2
	D112	85.7	82.2	78.2
	avg	85.8	82.4	77.2
	D202	86.8	83.1	78.0
	D205	87.4	83.2	77.9
	D209	86.1	82.1	79.0
	D212	86.0	81.7	76.3
	avg	86.6	82.5	77.8
	D302	86.1	83.5	78.0
	D305	84.9	82.1	77.1
WHITE	D309	85.1	82.3	78.7
	D312	85.4	81.6	77.5
	avg	85.4	82.4	77.8
	F102	88.6	82.3	74.9
	J105	86.9	81.6	74.3
	J109	86.7	83.1	78.1
	avg	86.8	82.4	76.2
BLACK ROOFS	N001	92.0	86.8	82.7
	O102	87.9	84.2	79.6
	O104	84.1	81.8	79.2
	O105	79.5	75.1	71.6
	O107	85.4	81.0	76.8
	avg	84.2	80.5	76.8
	O202	85.7	82.5	77.7
	O204	85.1	81.9	76.8
	O205	86.2	83.2	78.6
	O207	85.9	82.5	76.2
	avg	85.7	82.5	77.3
	O302	87.3	84.0	79.0
BROWN ROOFS	O304	86.9	83.5	77.9
	O310	85.7	81.7	75.7
	avg	86.6	83.1	77.5
	P1	92.8	82.4	71.3
	P6	91.8	82.9	74.2
	P11	90.2	82.9	74.9
	avg	91.6	82.7	73.5

Temperature (°F) Summary: November 2013

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA				
		MAX	AVG	MIN
BLACK ROOFS	E103	83.7	80.6	76.9
	E106	91.6	84.0	74.9
	avg	87.7	82.3	75.9
	E203	83.0	79.9	74.1
	E206	85.9	81.7	74.4
	avg	84.5	80.8	74.3
DARK GRAY ROOFS	F105	84.4	81.8	78.2
	F106	84.2	82.0	77.5
	avg	84.3	81.9	77.9
	F213	85.4	82.4	77.2
	F214	84.5	81.7	74.9
	avg	85.0	82.1	76.1
P5	P5	92.9	79.7	66.3
	P10	97.1	80.3	64.7
	P12	94.5	79.5	65.1
	P14	85.6	77.8	71.5
	avg	92.5	79.3	66.9

POHAKEA				
		MAX	AVG	MIN
BLACK ROOFS	A4	79.4	74.6	69.2
	A5	78.9	74.1	68.8
	avg	79.2	74.4	69.0
	A9	80.7	74.5	67.4
	A10	80.7	74.5	66.4
	avg	80.7	74.5	66.9
	B3	80.4	76.5	70.3
	B5	78.9	75.7	69.8
	avg	79.7	76.1	70.1
	B8	82.5	78.8	71.1
	B10	82.5	76.6	66.5
	avg	82.5	77.7	68.8
P9	P9	84.9	76.7	70.1
	P25	86.9	78.9	71.6
	P26	86.2	77.9	70.5
	P28	85.0	76.8	70.4
avg	avg	85.8	77.6	70.7

ILIMA				
		MAX	AVG	MIN
BROWN ROOFS	C106	92.1	83.9	75.5
	C107	92.2	84.5	77.1
	avg	92.2	84.2	76.3
	C206	89.7	83.3	75.1
	C207	90.0	83.2	73.1
	avg	89.9	83.3	74.1
D101	D101	83.7	82.0	76.2
	D102	93.6	84.2	76.3
	avg	88.7	83.1	76.3
	D201	88.5	82.9	73.4
	D202	91.2	84.1	74.1
	avg	89.9	83.5	73.8
LIGHT GRAY ROOFS	I101	86.5	83.4	77.1
	I103	82.8	80.0	75.1
	I104	84.5	81.9	76.6
	avg	84.6	81.8	76.3
	J101	79.5	74.2	68.2
	J102	74.7	69.4	60.1
WHITE	avg	77.1	71.8	64.2
	R101	74.8	72.2	71.1
	R102	74.4	72.8	70.9
	avg	74.6	72.5	71.0

OUTDOORS			
	MAX	AVG	MIN
Ewa Elementary	88.0	76.3	64.6

CAMPBELL				
		MAX	AVG	MIN
LIGHT GRAY ROOFS	D102	85.8	82.2	74.7
	D105	84.5	80.2	71.3
	D109	83.3	80.0	74.0
	D112	83.7	79.8	74.0
	avg	84.3	80.6	73.5
	D202	86.0	81.0	72.7
	D205	85.5	81.1	73.9
	D209	83.4	80.2	75.3
	D212	82.7	79.0	71.7
	avg	84.4	80.3	73.4
	D302	84.5	81.3	72.3
	D305	83.3	80.3	74.3
D309	D309	82.6	80.2	74.2
	D312	82.7	79.2	73.2
	avg	83.3	80.3	73.5
WHITE	F102	84.1	79.0	73.5
	J105	83.9	79.0	70.2
	J109	86.4	81.3	74.1
	avg	85.2	80.2	72.2
BLACK ROOFS	N001	90.6	85.1	79.6
	O102	88.0	82.6	74.9
	O104	82.4	80.0	76.2
	O105	81.2	73.8	70.2
	O107	83.3	79.3	73.8
	avg	83.7	78.9	73.8
	O202	83.6	80.3	73.7
	O204	82.8	79.7	73.9
	O205	84.3	80.4	73.7
	O207	85.2	80.9	72.6
	avg	84.0	80.3	73.5
	O302	84.6	81.1	75.3
BROWN ROOFS	O304	85.0	80.4	73.7
	O310	84.0	79.4	71.4
	avg	84.5	80.3	73.5
	P1	90.6	79.8	66.2
	P6	90.7	80.5	69.7
	P11	87.4	80.4	70.3
avg	avg	89.6	80.2	68.7

Relative Humidity (%) Summary: Full Study Period

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA				
		MAX	AVG	MIN
BLACK ROOFS	E103	77.8	59.9	43.5
	E106	77.9	56.5	40.0
	avg	77.9	58.2	41.8
	E203	80.1	59.5	44.6
	E206	78.8	58.0	42.7
	avg	79.5	58.8	43.7
DARK GRAY ROOFS	F105	75.5	57.4	41.9
	F106	75.4	56.1	41.5
	avg	75.5	56.8	41.7
	F213	74.7	54.5	40.8
	F214	77.8	55.2	40.9
	avg	76.3	54.9	40.9
BROWN ROOFS	P5	86.4	59.6	36.5
	P10	88.0	57.8	31.8
	P12	86.3	59.8	33.4
	P14	74.9	56.7	37.5
	avg	83.9	58.5	34.8

POHAKEA				
		MAX	AVG	MIN
BLACK ROOFS	A4	88.3	67.0	35.5
	A5	79.5	62.2	34.1
	avg	83.9	64.6	34.8
	A9	84.4	64.4	33.1
	A10	84.8	64.2	35.9
	avg	84.6	64.3	34.5
	B3	84.1	62.8	45.4
	B5	82.3	67.3	50.6
	avg	83.2	65.1	48.0
	B8	85.0	65.8	43.6
	B10	88.7	68.0	43.6
	avg	86.9	66.9	43.6
BROWN ROOFS	P9	79.5	61.4	41.6
	P25	75.7	57.0	39.9
	P26	78.5	60.4	41.3
	P28	75.7	61.8	41.3
	avg	77.4	60.2	41.0

ILIMA				
		MAX	AVG	MIN
BROWN ROOFS	C106	77.1	58.8	39.4
	C107	75.3	59.0	38.7
	avg	76.2	58.9	39.1
	C206	77.6	55.1	42.5
	C207	77.6	56.1	42.9
	avg	77.6	55.6	42.7
LIGHT GRAY ROOFS	D101	78.5	59.8	43.5
	D102	75.9	59.5	39.8
	avg	77.2	59.7	41.7
	D201	79.8	55.4	41.2
	D202	78.7	56.6	38.2
	avg	79.3	56.0	39.7
WHITE	I101	74.8	55.2	41.6
	I103	80.1	61.0	44.2
	I104	78.2	57.8	41.4
	avg	77.7	58.0	42.4
	J101	80.8	58.8	39.3
	J102	80.8	62.6	46.5
	avg	80.8	60.2	42.9
WHITE	R101	74.8	63.4	52.5
	R102	72.9	60.8	50.7
	avg	73.9	62.1	51.6

OUTDOORS			
	MAX	AVG	MIN
Ewa Elementary	96.4	69.3	34.2

CAMPBELL				
	ROOM	MAX	AVG	MIN
LIGHT GRAY ROOFS	D102	78.2	58.2	42.7
	D105	81.0	59.7	43.5
	D109	80.4	61.1	44.2
	D112	78.7	59.6	42.5
	avg	79.6	59.7	43.2
	D202	82.8	60.1	43.5
	D205	80.4	57.7	42.3
	D209	81.5	59.5	42.5
	D212	83.2	61.2	42.2
	avg	82.0	59.6	42.6
	D302	80.7	58.3	43.3
	D305	80.9	59.9	43.0
WHITE	D309	80.5	59.3	44.1
	D312	81.2	60.7	42.9
	avg	80.8	59.6	43.3
	F102	71.8	51.9	27.5
	J105	84.2	61.0	44.2
	J109	81.7	60.2	45.7
	avg	83.0	60.6	45.0
BLACK ROOFS	N001	73.8	52.9	38.8
	O102	78.6	57.9	42.5
	O104	78.3	60.9	48.1
	O105	69.7	39.2	29.9
	O107	81.3	62.5	44.6
	avg	77.0	55.1	41.3
	O202	81.7	59.6	42.6
	O204	80.4	60.5	44.1
	O205	80.4	56.7	42.1
	O207	80.9	59.7	43.8
	avg	80.9	59.1	43.2
	O302	81.7	55.9	41.6
BROWN ROOFS	O304	79.6	57.6	42.1
	O310	83.2	60.2	42.9
	avg	81.5	57.9	42.2
	P1	85.5	59.0	37.7
	P6	82.8	59.1	39.5
	P11	82.5	58.1	39.9
	avg	83.6	58.7	39.0

Relative Humidity (%) Summary: July 2013

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA				
		MAX	AVG	MIN
BLACK ROOFS	E103	72.9	62.4	50.6
	E106	74.2	60.5	49.0
	avg	73.6	61.5	49.8
	E203	72.7	60.1	52.9
	E206	78.4	60.8	50.2
	avg	75.6	60.5	51.6
DARK GRAY ROOFS	F105	70.5	58.1	48.8
	F106	70.6	56.4	47.1
	avg	70.6	57.3	48.0
	F213	70.5	53.3	46.2
	F214	69.8	53.6	46.5
	avg	70.2	53.5	46.4
BROWN ROOFS	P5	83.3	59.8	39.8
	P10	82.8	56.9	35.5
	P12	84.2	57.1	35.3
	P14	74.5	58.1	40.9
	avg	81.2	58.0	37.9

POHAKEA				
		MAX	AVG	MIN
BLACK ROOFS	A4	87.8	63.3	35.5
	A5	79.4	60.9	34.1
	avg	83.6	62.1	34.8
	A9	84.4	63.3	33.1
	A10	77.4	59.7	35.9
	avg	80.9	61.5	34.5
	B3	81.9	66.1	48.5
	B5	80.1	66.0	52.3
	avg	81.0	66.1	50.4
	B8	82.7	64.7	46.7
	B10	82.7	62.6	46.7
	avg	82.7	63.7	46.7
BROWN ROOFS	P9	79.5	61.1	41.6
	P25	75.7	58.2	43.4
	P26	75.1	60.0	41.3
	P28	73.7	62.0	48.3
	avg	76.0	60.3	43.7

ILIMA				
		MAX	AVG	MIN
BROWN ROOFS	C106	68.6	60.5	52.9
	C107	72.1	62.0	54.9
	avg	70.4	61.3	53.9
	C206	66.2	54.5	49.2
	C207	75.4	55.8	51.2
	avg	70.8	55.2	50.2
LIGHT GRAY ROOFS	D101	66.1	59.9	50.8
	D102	68.0	62.0	53.9
	avg	67.1	61.0	52.4
	D201	74.3	55.7	43.0
	D202	75.8	59.2	47.2
	avg	75.1	57.5	45.1
WHITE	I101	64.0	55.5	49.0
	I103	80.1	61.8	51.0
	I104	72.1	58.7	50.6
	avg	72.1	58.7	50.2
	J101	75.2	58.0	41.5
	J102	75.2	59.6	46.7
	avg	75.2	58.8	44.1
WHITE	R101	74.8	64.7	54.5
	R102	72.9	62.0	54.1
	avg	73.9	63.4	54.3

OUTDOORS			
	MAX	AVG	MIN
Ewa Elementary	96.4	71.2	44.6

CAMPBELL				
	ROOM	MAX	AVG	MIN
LIGHT GRAY ROOFS	D102	78.2	62.0	56.2
	D105	78.5	60.6	53.3
	D109	80.4	62.8	54.7
	D112	77.0	60.0	50.2
	avg	78.5	61.4	53.6
	D202	82.8	63.3	52.4
	D205	79.4	60.1	49.8
	D209	78.1	60.9	52.8
	D212	78.2	60.1	51.6
	avg	79.6	61.1	51.7
	D302	79.1	60.7	52.2
	D305	79.2	61.2	50.6
WHITE	D309	80.5	59.5	52.0
	D312	77.5	59.2	51.6
	avg	79.1	60.2	51.6
	F102	67.4	52.2	31.3
	J105	78.7	60.8	47.9
	J109	81.7	63.7	52.5
	avg	80.2	62.3	50.2
BLACK ROOFS	N001	73.8	55.8	45.1
	O102	78.6	61.4	53.2
	O104	78.3	61.3	55.4
	O105	68.6	40.2	33.8
	O107	81.3	64.7	54.4
	avg	76.7	56.9	49.2
	O202	79.4	60.6	52.7
	O204	76.3	60.8	51.7
	O205	77.9	58.6	51.5
	O207	77.6	62.0	53.4
	avg	77.8	60.5	52.3
	O302	81.7	58.0	46.7
BROWN ROOFS	O304	78.4	57.7	47.6
	O310	77.6	57.5	48.7
	avg	79.2	57.7	47.7
	P1	79.4	58.4	42.1
	P6	82.8	60.9	46.9
	P11	81.2	59.5	46.1
	avg	81.1	59.6	45.0

Relative Humidity (%) Summary: August 2013

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA				
		MAX	AVG	MIN
BLACK ROOFS	E103	67.8	56.3	43.5
	E106	71.0	54.9	41.2
	avg	69.4	55.6	42.4
	E203	68.0	55.8	44.6
	E206	70.8	55.3	42.7
	avg	69.4	55.6	43.7
DARK GRAY ROOFS	F105	65.1	54.1	41.9
	F106	66.1	52.8	41.5
	avg	65.6	53.5	41.7
	F213	62.6	50.8	40.8
	F214	66.9	51.5	40.9
	avg	64.8	51.2	40.9
BROWN ROOFS	P5	82.4	56.5	37.5
	P10	83.4	53.8	31.8
	P12	80.9	55.2	34.5
	P14	73.7	53.7	37.5
	avg	80.1	54.8	35.3

ILIMA				
		MAX	AVG	MIN
BROWN ROOFS	C106	70.3	57.7	43.5
	C107	69.3	57.7	43.5
	avg	69.8	57.7	43.5
	C206	68.5	53.1	42.5
	C207	69.2	54.2	42.9
	avg	68.9	53.7	42.7
LIGHT GRAY ROOFS	D101	69.3	56.6	43.5
	D102	69.4	59.0	45.5
	avg	69.4	57.8	44.5
	D201	70.5	53.1	42.9
	D202	70.0	55.4	41.0
	avg	70.3	54.3	42.0
WHITE	I101	64.3	51.8	41.6
	I103	72.3	57.7	44.2
	I104	68.6	54.6	41.4
	avg	68.4	54.7	42.4
	J101	75.9	58.3	39.7
	J102	75.9	61.2	46.5
WHITE	avg	75.9	59.8	43.1
	R101	71.2	62.4	55.7
	R102	70.9	59.5	51.2
	avg	71.1	61.0	53.5

CAMPBELL				
	ROOM	MAX	AVG	MIN
LIGHT GRAY ROOFS	D102	67.9	55.9	42.7
	D105	68.7	55.3	43.5
	D109	71.7	57.3	44.2
	D112	68.9	55.5	42.5
	avg	69.3	56.0	43.2
	D202	72.5	57.9	43.5
WHITE	D205	72.5	54.2	42.3
	D209	70.2	55.5	42.5
	D212	72.0	57.0	42.2
	avg	71.8	56.2	42.6
	D302	70.1	55.7	43.3
	D305	74.2	56.4	43.0
BROWN ROOFS	D309	70.0	55.2	44.1
	D312	72.6	56.9	42.9
	avg	71.7	56.1	43.3
	F102	63.7	47.8	28.0
	J105	72.4	56.0	44.3
	J109	71.4	58.6	45.7
BLACK ROOFS	avg	71.9	57.3	45.0
	N001	63.0	51.9	38.8
	O102	68.2	55.9	42.5
	O104	67.0	56.9	48.1
	O105	57.2	39.0	32.1
	O107	73.2	59.5	44.6
BROWN ROOFS	avg	66.4	52.8	41.8
	O202	73.4	56.1	42.6
	O204	69.7	56.8	44.1
	O205	70.3	53.6	42.1
	O207	72.7	57.2	43.8
	avg	71.5	55.9	43.2
BLACK ROOFS	O302	69.6	51.2	41.6
	O304	68.6	53.5	42.1
	O310	69.7	55.7	42.9
	avg	69.3	53.5	42.2
	P1	77.2	53.9	37.7
	P6	74.8	55.3	39.5
BROWN ROOFS	P11	74.4	54.1	39.9
	avg	75.5	54.4	39.0

POHAKEA				
		MAX	AVG	MIN
BLACK ROOFS	A4	83.1	65.4	41.4
	A5	74.5	61.5	40.9
	avg	78.8	63.5	41.2
	A9	78.9	62.7	39.9
	A10	74.5	62.3	42.6
	avg	76.7	62.5	41.3
BROWN ROOFS	B3	73.6	60.1	45.4
	B5	78.8	62.6	50.6
	avg	76.2	61.4	48.0
	B8	83.5	63.4	43.6
	B10	84.6	63.5	43.6
	avg	84.1	63.4	43.6
BLACK ROOFS	P9	73.2	59.1	44.0
	P25	71.3	54.3	41.1
	P26	71.6	57.9	44.6
	P28	72.5	59.1	46.6
	avg	72.2	57.6	44.1

OUTDOORS			
	MAX	AVG	MIN
Ewa Elementary	94.1	65.6	34.2

Relative Humidity (%) Summary: September 2013

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA				
		MAX	AVG	MIN
BLACK ROOFS	E103	73.6	58.1	46.3
	E106	76.4	55.4	40.6
	avg	75.0	56.8	43.5
	E203	74.7	57.7	46.8
	E206	76.5	56.5	43.1
	avg	75.6	57.1	45.0
DARK GRAY ROOFS	F105	72.9	55.8	43.1
	F106	74.8	54.7	44.4
	avg	73.9	55.3	43.8
	F213	74.4	53.2	43.2
	F214	76.1	54.0	43.5
	avg	75.3	53.6	43.4
BROWN ROOFS	P5	85.9	58.4	36.5
	P10	87.7	56.0	32.5
	P12	86.3	58.9	33.4
	P14	72.7	55.2	38.5
	avg	83.2	57.1	35.2

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POHAKEA				
		MAX	AVG	MIN
BLACK ROOFS	A4	85.5	66.1	40.9
	A5	78.4	60.3	41.3
	avg	82.0	63.2	41.1
	A9	76.6	62.6	39.2
	A10	75.2	61.2	38.6
	avg	75.9	61.9	38.9
	B3	78.9	62.5	46.4
	B5	80.0	67.9	53.5
	avg	79.5	65.2	50.0
	B8	85.0	64.8	45.3
	B10	88.5	69.1	45.3
	avg	86.8	67.0	45.3
BROWN ROOFS	P9	70.9	59.7	44.2
	P25	69.0	55.0	39.9
	P26	74.2	58.6	41.3
	P28	70.9	59.5	42.5
	avg	71.3	58.2	42.0

ILIMA				
		MAX	AVG	MIN
BROWN ROOFS	C106	77.1	59.0	46.6
	C107	74.1	58.7	45.5
	avg	75.6	58.9	46.1
	C206	76.1	54.9	45.3
	C207	76.3	55.9	46.6
	avg	76.2	55.4	46.0
	D101	78.2	59.3	48.0
	D102	74.9	59.3	47.5
	avg	76.6	59.3	47.8
	D201	75.5	54.6	41.2
LIGHT GRAY ROOFS	D202	78.7	56.3	44.3
	avg	77.1	55.5	42.8
	I101	71.1	54.0	44.8
	I103	79.2	59.9	47.2
	I104	77.2	57.1	45.6
	avg	75.8	57.0	45.9
	J101	72.7	58.6	40.2
	J102	72.7	63.4	46.6
	avg	72.7	61.0	43.4
	R101	72.0	63.5	58.0
WHITE	R102	70.1	60.8	52.2
	avg	71.1	62.2	55.1

OUTDOORS			
	MAX	AVG	MIN
Ewa Elementary	96.2	67.4	39.1

CAMPBELL				
	ROOM	MAX	AVG	MIN
LIGHT GRAY ROOFS	D102	76.3	57.1	43.9
	D105	78.4	58.1	44.9
	D109	77.2	59.6	47.4
	D112	74.8	57.7	44.6
	avg	76.7	58.1	45.2
	D202	79.1	59.0	43.7
	D205	78.0	55.9	43.5
	D209	81.5	57.8	44.2
	D212	77.8	59.5	44.5
	avg	79.1	58.1	44.0
	D302	75.0	57.1	44.6
	D305	80.9	58.4	45.5
WHITE	D309	79.2	57.7	46.0
	D312	77.0	59.0	45.8
	avg	78.0	58.1	45.5
	F102	61.0	49.9	27.5
	J105	81.4	59.1	44.2
	J109	77.1	59.2	45.7
	avg	79.3	59.2	45.0
	N001	70.6	52.1	41.7
	O102	74.4	57.1	43.4
	O104	67.8	59.2	50.7
	O105	59.7	39.2	29.9
	O107	79.3	61.0	48.2
BLACK ROOFS	avg	70.3	54.1	43.1
	O202	81.7	58.1	44.2
	O204	74.6	58.7	46.4
	O205	73.8	55.2	44.0
	O207	78.5	58.6	46.3
	avg	77.2	57.7	45.2
	O302	77.8	54.5	43.4
	O304	75.7	55.9	43.3
	O310	81.3	59.2	44.6
	avg	78.3	56.5	43.8
	P1	85.5	57.0	38.4
	P6	81.8	57.7	41.5
BROWN ROOFS	P11	81.9	56.1	41.4
	avg	83.1	56.9	40.4

Relative Humidity (%) Summary: October 2013

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA				
		MAX	AVG	MIN
BLACK ROOFS	E103	73.6	62.3	50.6
	E106	69.6	57.3	42.5
	avg	71.6	59.8	46.6
	E203	75.1	61.8	50.0
	E206	70.2	59.5	48.0
	avg	72.7	60.7	49.0
DARK GRAY ROOFS	F105	68.9	59.4	48.9
	F106	67.0	58.0	48.7
	avg	68.0	58.7	48.8
	F213	67.4	56.5	47.6
	F214	67.7	57.0	47.8
	avg	67.6	56.8	47.7
BROWN ROOFS	P5	83.6	61.4	40.4
	P10	86.5	60.6	38.2
	P12	85.3	62.9	37.6
	P14	74.9	59.0	40.7
	avg	82.6	61.0	39.2

POHAKEA				
		MAX	AVG	MIN
BLACK ROOFS	A4	84.7	69.4	42.9
	A5	79.5	63.6	41.7
	avg	82.1	66.5	42.3
	A9	79.0	66.6	38.8
	A10	82.0	67.4	41.7
	avg	80.5	67.0	40.3
	B3	84.1	65.2	49.0
	B5	82.3	70.4	55.9
	avg	83.2	67.8	52.5
	B8	84.0	68.4	47.1
	B10	88.7	71.9	47.1
	avg	86.4	70.2	47.1
BROWN ROOFS	P9	76.9	63.3	47.2
	P25	72.2	59.2	44.2
	P26	77.6	63.3	49.0
	P28	75.4	64.4	50.5
	avg	75.5	62.6	47.7

ILIMA				
		MAX	AVG	MIN
BROWN ROOFS	C106	69.4	59.4	46.2
	C107	74.3	60.2	44.8
	avg	71.9	59.8	45.5
	C206	67.0	56.3	46.9
	C207	71.0	57.0	46.5
	avg	69.0	56.7	46.7
	D101	69.2	61.3	51.7
	D102	69.0	59.5	44.5
	avg	69.1	60.4	48.1
	D201	69.5	57.0	46.4
LIGHT GRAY ROOFS	D202	69.5	57.3	43.5
	avg	69.5	57.2	45.0
	I101	64.7	57.4	48.3
	I103	72.5	62.9	53.5
	I104	70.4	59.6	49.1
	avg	69.2	60.0	50.3
	J101	80.8	59.0	39.8
	J102	80.8	62.9	48.0
	avg	80.8	61.0	43.9
	R101	72.6	64.2	58.2
WHITE	R102	71.9	61.8	54.3
	avg	72.3	63.0	56.3

OUTDOORS			
	MAX	AVG	MIN
Ewa Elementary	95.4	72.0	45.9

CAMPBELL				
	ROOM	MAX	AVG	MIN
LIGHT GRAY ROOFS	D102	77.4	59.4	47.8
	D105	73.6	63.1	51.0
	D109	75.5	63.8	50.0
	D112	74.4	62.5	50.7
	avg	75.2	62.2	49.9
	D202	73.3	60.9	48.3
	D205	71.1	60.1	49.1
	D209	72.8	62.3	49.2
	D212	76.8	64.0	51.1
	avg	73.5	61.8	49.4
	D302	70.5	59.6	48.7
	D305	73.4	62.5	50.6
WHITE	D309	74.7	62.2	50.8
	D312	75.8	63.5	49.2
	avg	73.6	62.0	49.8
	F102	66.1	54.5	32.9
	J105	78.0	64.2	52.5
	J109	73.6	61.0	49.8
	avg	75.8	62.6	51.2
	N001	61.1	53.4	43.0
	O102	67.7	58.7	46.9
	O104	73.4	64.0	56.8
	O105	59.8	38.7	31.3
	O107	74.8	64.7	50.7
BLACK ROOFS	avg	68.9	56.5	46.4
	O202	73.3	61.8	49.1
	O204	74.3	63.0	50.2
	O205	69.2	57.9	48.9
	O207	72.3	61.4	49.4
	avg	72.3	61.0	49.4
	O302	70.0	58.1	48.9
	O304	73.7	59.8	49.2
	O310	75.2	63.3	49.8
	avg	73.0	60.4	49.3
	P1	80.6	62.5	44.2
	P6	77.4	61.3	45.3
BROWN ROOFS	P11	76.9	60.5	47.2
	avg	78.3	61.4	45.6

Relative Humidity (%) Summary: November 2013

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA				
		MAX	AVG	MIN
BLACK ROOFS	E103	77.8	63.4	47.8
	E106	77.9	57.7	40.0
	avg	77.9	60.6	43.9
	E203	80.1	64.3	48.0
	E206	78.8	61.0	45.9
	avg	79.5	63.0	47.0
DARK GRAY ROOFS	F105	75.5	61.6	47.0
	F106	75.4	60.6	47.0
	avg	75.5	61.1	47.0
	F213	74.7	59.9	48.4
	F214	77.8	60.8	48.4
	avg	76.3	60.4	48.4
BROWN ROOFS	P5	86.4	63.7	41.0
	P10	88.0	63.1	37.7
	P12	85.9	65.2	38.5
	P14	74.9	60.0	39.8
	avg	83.8	63.0	39.3

POHAKEA				
		MAX	AVG	MIN
BLACK ROOFS	A4	88.3	69.5	42.5
	A5	76.4	64.6	41.9
	avg	82.4	67.1	42.2
	A9	77.0	66.9	40.6
	A10	84.8	69.9	46.5
	avg	80.9	68.4	43.6
	B3	72.3	62.6	47
	B5	80.9	69.9	54.5
	avg	76.6	66.0	50.8
	B8	84.2	67.8	45.2
	B10	86.9	69.5	45.2
	avg	85.6	68.7	45.2
BROWN ROOFS	P9	76.5	64.8	48.7
	P25	73.0	60.4	44.8
	P26	78.5	63.3	48.5
	P28	75.7	65.7	49.7
	avg	75.9	63.6	47.9

ILIMA				
		MAX	AVG	MIN
BROWN ROOFS	C106	76.1	58.4	39.4
	C107	75.3	58.0	38.7
	avg	75.7	58.2	39.1
	C206	77.6	57.2	43.2
	C207	77.6	58.0	43.2
	avg	77.6	57.6	43.2
LIGHT GRAY ROOFS	D101	78.5	63.5	47.3
	D102	75.9	59.2	39.8
	avg	77.2	61.4	43.6
	D201	79.8	57.9	43.5
	D202	70.0	56.4	38.2
	avg	74.9	57.2	40.9
WHITE	I101	74.8	58.7	44.9
	I103	79.5	64.7	50.0
	I104	78.2	60.8	46.4
	avg	77.5	61.4	47.1
	J101	77.6	60.0	39.3
	J102	77.6	65.0	48.4
	avg	77.6	62.5	43.9
WHITE	R101	72.7	62.6	52.5
	R102	70.5	60.8	50.7
	avg	71.6	61.7	51.6

OUTDOORS			
	MAX	AVG	MIN
Ewa Elementary	95.9	73.2	42.4

CAMPBELL				
	ROOM	MAX	AVG	MIN
LIGHT GRAY ROOFS	D102	78.2	60.2	46.3
	D105	81.0	63.7	48.0
	D109	80.0	64.8	51.3
	D112	78.7	64.5	48.7
	avg	79.5	63.3	48.6
	D202	81.9	62.5	46.4
	D205	80.4	61.7	46.6
	D209	79.3	63.7	47.8
	D212	83.2	66.9	50.6
	avg	81.2	63.7	47.9
	D302	80.7	61.6	47.1
	D305	80.5	63.2	48.9
WHITE	D309	79.4	63.6	48.4
	D312	81.2	65.8	51.1
	avg	80.5	63.6	48.9
	F102	71.8	57.2	33.1
	J105	84.2	67.0	50.6
	J109	81.4	61.8	47.9
	avg	82.8	64.4	49.3
BLACK ROOFS	N001	67.3	53.8	39.8
	O102	78.2	59.3	42.5
	O104	76.1	64.6	53.3
	O105	69.7	40.2	31.9
	O107	81.0	65.3	49.7
	avg	76.3	57.4	44.4
	O202	79.9	63.7	48.6
	O204	80.4	64.9	49.9
	O205	80.4	61.4	47.5
	O207	80.9	62.0	48.4
	avg	80.4	63.0	48.6
	O302	79.1	61.3	47.6
BROWN ROOFS	O304	79.6	63.3	48.9
	O310	83.2	65.3	47.7
	avg	80.6	63.3	48.1
	P1	83.9	65.3	45.8
	P6	82.5	63.3	45.5
	P11	82.5	63.0	46.5
	avg	83.0	63.9	45.9

Illuminance (lm/ft²) Summary: Full Study Period

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA			
	WALL		AVG
BLACK ROOFS	E103	SE	19.2
	E106	SE	16.0
	avg		17.6
	E203	SE	22.0
	E206	SE	26.7
	avg		24.4
DARK GRAY ROOFS	F105	SW	24.3
	F106	NE	26.1
	avg		25.2
	F213	SW	18.0
	F214	NE	18.7
	avg		18.4
BROWN ROOFS	P5	SW	17.4
	P10	SW	13.7
	P12	SW	24.0
	P14	SW	17.9
	avg		18.3

POHAKEA			
	WALL		AVG
BLACK ROOFS	A4	E	10.9
	A5	E	14.8
	avg		12.9
	A9	E	17.3
	A10	E	6.6
	avg		12.0
	B3	E	16.0
	B5	E	15.6
	avg		15.8
	B8	E	6.5
BROWN ROOFS	B10	E	8.8
	avg		7.7
	P9	E	31.5
	P25	E	38.4
	P26	E	21.4
	P28	E	14.8
avg		26.5	

ILIMA			
	WALL		AVG
BROWN ROOFS	C106	N	0.7
	C107	N	24.0
	avg		12.4
	C206	N	10.6
	C207	N	15.0
	avg		12.8
LIGHT GRAY ROOFS	D101	N	18.1
	D102	N	11.5
	avg		14.8
	D201	N	20.9
	D202	N	12.6
	avg		16.8
WHITE	I101	W	23.2
	I103	E	6.9
	I104	W	8.7
	avg		12.9
	J101	E	11.6
	J102	N	3.6
avg		7.6	
WHITE	R101	S	16.0
	R102	N	11.8
	avg		13.9

CAMPBELL			
	WALL		AVG
LIGHT GRAY ROOFS	D102	SE	18.1
	D105	SW	15.0
	D109	NW	26.4
	D112	NE	22.8
	avg		20.6
	D202	SE	12.6
	D205	SW	48.5
	D209	NW	32.6
	D212	NE	22.5
	avg		29.1
WHITE	D302	SE	49.6
	D305	SW	14.7
	D309	NW	35.1
	D312	NE	37.4
	avg		34.2
	F102	NE	18.9
BLACK ROOFS	J105	NW	19.1
	J109	SE	5.8
	avg		12.5
	N001	W	17.1
	O102	SE	10.5
	O104	NE	3.0
BROWN ROOFS	O105	SE	17.6
	O107	NE	25.1
	avg		14.1
	O202	NW	29.9
	O204	NE	28.6
	O205	SE	37.9
	O207	SW	31.2
	avg		31.9
	O302	NW	25.7
	O304	NE	37.1
	O310	SW	19.3
	avg		27.4
BROWN ROOFS	P1	NE	19.9
	P6	SE	12.0
	P11	SW	15.5
avg		15.8	

Illuminance (lm/ft²) Summary: July 2013

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA			
	WALL		AVG
BLACK ROOFS	E103	SE	1.3
	E106	SE	4.1
	avg		2.7
	E203	SE	10.6
	E206	SE	8.4
	avg		9.5
DARK GRAY ROOFS	F105	SW	14.8
	F106	NE	12.5
	avg		13.7
	F213	SW	11.2
	F214	NE	11.9
	avg		11.6
	P5	SW	15.2
	P10	SW	3.2
	P12	SW	7.9
	P14	SW	5.2
	avg		7.9

POHAKEA			
	WALL		AVG
BLACK ROOFS	A4	E	2.9
	A5	E	4.5
	avg		3.7
	A9	E	5.9
	A10	E	3.0
	avg		4.5
	B3	E	6.9
	B5	E	4.1
	avg		5.5
	B8	E	4.4
	B10	E	3.7
	avg		4.1
	P9	E	6.0
	P25	E	5.2
	P26	E	5.1
	P28	E	3.9
avg			5.1

ILIMA			
	WALL		AVG
BROWN ROOFS	C106	N	0.4
	C107	N	17.0
	avg		8.7
	C206	N	44.1
	C207	N	72.0
	avg		58.1
	D101	N	12.8
	D102	N	12.5
	avg		12.7
	D201	N	1.7
	D202	N	1.4
	avg		1.6
LIGHT GRAY ROOFS	I101	W	10.8
	I103	E	4.7
	I104	W	1.2
	avg		5.6
	J101	E	8.0
	J102	N	8.6
WHITE	avg		8.3
	R101	S	8.2
	R102	N	5.0
avg			6.6

CAMPBELL			
	WALL		AVG
LIGHT GRAY ROOFS	D102	SE	12.7
	D105	SW	5.1
	D109	NW	12.9
	D112	NE	3.9
	avg		8.7
	D202	SE	1.5
	D205	SW	17.5
	D209	NW	4.1
	D212	NE	7.0
	avg		7.5
	D302	SE	9.1
	D305	SW	6.2
WHITE	D309	NW	6.9
	D312	NE	9.7
	avg		8.0
	F102	NE	17.4
	J105	NW	17.9
	J109	SE	8.2
BLACK ROOFS	avg		13.1
	N001	W	22.3
	O102	SE	9.7
	O104	NE	8.5
	O105	SE	14.7
	O107	NE	17.8
	avg		12.7
	O202	NW	7.0
	O204	NE	5.3
	O205	SE	12.0
	O207	SW	8.7
	avg		8.3
BROWN ROOFS	O302	NW	13.5
	O304	NE	9.5
	O310	SW	6.0
	avg		9.7
	P1	NE	4.4
	P6	SE	2.7
avg			4.6

Illuminance (lm/ft²) Summary: August 2013

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA			
	WALL		AVG
BLACK ROOFS	E103	SE	23.1
	E106	SE	18.0
	avg		20.6
	E203	SE	20.8
	E206	SE	27.5
	avg		24.2
DARK GRAY ROOFS	F105	SW	26.4
	F106	NE	29.3
	avg		27.9
	F213	SW	21.7
	F214	NE	23.9
	avg		22.8
BROWN ROOFS	P5	SW	22.2
	P10	SW	18.1
	P12	SW	25.9
	P14	SW	20.6
	avg		21.7

ILIMA			
	WALL		AVG
BROWN ROOFS	C106	N	0.9
	C107	N	23.5
	avg		12.2
	C206	N	7.7
	C207	N	13.3
	avg		10.5
LIGHT GRAY ROOFS	D101	N	9.7
	D102	N	7.1
	avg		8.4
	D201	N	25.3
	D202	N	4.8
	avg		15.1
WHITE	I101	W	27.3
	I103	E	8.6
	I104	W	9.7
	avg		15.2
	J101	E	13.2
	J102	N	3.4
WHITE	R101	S	19.2
	R102	N	14.4
avg			16.8

POHAKEA			
	WALL		AVG
BLACK ROOFS	A4	E	11.3
	A5	E	14.4
	avg		12.9
	A9	E	19.5
	A10	E	6.5
	avg		13.0
	B3	E	19.0
	B5	E	19.0
	avg		19.0
	B8	E	7.0
	B10	E	10.0
	avg		8.5
BROWN ROOFS	P9	E	26.8
	P25	E	45.9
	P26	E	26.4
	P28	E	16.9
avg			29.0

CAMPBELL			
	WALL		AVG
LIGHT GRAY ROOFS	D102	SE	18.9
	D105	SW	13.8
	D109	NW	34.5
	D112	NE	23.6
	avg		22.7
	D202	SE	4.2
	D205	SW	53.8
	D209	NW	34.7
	D212	NE	28.6
	avg		30.3
	D302	SE	49.1
	D305	SW	15.7
WHITE	D309	NW	38.6
	D312	NE	48.0
	avg		37.9
	F102	NE	23.0
	J105	NW	22.6
	J109	SE	16.8
BLACK ROOFS	avg		19.7
	N001	W	17.0
	O102	SE	11.1
	O104	NE	5.7
	O105	SE	16.6
	O107	NE	26.3
	avg		14.9
	O202	NW	28.8
	O204	NE	15.9
	O205	SE	49.2
	O207	SW	35.0
	avg		32.2
BROWN ROOFS	O302	NW	16.4
	O304	NE	37.1
	O310	SW	20.9
	avg		24.8
	P1	NE	25.9
	P6	SE	10.8
BROWN ROOFS	P11	SW	19.5
	avg		18.7

Illuminance (lm/ft²) Summary: September 2013

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA			
	WALL		AVG
BLACK ROOFS	E103	SE	21.7
	E106	SE	18.3
	avg		20.0
	E203	SE	26.6
	E206	SE	31.5
	avg		29.1
DARK GRAY ROOFS	F105	SW	28.0
	F106	NE	28.3
	avg		28.2
	F213	SW	19.7
	F214	NE	19.4
	avg		19.6
BROWN ROOFS	P5	SW	23.5
	P10	SW	17.2
	P12	SW	28.4
	P14	SW	20.1
	avg		22.3

POHAKEA			
	WALL		AVG
BLACK ROOFS	A4	E	12.1
	A5	E	16.6
	avg		14.4
	A9	E	19.3
	A10	E	8.4
	avg		13.9
	B3	E	17.1
	B5	E	18.0
	avg		17.6
	B8	E	7.8
	B10	E	9.7
	avg		8.8
BROWN ROOFS	P9	E	37.6
	P25	E	42.4
	P26	E	24.9
	P28	E	17.1
	avg		30.5

ILIMA			
	WALL		AVG
BROWN ROOFS	C106	N	0.4
	C107	N	24.3
	avg		12.4
	C206	N	6.4
	C207	N	7.6
	avg		7.0
LIGHT GRAY ROOFS	D101	N	20.2
	D102	N	12.4
	avg		16.3
	D201	N	43.4
	D202	N	5.8
	avg		24.6
WHITE	I101	W	26.8
	I103	E	7.3
	I104	W	9.7
	avg		14.6
	J101	E	12.3
	J102	N	2.9
	avg		7.6
WHITE	R101	S	18.1
	R102	N	13.3
	avg		15.7

CAMPBELL			
	WALL		AVG
LIGHT GRAY ROOFS	D102	SE	20.2
	D105	SW	16.3
	D109	NW	27.7
	D112	NE	22.7
	avg		21.7
	D202	SE	5.8
	D205	SW	54.7
	D209	NW	41.2
	D212	NE	25.7
	avg		31.9
	D302	SE	58.9
	D305	SW	19.0
WHITE	D309	NW	42.5
	D312	NE	41.2
	avg		40.4
	F102	NE	24.9
	J105	NW	24.5
	J109	SE	1.4
	avg		13.0
BLACK ROOFS	N001	W	16.6
	O102	SE	12.6
	O104	NE	1.3
	O105	SE	18.5
	O107	NE	27.2
	avg		14.9
	O202	NW	37.9
	O204	NE	26.6
	O205	SE	43.0
	O207	SW	34.2
	avg		35.4
	O302	NW	20.8
BROWN ROOFS	O304	NE	43.9
	O310	SW	24.1
	avg		29.6
	P1	NE	22.9
	P6	SE	13.5
	P11	SW	19.2
	avg		18.5

Illuminance (lm/ft²) Summary: October 2013

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA			
	WALL		AVG
BLACK ROOFS	E103	SE	17.1
	E106	SE	14.5
	avg		15.8
	E203	SE	20.4
	E206	SE	25.6
	avg		23.0
DARK GRAY ROOFS	F105	SW	21.2
	F106	NE	23.6
	avg		22.4
	F213	SW	15.6
	F214	NE	16.4
	avg		16.0
BROWN ROOFS	P5	SW	10.4
	P10	SW	11.0
	P12	SW	21.2
	P14	SW	15.9
	avg		14.6

POHAKEA			
	WALL		AVG
BLACK ROOFS	A4	E	11.6
	A5	E	15.7
	avg		13.7
	A9	E	16.9
	A10	E	6.5
	avg		11.7
	B3	E	14.0
	B5	E	13.1
	avg		13.6
	B8	E	5.6
	B10	E	7.9
	avg		6.8
BROWN ROOFS	P9	E	10.4
	P25	E	11.0
	P26	E	21.2
	P28	E	15.9
	avg		14.6

ILIMA			
	WALL		AVG
BROWN ROOFS	C106	N	0.4
	C107	N	23.8
	avg		12.1
	C206	N	6.8
	C207	N	7.7
	avg		7.3
LIGHT GRAY ROOFS	D101	N	16.6
	D102	N	11.8
	avg		14.2
	D201	N	13.8
	D202	N	21.3
	avg		17.6
WHITE	I101	W	20.7
	I103	E	5.5
	I104	W	8.4
	avg		11.5
	J101	E	10.5
	J102	N	2.2
	avg		6.4
WHITE	R101	S	13.9
	R102	N	10.7
	avg		12.3

CAMPBELL			
	WALL		AVG
LIGHT GRAY ROOFS	D102	SE	16.6
	D105	SW	17.0
	D109	NW	20.4
	D112	NE	23.4
	avg		19.4
	D202	SE	21.3
	D205	SW	46.2
	D209	NW	29.4
	D212	NE	17.6
	avg		28.6
	D302	SE	49.5
	D305	SW	14.2
WHITE	D309	NW	31.7
	D312	NE	35.6
	avg		32.8
	F102	NE	16.9
	J105	NW	14.6
	J109	SE	1.5
	avg		8.1
BLACK ROOFS	N001	W	19.5
	O102	SE	8.3
	O104	NE	1.2
	O105	SE	16.8
	O107	NE	21.6
	avg		12.0
	O202	NW	27.7
	O204	NE	41.5
	O205	SE	30.5
	O207	SW	28.5
	avg		32.1
	O302	NW	23.3
BROWN ROOFS	O304	NE	33.3
	O310	SW	16.6
	avg		24.4
	P1	NE	15.2
	P6	SE	10.2
	P11	SW	12.2
	avg		12.5

Illuminance (lm/ft²) Summary: November 2013

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Hawai'i Department of Education

K-12 Energy Systems Study



KAIMILOA			
BLACK ROOFS	WALL		AVG
	E103	SE	21.3
	E106	SE	17.9
	avg		19.6
	E203	SE	25.8
	E206	SE	28.9
DARK GRAY ROOFS	avg		27.4
	F105	SW	25.1
	F106	NE	28.6
	avg		26.9
	F213	SW	16.4
	F214	NE	16.1
BROWN ROOFS	avg		16.3
	P5	SW	12.6
	P10	SW	10.5
	P12	SW	27.1
	P14	SW	19.7
	avg		17.5

POHAKEA			
BLACK ROOFS	WALL		AVG
	A4	E	12.0
	A5	E	17.5
	avg		14.8
	A9	E	18.0
	A10	E	5.8
	avg		11.9
	B3	E	17.8
	B5	E	16.7
	avg		17.3
	B8	E	6.2
	B10	E	9.5
BROWN ROOFS	avg		7.9
	P9	E	12.6
	P25	E	10.5
	P26	E	27.1
	P28	E	19.7
	avg		17.5

ILIMA			
BROWN ROOFS	WALL		AVG
	C106	N	1.4
	C107	N	29.6
	avg		15.5
	C206	N	8.0
	C207	N	7.4
LIGHT GRAY ROOFS	avg		7.7
	D101	N	19.6
	D102	N	11.1
	avg		15.4
	D201	N	8.7
	D202	N	30.0
WHITE	avg		19.4
	I101	W	22.7
	I103	E	7.1
	I104	W	10.8
	avg		13.5
	J101	E	11.5
WHITE	J102	N	4.7
	avg		8.1
	R101	S	15.7
WHITE	R102	N	11.1
	avg		13.4

CAMPBELL			
LIGHT GRAY ROOFS	WALL		AVG
	D102	SE	19.6
	D105	SW	17.0
	D109	NW	28.1
	D112	NE	30.2
	avg		23.7
	D202	SE	30.0
	D205	SW	49.4
	D209	NW	35.7
	D212	NE	23.7
	avg		34.7
	D302	SE	56.8
WHITE	D305	SW	11.3
	D309	NW	38.2
	D312	NE	30.7
	avg		34.3
	F102	NE	10.9
	J105	NW	18.1
BROWN ROOFS	J109	SE	1.6
	avg		9.9
	N001	W	15.7
	O102	SE	10.3
	O104	NE	1.4
	O105	SE	20.7
BLACK ROOFS	O107	NE	30.1
	avg		15.6
	O202	NW	34.4
	O204	NE	42.9
	O205	SE	37.0
	O207	SW	36.3
	avg		37.7
	O302	NW	25.7
	O304	NE	47.2
	O310	SW	20.6
	avg		31.2
	P1	NE	21.1
BROWN ROOFS	P6	SE	19.3
	P11	SW	13.3
	avg		17.9

DATA CARDS



(KAIMILOA BUILDING F)

Kaimiloa F: Temperature (Full Study Period)

001

Hawai'i Department of Education

K-12 Energy Systems Study

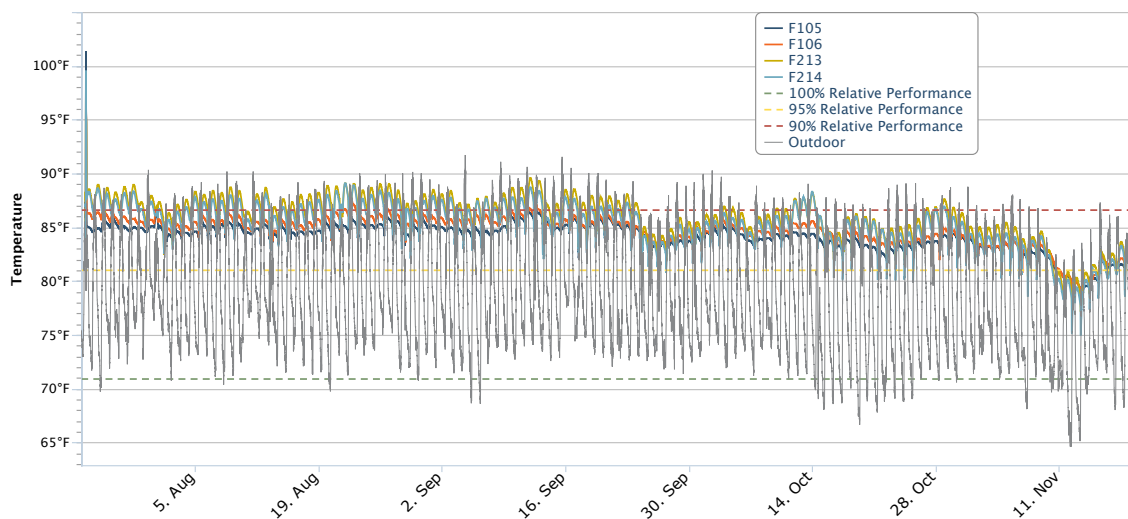


INPUTS

	ATTRIBUTE	MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
— F105	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F105 - Air Temperature (F)	sensor	595	SW Wall, 5' high	15 minutes	2013-07-23 - 2013-11-19
— F106	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F106 - Air Temperature (F)	sensor	596	NE Wall, 5' high	15 minutes	2013-07-23 - 2013-11-19
— F213	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F213 - Air Temperature (F)	sensor	597	SW Wall, 5' high	15 minutes	2013-07-23 - 2013-11-19
— F214	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F214 - Air Temperature (F)	sensor	598	NE Wall, 5' high	15 minutes	2013-07-23 - 2013-11-19
— Outdoors	Sensor (1/128) - Air Temperature (°F)	Ewa - Weather Station - Air Temperature	sensor		Ewa Elementary Weather Station	5 minutes	2013-07-23 - 2013-11-19

INDICES

	VALUE	TYPE	SOURCE
-- 100% Relative Performance	70.9 °F	Peer-Reviewed Research	Seppänen et al. (2006)
-- 95% Relative Performance	81.0 °F	Peer-Reviewed Research	Seppänen et al. (2006)
-- 90% Relative Performance	86.6 °F	Peer-Reviewed Research	Seppänen et al. (2006)



OUTPUTS

	MAX	MIN	AVG	STDEV
— F105	101.4 °F	78.2 °F	84.1 °F	1.4 °F
— F106	99.5 °F	77.5 °F	84.6 °F	1.5 °F
— F213	99.0 °F	77.2 °F	85.7 °F	2.1 °F
— F214	99.6 °F	74.9 °F	85.1 °F	2.2 °F
— Outdoors	91.7 °F	64.6 °F	78.8 °F	5.3 °F

FINDINGS

If only considering weekdays between the hours of 7AM to 6PM, the average temperature values for F105, F106, F213 and F214 between 7/23/13 - 11/19/13 were **84.2 °F, 84.5 °F, 85.0 °F and 84.4 °F**, respectively. The average outdoor temperature on weekdays between the hours of 7AM to 6PM over the same period was **83.2 °F**.

NOTES

Kaimiloa F: Temperature (July 2013)

002

Hawai'i Department of Education
K-12 Energy Systems Study

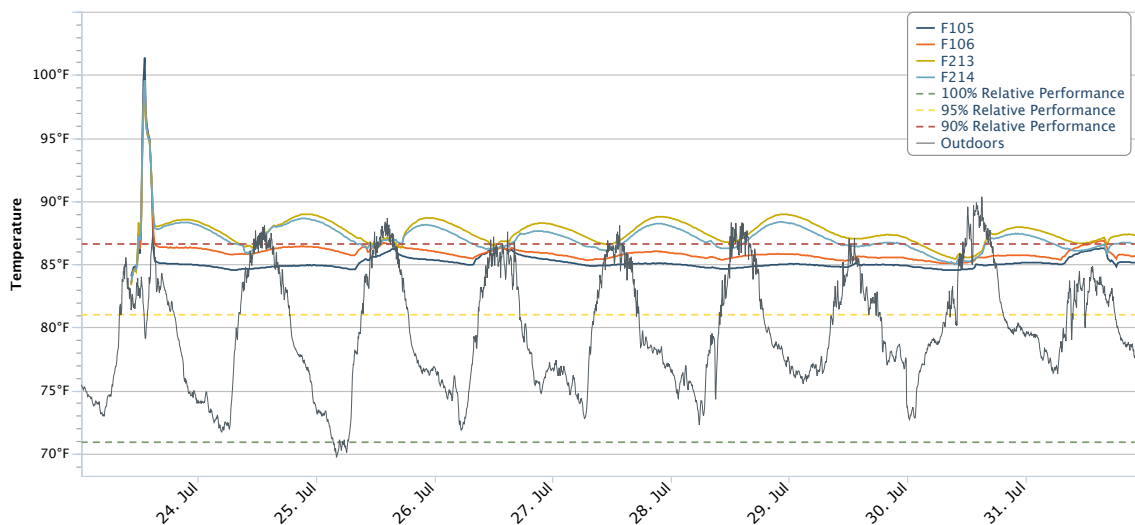


INPUTS

	ATTRIBUTE	MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
— F105	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F105 - Air Temperature (F)	sensor	595	SW Wall, 5' high	15 minutes	2013-07-23 - 2013-07-31
— F106	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F106 - Air Temperature (F)	sensor	596	NE Wall, 5' high	15 minutes	2013-07-23 - 2013-07-31
— F213	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F213 - Air Temperature (F)	sensor	597	SW Wall, 5' high	15 minutes	2013-07-23 - 2013-07-31
— F214	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F214 - Air Temperature (F)	sensor	598	NE Wall, 5' high	15 minutes	2013-07-23 - 2013-07-31
— Outdoors	Sensor (1/128) - Air Temperature (°F)	Ewa - Weather Station - Air Temperature	sensor		Ewa Elementary Weather Station	5 minutes	2013-07-23 - 2013-07-31

INDICES

	VALUE	TYPE	SOURCE
— 100% Relative Performance	70.9 °F	Peer-Reviewed Research	Seppänen et al. (2006)
— 95% Relative Performance	81.0 °F	Peer-Reviewed Research	Seppänen et al. (2006)
— 90% Relative Performance	86.6 °F	Peer-Reviewed Research	Seppänen et al. (2006)



OUTPUTS

	MAX	MIN	AVG	STDEV
— F105	101.4 °F	84.1 °F	85.2 °F	1.2 °F
— F106	99.5 °F	83.5 °F	85.9 °F	1.1 °F
— F213	99.0 °F	83.3 °F	87.6 °F	1.2 °F
— F214	99.6 °F	83.5 °F	87.1 °F	1.2 °F
— Outdoors	90.3 °F	69.7 °F	79.7 °F	4.5 °F

FINDINGS

If only considering weekdays between the hours of 7AM to 6PM, the average temperature values for F105, F106, F213 and F214 between 7/23/13 - 7/31/13 were **85.6 °F**, **86.2 °F**, **87.1 °F** and **86.8 °F**, respectively. The average outdoor temperature on weekdays between the hours of 7AM to 6PM over the same period was **83.6 °F**.

NOTES

Kaimiloa F: Temperature (August 2013)

003

Hawai'i Department of Education
K-12 Energy Systems Study

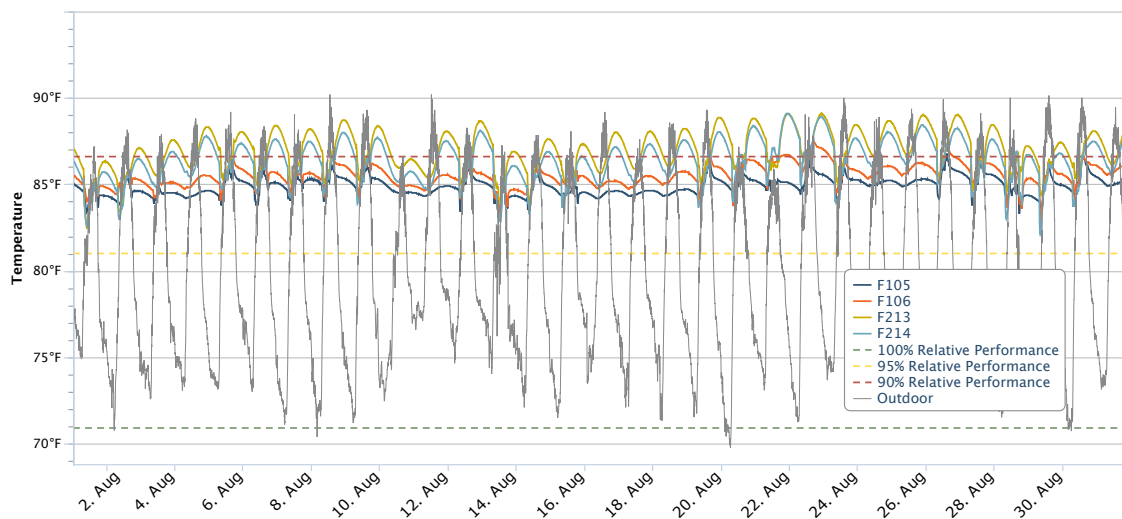


INPUTS

	ATTRIBUTE	MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
— F105	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F105 - Air Temperature (F)	sensor	595	SW Wall, 5' high	15 minutes	2013-08-01 - 2013-08-31
— F106	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F106 - Air Temperature (F)	sensor	596	NE Wall, 5' high	15 minutes	2013-08-01 - 2013-08-31
— F213	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F213 - Air Temperature (F)	sensor	597	SW Wall, 5' high	15 minutes	2013-08-01 - 2013-08-31
— F214	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F214 - Air Temperature (F)	sensor	598	NE Wall, 5' high	15 minutes	2013-08-01 - 2013-08-31
— Outdoors	Sensor (1/128) - Air Temperature (°F)	Ewa - Weather Station - Air Temperature	sensor		Ewa Elementary Weather Station	5 minutes	2013-08-01 - 2013-08-31

INDICES

	VALUE	TYPE	SOURCE
— 100% Relative Performance	70.9 °F	Peer-Reviewed Research	Seppänen et al. (2006)
— 95% Relative Performance	81.0 °F	Peer-Reviewed Research	Seppänen et al. (2006)
— 90% Relative Performance	86.6 °F	Peer-Reviewed Research	Seppänen et al. (2006)



OUTPUTS

	MAX	MIN	AVG	STDEV
— F105	86.8 °F	82.9 °F	84.9 °F	0.5 °F
— F106	87.4 °F	82.7 °F	85.5 °F	0.6 °F
— F213	89.1 °F	82.4 °F	86.9 °F	1.2 °F
— F214	89.1 °F	82.1 °F	86.3 °F	1.2 °F
— Outdoors	90.2 °F	69.8 °F	79.8 °F	5.1 °F

FINDINGS

If only considering weekdays between the hours of 7AM to 6PM, the average temperature values for F105, F106, F213 and F214 between 8/1/13 - 8/31/13 were **85.0 °F**, **85.5 °F**, **86.0 °F** and **85.5 °F**, respectively. The average outdoor temperature on weekdays between the hours of 7AM to 6PM over the same period was **84.4 °F**.

NOTES

Kaimiloa F: Temperature (September 2013)

004

Hawai'i Department of Education
K-12 Energy Systems Study

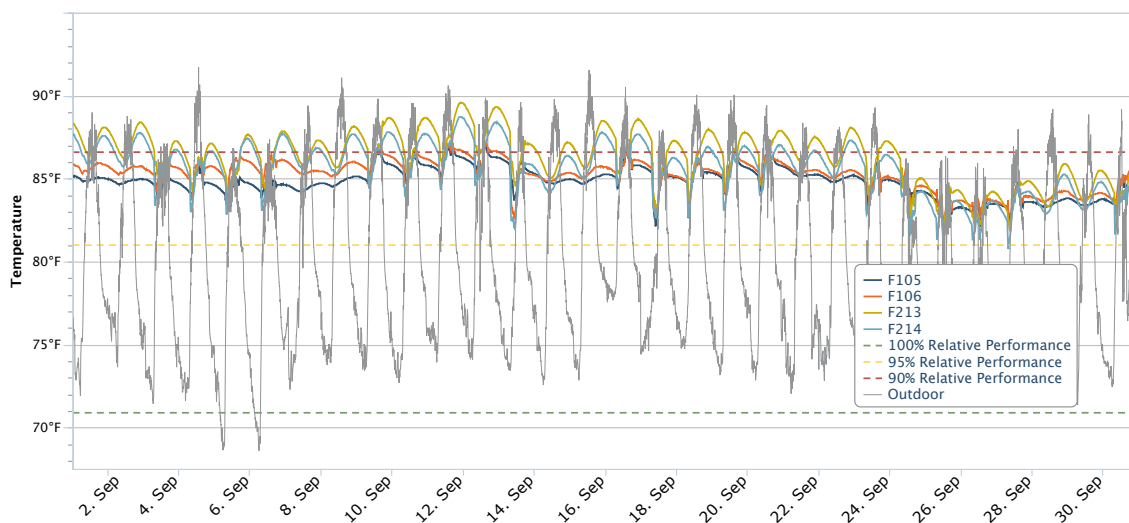


INPUTS

	ATTRIBUTE	MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
— F105	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F105 - Air Temperature (F)	sensor	595	SW Wall, 5' high	15 minutes	2013-09-01 - 2013-09-30
— F106	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F106 - Air Temperature (F)	sensor	596	NE Wall, 5' high	15 minutes	2013-09-01 - 2013-09-30
— F213	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F213 - Air Temperature (F)	sensor	597	SW Wall, 5' high	15 minutes	2013-09-01 - 2013-09-30
— F214	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F214 - Air Temperature (F)	sensor	598	NE Wall, 5' high	15 minutes	2013-09-01 - 2013-09-30
— Outdoors	Sensor (1/128) - Air Temperature (°F)	Ewa - Weather Station - Air Temperature	sensor		Ewa Elementary Weather Station	5 minutes	2013-09-01 - 2013-09-30

INDICES

	VALUE	TYPE	SOURCE
— 100% Relative Performance	70.9 °F	Peer-Reviewed Research	Seppänen et al. (2006)
— 95% Relative Performance	81.0 °F	Peer-Reviewed Research	Seppänen et al. (2006)
— 90% Relative Performance	86.6 °F	Peer-Reviewed Research	Seppänen et al. (2006)



OUTPUTS

	MAX	MIN	AVG	STDEV
— F105	87.1 °F	81.6 °F	84.8 °F	0.9 °F
— F106	87.1 °F	82.2 °F	85.2 °F	0.9 °F
— F213	89.6 °F	81.7 °F	86.3 °F	1.6 °F
— F214	88.7 °F	80.8 °F	85.6 °F	1.5 °F
— Outdoors	91.7 °F	68.6 °F	79.7 °F	5.1 °F

FINDINGS

If only considering weekdays between the hours of 7AM to 6PM, the average temperature values for F105, F106, F213 and F214 between 9/1/13 - 9/30/13 were **84.9 °F, 85.1 °F, 85.5 °F and 84.9 °F**, respectively. The average outdoor temperature on weekdays between the hours of 7AM to 6PM over the same period was **83.9 °F**.

NOTES

Kaimiloa F: Temperature (October 2013)

005

Hawai'i Department of Education
K-12 Energy Systems Study

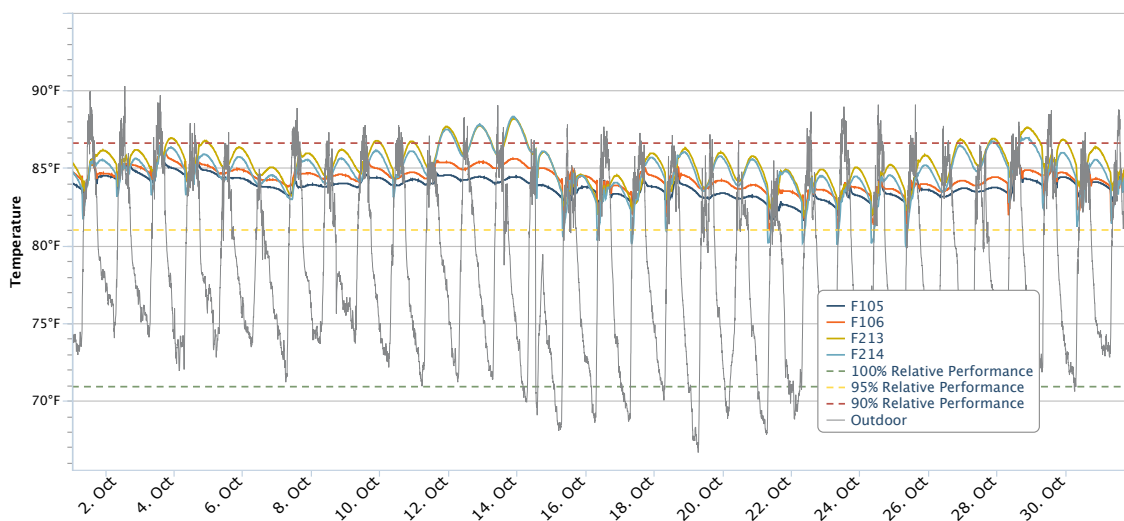


INPUTS

	ATTRIBUTE	MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
— F105	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F105 - Air Temperature (F)	sensor	595	SW Wall, 5' high	15 minutes	2013-10-01 - 2013-10-31
— F106	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F106 - Air Temperature (F)	sensor	596	NE Wall, 5' high	15 minutes	2013-10-01 - 2013-10-31
— F213	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F213 - Air Temperature (F)	sensor	597	SW Wall, 5' high	15 minutes	2013-10-01 - 2013-10-31
— F214	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F214 - Air Temperature (F)	sensor	598	NE Wall, 5' high	15 minutes	2013-10-01 - 2013-10-31
— Outdoors	Sensor (1/128) - Air Temperature (°F)	Ewa - Weather Station - Air Temperature	sensor		Ewa Elementary Weather Station	5 minutes	2013-10-01 - 2013-10-31

INDICES

	VALUE	TYPE	SOURCE
— 100% Relative Performance	70.9 °F	Peer-Reviewed Research	Seppänen et al. (2006)
— 95% Relative Performance	81.0 °F	Peer-Reviewed Research	Seppänen et al. (2006)
— 90% Relative Performance	86.6 °F	Peer-Reviewed Research	Seppänen et al. (2006)



OUTPUTS

	MAX	MIN	AVG	STDEV
— F105	86.2 °F	81.6 °F	83.8 °F	0.7 °F
— F106	86.1 °F	81.1 °F	84.3 °F	0.8 °F
— F213	88.2 °F	81.9 °F	85.3 °F	1.2 °F
— F214	88.3 °F	79.9 °F	84.8 °F	1.4 °F
— Outdoors	90.3 °F	66.7 °F	78.1 °F	5.4 °F

FINDINGS

If only considering weekdays between the hours of 7AM to 6PM, the average temperature values for F105, F106, F213 and F214 between 10/1/13 - 10/31/13 were **83.8 °F, 84.1 °F, 84.5 °F and 84.0 °F**, respectively. The average outdoor temperature on weekdays between the hours of 7AM to 6PM over the same period was **83.0 °F**.

NOTES

Kaimiloa F: Temperature (November 2013)

006

Hawai'i Department of Education
K-12 Energy Systems Study

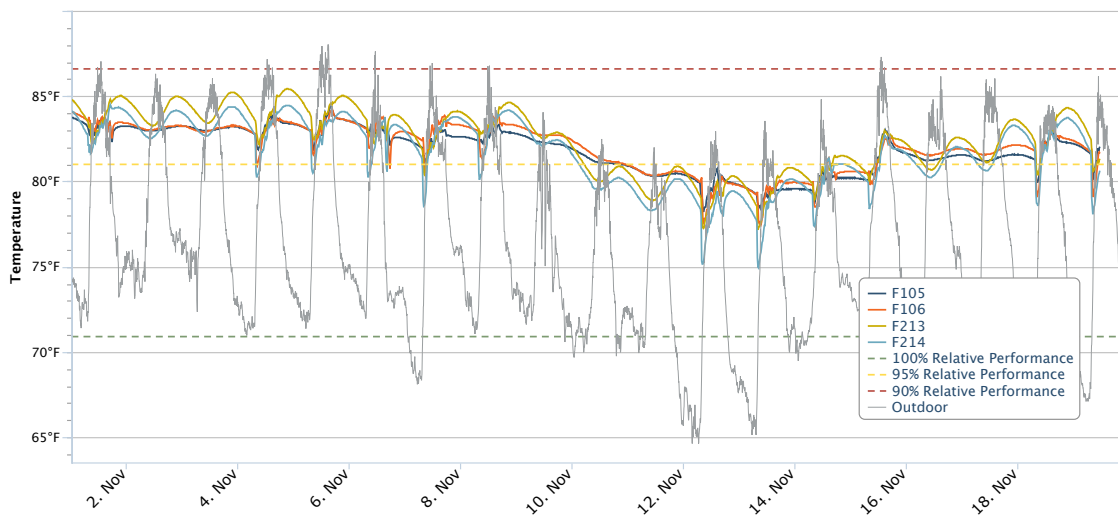


INPUTS

	ATTRIBUTE	MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
— F105	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F105 - Air Temperature (F)	sensor	595	SW Wall, 5' high	15 minutes	2013-11-01 - 2013-11-19
— F106	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F106 - Air Temperature (F)	sensor	596	NE Wall, 5' high	15 minutes	2013-11-01 - 2013-11-19
— F213	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F213 - Air Temperature (F)	sensor	597	SW Wall, 5' high	15 minutes	2013-11-01 - 2013-11-19
— F214	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F214 - Air Temperature (F)	sensor	598	NE Wall, 5' high	15 minutes	2013-11-01 - 2013-11-19
— Outdoors	Sensor (1/128) - Air Temperature (°F)	Ewa - Weather Station - Air Temperature	sensor		Ewa Elementary Weather Station	5 minutes	2013-11-01 - 2013-11-19

INDICES

	VALUE	TYPE	SOURCE
— 100% Relative Performance	70.9 °F	Peer-Reviewed Research	Seppänen et al. (2006)
— 95% Relative Performance	81.0 °F	Peer-Reviewed Research	Seppänen et al. (2006)
— 90% Relative Performance	86.6 °F	Peer-Reviewed Research	Seppänen et al. (2006)



OUTPUTS

	MAX	MIN	AVG	STDEV
— F105	84.4 °F	78.2 °F	81.8 °F	1.3 °F
— F106	84.2 °F	77.5 °F	82.0 °F	1.4 °F
— F213	85.4 °F	77.2 °F	82.4 °F	1.8 °F
— F214	84.5 °F	74.9 °F	81.7 °F	1.9 °F
— Outdoors	88.0 °F	64.6 °F	76.3 °F	5.2 °F

FINDINGS

If only considering weekdays between the hours of 7AM to 6PM, the average temperature values for F105, F106, F213 and F214 between 11/1/13 - 11/19/13 were **81.7 °F, 81.6 °F, 81.8 °F and 81.0 °F**, respectively. The average outdoor temperature on weekdays between the hours of 7AM to 6PM over the same period was **80.5 °F**.

NOTES

Kaimiloa F: Temperature (October, 23 2013)

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K-12 Energy Systems Study

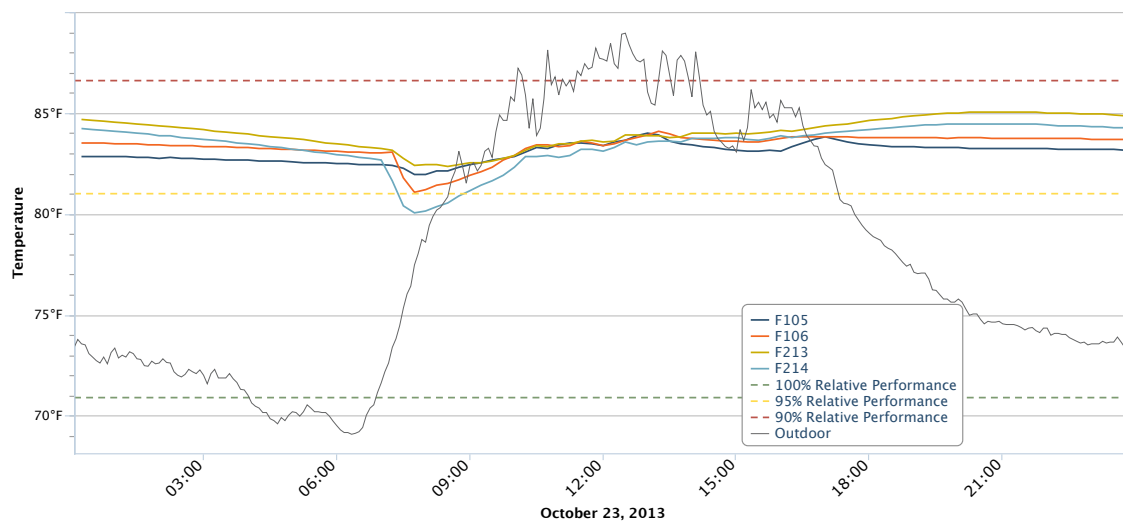


INPUTS

	ATTRIBUTE	MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
— F105	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F105 - Air Temperature (F)	sensor	595	SW Wall, 5' high	15 minutes	2013-10-23
— F106	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F106 - Air Temperature (F)	sensor	596	NE Wall, 5' high	15 minutes	2013-10-23
— F213	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F213 - Air Temperature (F)	sensor	597	SW Wall, 5' high	15 minutes	2013-10-23
— F214	Sensor (1/8) - Air Temperature (°F)	Kaimiloa - F214 - Air Temperature (F)	sensor	598	NE Wall, 5' high	15 minutes	2013-10-23
— Outdoors	Sensor (1/128) - Air Temperature (°F)	Ewa - Weather Station - Air Temperature	sensor		Ewa Elementary Weather Station	5 minutes	2013-10-23

INDICES

	VALUE	TYPE	SOURCE
— 100% Relative Performance	70.9 °F	Peer-Reviewed Research	Seppänen et al. (2006)
— 95% Relative Performance	81.0 °F	Peer-Reviewed Research	Seppänen et al. (2006)
— 90% Relative Performance	86.6 °F	Peer-Reviewed Research	Seppänen et al. (2006)



OUTPUTS

	MAX	MIN	AVG	STDEV
— F105	84.0 °F	82.0 °F	83.0 °F	0.45 °F
— F106	84.1 °F	81.1 °F	83.4 °F	0.62 °F
— F213	85.0 °F	82.4 °F	84.0 °F	0.76 °F
— F214	84.5 °F	80.1 °F	83.4 °F	1.1 °F
— Outdoors	89.0 °F	69.1 °F	78.1 °F	6.1 °F

FINDINGS

The outdoor temperature reached its maximum of 89.0 °F at **12:30 PM**. The 1st floor rooms (F105 & F106) reached their maximum temperatures of 84.0 °F and 84.1 °F at **1:00 PM** and **1:15 PM**, respectively. The 2nd floor rooms (F105 & F106) reached their maximum temperatures of 85.0 °F and 84.5 °F at **7:30 PM** and **7:45 PM**, respectively.

NOTES

Kaimiloa F: Relative Humidity (Full Study Period)

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K-12 Energy Systems Study

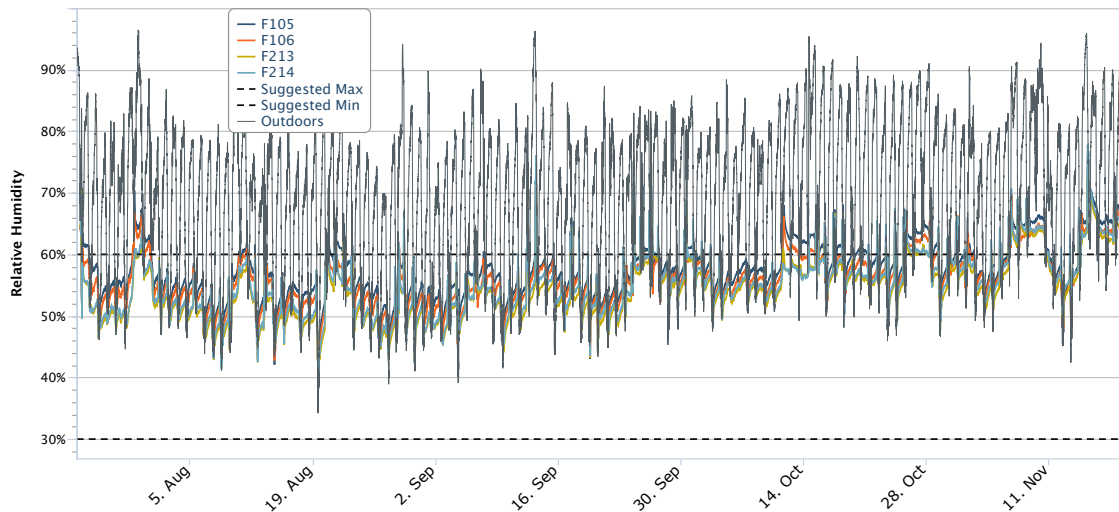


INPUTS

	ATTRIBUTE	MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
F105	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F105 - Relative Humidity (%)	sensor	595	SW Wall, 5' high	15 minutes	2013-07-23 - 2013-11-19
F106	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F106 - Relative Humidity (%)	sensor	596	NE Wall, 5' high	15 minutes	2013-07-23 - 2013-11-19
F213	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F213 - Relative Humidity (%)	sensor	597	SW Wall, 5' high	15 minutes	2013-07-23 - 2013-11-19
F214	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F214 - Relative Humidity (%)	sensor	598	NE Wall, 5' high	15 minutes	2013-07-23 - 2013-11-19
Outdoors	Sensor (1/128) - Relative Humidity (%)	Ewa - Weather Station - Relative Humidity	sensor		Ewa Elementary Weather Station	5 minutes	2013-07-23 - 2013-11-19

INDICES

	VALUE	TYPE	SOURCE
-- Suggested Range	30 - 60 %	Industry Standard	ASHRAE Standard 55-2010



OUTPUTS

	MAX	MIN	AVG	STDEV
F105	75.5 %	41.9 %	57.4 %	4.8 %
F106	75.4 %	41.5 %	56.1 %	4.7 %
F213	74.7 %	40.8 %	54.5 %	5.0 %
F214	77.8 %	40.9 %	55.2 %	5.1 %
Outdoors	96.4 %	34.2 %	69.3 %	11.9 %

FINDINGS

1st floor (F105 & F106) relative humidity was within the suggested range for **77%** of the entire study period 7/23/13 - 11/19/13.
2nd floor (F213 & F214) relative humidity was within the suggested range for **85%** of the entire study period 7/23/13 - 11/19/13.

NOTES

Kaimiloa F: Relative Humidity (July 2013)

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K-12 Energy Systems Study

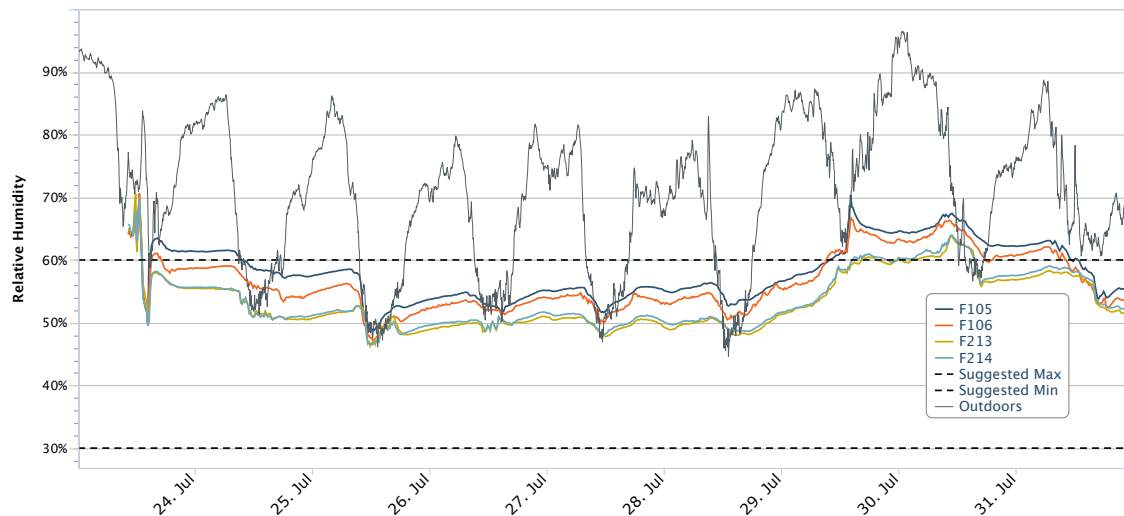


INPUTS

	ATTRIBUTE	MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
— F105	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F105 - Relative Humidity (%)	sensor	595	SW Wall, 5' high	15 minutes	2013-07-23 - 2013-07-31
— F106	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F106 - Relative Humidity (%)	sensor	596	NE Wall, 5' high	15 minutes	2013-07-23 - 2013-07-31
— F213	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F213 - Relative Humidity (%)	sensor	597	SW Wall, 5' high	15 minutes	2013-07-23 - 2013-07-31
— F214	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F214 - Relative Humidity (%)	sensor	598	NE Wall, 5' high	15 minutes	2013-07-23 - 2013-07-31
— Outdoors	Sensor (1/128) - Relative Humidity (%)	Ewa - Weather Station - Relative Humidity	sensor		Ewa Elementary Weather Station	5 minutes	2013-07-23 - 2013-07-31

INDICES

	VALUE	TYPE	SOURCE
-- Suggested Range	30 - 60 %	Industry Standard	ASHRAE Standard 55-2010



OUTPUTS

	MAX	MIN	AVG	STDEV
— F105	70.5 %	48.8 %	58.1 %	4.4 %
— F106	70.6 %	47.1 %	56.4 %	4.4 %
— F213	70.5 %	46.2 %	53.3 %	4.4 %
— F214	69.8 %	46.5 %	53.6 %	4.4 %
— Outdoors	96.4 %	44.6 %	71.2 %	11.8 %

FINDINGS

1st floor (F105 & F106) relative humidity was within the suggested range for **68%** of the time period 7/23/13 - 7/31/13.
2nd floor (F213 & F214) relative humidity was within the suggested range for **88%** of the time period 7/23/13 - 7/31/13.

NOTES

Kaimiloa F: Relative Humidity (August 2013)

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K-12 Energy Systems Study

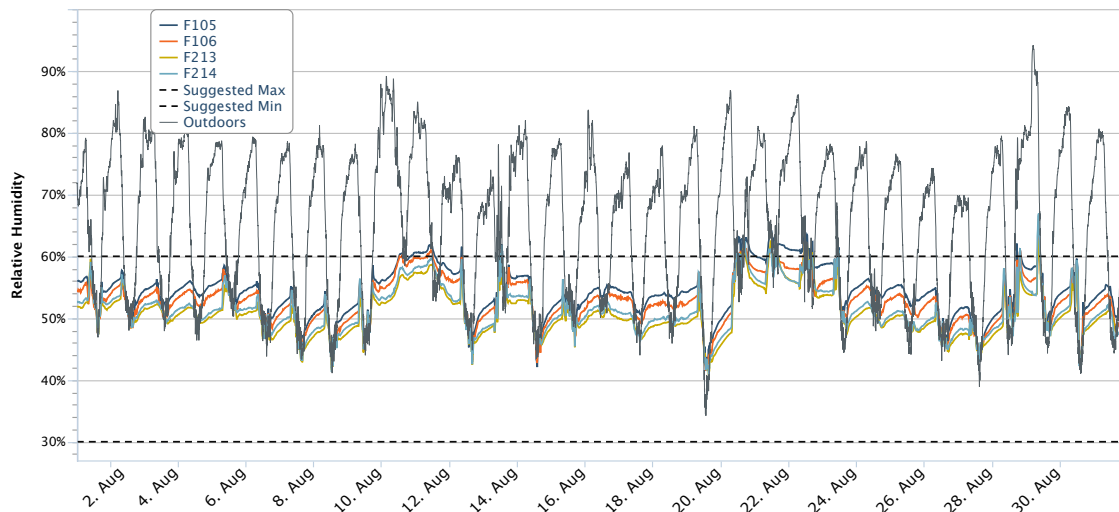


INPUTS

	ATTRIBUTE	MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
— F105	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F105 - Relative Humidity (%)	sensor	595	SW Wall, 5' high	15 minutes	2013-08-01 - 2013-08-31
— F106	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F106 - Relative Humidity (%)	sensor	596	NE Wall, 5' high	15 minutes	2013-08-01 - 2013-08-31
— F213	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F213 - Relative Humidity (%)	sensor	597	SW Wall, 5' high	15 minutes	2013-08-01 - 2013-08-31
— F214	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F214 - Relative Humidity (%)	sensor	598	NE Wall, 5' high	15 minutes	2013-08-01 - 2013-08-31
— Outdoors	Sensor (1/128) - Relative Humidity (%)	Ewa - Weather Station - Relative Humidity	sensor		Ewa Elementary Weather Station	5 minutes	2013-08-01 - 2013-08-31

INDICES

	VALUE	TYPE	SOURCE
-- Suggested Range	30 - 60 %	Industry Standard	ASHRAE Standard 55-2010



OUTPUTS

	MAX	MIN	AVG	STDEV
— F105	65.1 %	41.9 %	54.1 %	4.0 %
— F106	66.1 %	41.5 %	52.8 %	3.7 %
— F213	62.6 %	40.8 %	50.8 %	3.6 %
— F214	66.9 %	40.9 %	51.5 %	3.7 %
— Outdoors	94.1 %	34.2 %	65.6 %	11.6 %

FINDINGS

1st floor (F105 & F106) relative humidity was within the suggested range for **94%** of the time period 8/1/13 - 8/31/13.
2nd floor (F213 & F214) relative humidity was within the suggested range for **98%** of the time period 8/1/13 - 8/31/13.

NOTES

Kaimiloa F: Relative Humidity (September 2013)

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K-12 Energy Systems Study

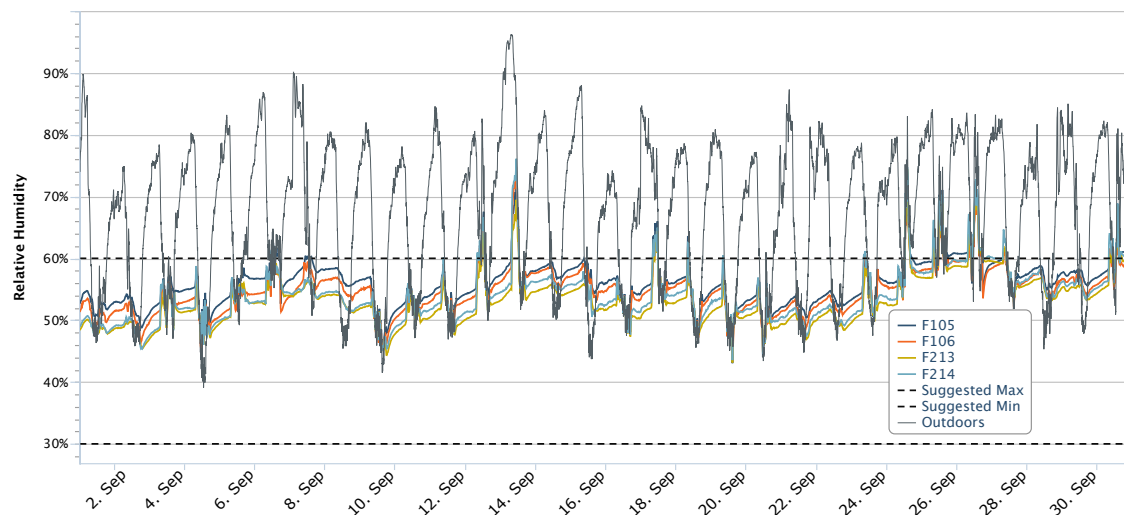


INPUTS

	ATTRIBUTE	MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
— F105	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F105 - Relative Humidity (%)	sensor	595	SW Wall, 5' high	15 minutes	2013-09-01 - 2013-09-30
— F106	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F106 - Relative Humidity (%)	sensor	596	NE Wall, 5' high	15 minutes	2013-09-01 - 2013-09-30
— F213	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F213 - Relative Humidity (%)	sensor	597	SW Wall, 5' high	15 minutes	2013-09-01 - 2013-09-30
— F214	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F214 - Relative Humidity (%)	sensor	598	NE Wall, 5' high	15 minutes	2013-09-01 - 2013-09-30
— Outdoors	Sensor (1/128) - Relative Humidity (%)	Ewa - Weather Station - Relative Humidity	sensor		Ewa Elementary Weather Station	5 minutes	2013-09-01 - 2013-09-30

INDICES

	VALUE	TYPE	SOURCE
-- Suggested Range	30 - 60 %	Industry Standard	ASHRAE Standard 55-2010



OUTPUTS

	MAX	MIN	AVG	STDEV
— F105	72.9 %	43.1 %	55.8 %	3.6 %
— F106	74.8 %	44.4 %	54.7 %	3.7 %
— F213	74.4 %	43.2 %	53.2 %	4.0 %
— F214	76.1 %	43.5 %	54.0 %	4.3 %
— Outdoors	96.2 %	39.1 %	67.4 %	11.5 %

FINDINGS

1st floor (F105 & F106) relative humidity was within the suggested range for **93%** of the time period 9/1/13 - 9/30/13.
 2nd floor (F213 & F214) relative humidity was within the suggested range for **94%** of the time period 9/1/13 - 9/30/13.

NOTES

Kaimiloa F: Relative Humidity (October 2013)

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K-12 Energy Systems Study

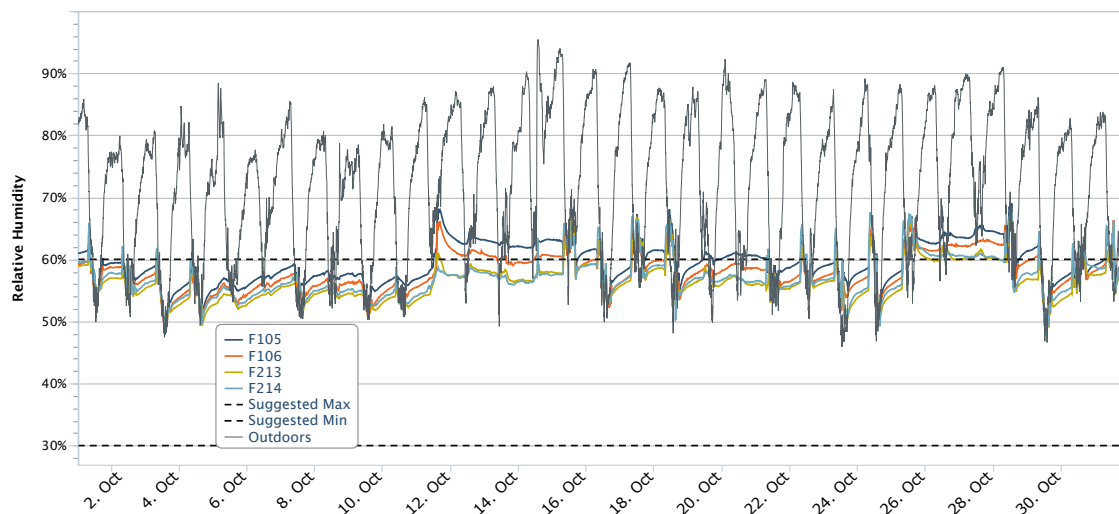


INPUTS

	ATTRIBUTE	MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
F105	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F105 - Relative Humidity (%)	sensor	595	SW Wall, 5' high	15 minutes	2013-10-01 - 2013-10-31
F106	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F106 - Relative Humidity (%)	sensor	596	NE Wall, 5' high	15 minutes	2013-10-01 - 2013-10-31
F213	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F213 - Relative Humidity (%)	sensor	597	SW Wall, 5' high	15 minutes	2013-10-01 - 2013-10-31
F214	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F214 - Relative Humidity (%)	sensor	598	NE Wall, 5' high	15 minutes	2013-10-01 - 2013-10-31
Outdoors	Sensor (1/128) - Relative Humidity (%)	Ewa - Weather Station - Relative Humidity	sensor		Ewa Elementary Weather Station	5 minutes	2013-10-01 - 2013-10-31

INDICES

	VALUE	TYPE	SOURCE
■ Suggested Range	30 - 60 %	Industry Standard	ASHRAE Standard 55-2010



OUTPUTS

	MAX	MIN	AVG	STDEV
F105	68.9 %	48.9 %	59.4 %	3.3 %
F106	67.0 %	48.7 %	58.0 %	3.1 %
F213	67.4 %	47.6 %	56.5 %	3.0 %
F214	67.7 %	47.8 %	57.0 %	3.1 %
Outdoors	95.4 %	45.9 %	72.0 %	11.3 %

FINDINGS

1st floor (F105 & F106) relative humidity was within the suggested range for **65%** of the time period 10/1/13 - 10/31/13.
 2nd floor (F213 & F214) relative humidity was within the suggested range for **84%** of the time period 10/1/13 - 10/31/13.

NOTES

Kaimiloa F: Relative Humidity (November 2013)

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K-12 Energy Systems Study

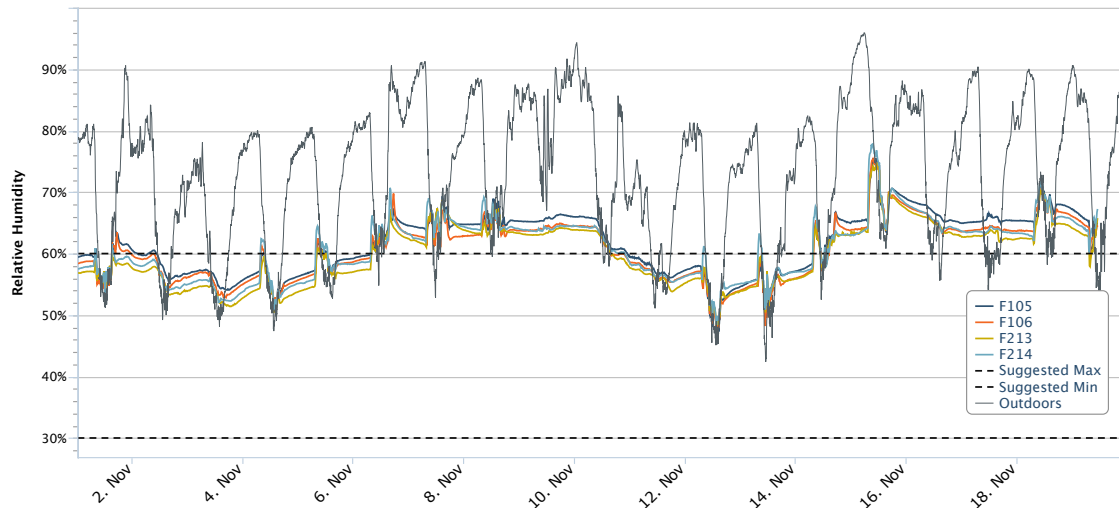


INPUTS

	ATTRIBUTE	MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
F105	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F105 - Relative Humidity (%)	sensor	595	SW Wall, 5' high	15 minutes	2013-11-01 - 2013-11-19
F106	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F106 - Relative Humidity (%)	sensor	596	NE Wall, 5' high	15 minutes	2013-11-01 - 2013-11-19
F213	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F213 - Relative Humidity (%)	sensor	597	SW Wall, 5' high	15 minutes	2013-11-01 - 2013-11-19
F214	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F214 - Relative Humidity (%)	sensor	598	NE Wall, 5' high	15 minutes	2013-11-01 - 2013-11-19
Outdoors	Sensor (1/128) - Relative Humidity (%)	Ewa - Weather Station - Relative Humidity	sensor		Ewa Elementary Weather Station	5 minutes	2013-11-01 - 2013-11-19

INDICES

	VALUE	TYPE	SOURCE
-- Suggested Range	30 - 60 %	Industry Standard	ASHRAE Standard 55-2010



OUTPUTS

	MAX	MIN	AVG	STDEV
F105	75.5 %	47.0 %	61.6 %	4.9 %
F106	75.4 %	47.0 %	60.6 %	4.7 %
F213	74.7 %	48.4 %	59.9 %	4.9 %
F214	77.8 %	48.4 %	60.8 %	4.9 %
Outdoors	95.9 %	42.4 %	73.2 %	11.4 %

FINDINGS

1st floor (F105 & F106) relative humidity was within the suggested range for **46%** of the time period 11/1/13 - 11/19/13.
 2nd floor (F213 & F214) relative humidity was within the suggested range for **48%** of the time period 11/1/13 - 11/19/13.

NOTES

Kaimiloa F: Relative Humidity (October, 23 2013)

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K-12 Energy Systems Study

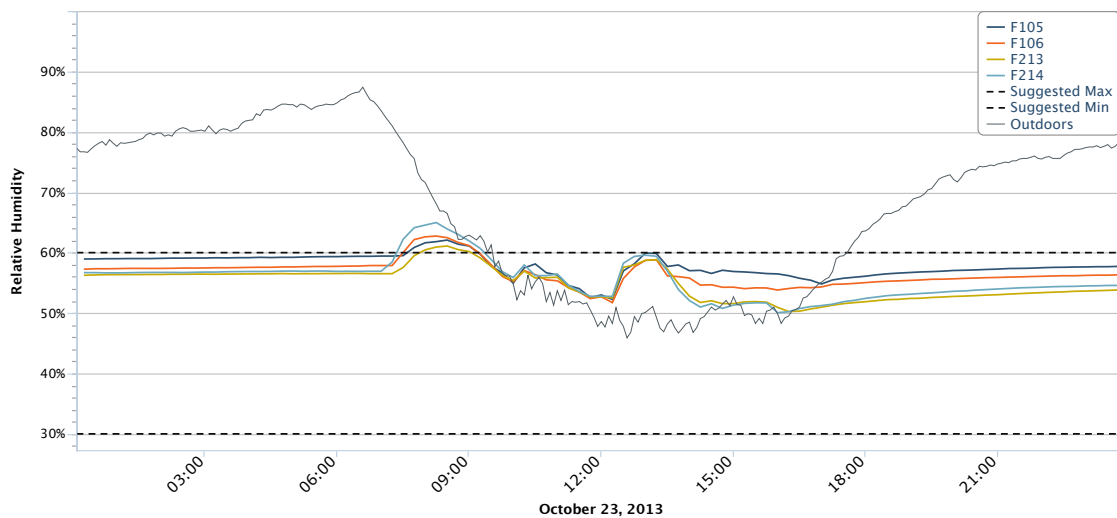


INPUTS

	ATTRIBUTE	MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
F105	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F105 - Relative Humidity (%)	sensor	595	SW Wall, 5' high	15 minutes	2013-10-23
F106	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F106 - Relative Humidity (%)	sensor	596	NE Wall, 5' high	15 minutes	2013-10-23
F213	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F213 - Relative Humidity (%)	sensor	597	SW Wall, 5' high	15 minutes	2013-10-23
F214	Sensor (1/8) - Relative Humidity (%)	Kaimiloa - F214 - Relative Humidity (%)	sensor	598	NE Wall, 5' high	15 minutes	2013-10-23
Outdoors	Sensor (1/128) - Relative Humidity (%)	Ewa - Weather Station - Relative Humidity	sensor		Ewa Elementary Weather Station	5 minutes	2013-10-23

INDICES

	VALUE	TYPE	SOURCE
-- Suggested Range	30 - 60 %	Industry Standard	ASHRAE Standard 55-2010



OUTPUTS

	MAX	MIN	AVG	STDEV
F105	62.1 %	52.3 %	57.8 %	1.9 %
F106	62.8 %	51.7 %	56.6 %	2.1 %
F213	61.1 %	50.3 %	54.9 %	2.6 %
F214	65.0 %	50.1 %	55.6 %	3.3 %
Outdoors	87.4 %	45.9 %	67.8 %	13.0 %

FINDINGS

1st floor (F105 & F106) relative humidity was within the suggested range for **93.5%** of the time on October 23, 2013.
 2nd floor (F213 & F214) relative humidity was within the suggested range for **93%** of the time on October 23, 2013.

NOTES

Kaimiloa F: Illuminance (Full Study Period)

201

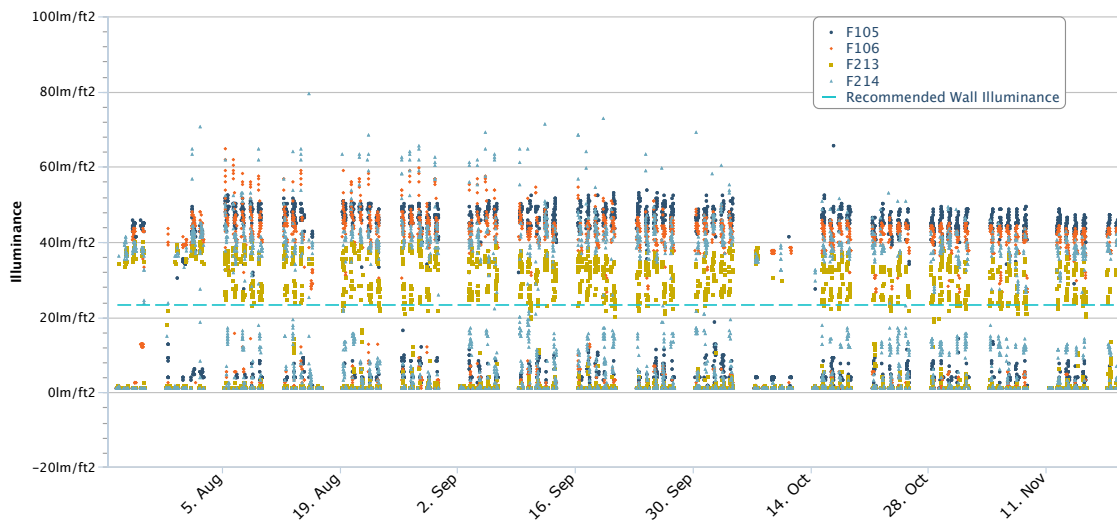


INPUTS

ATTRIBUTE		MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
▪ F105	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F105 - Illuminance (lm/ft2)	sensor	595	SW Wall, 5' high	15 minutes	2013-07-23 - 2013-11-19
▪ F106	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F106 - Illuminance (lm/ft2)	sensor	596	NE Wall, 5' high	15 minutes	2013-07-23 - 2013-11-19
▪ F213	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F213 - Illuminance (lm/ft2)	sensor	597	SW Wall, 5' high	15 minutes	2013-07-23 - 2013-11-19
▪ F214	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F214 - Illuminance (lm/ft2)	sensor	598	NE Wall, 5' high	15 minutes	2013-07-23 - 2013-11-19

INDICES

	VALUE	TYPE	SOURCE
— Recommended Wall Illuminance	23.25 lm/ft ²	Industry Standard	US General Services Administration 2003 Facilities Standards (P100)



OUTPUTS

	MAX	MIN	AVG	STDEV
• F105	65.6 lm/ft ²	1.1 lm/ft ²	24.3 lm/ft ²	21.8 lm/ft ²
• F106	64.8 lm/ft ²	1.1 lm/ft ²	26.1 lm/ft ²	20.3 lm/ft ²
• F213	41.4 lm/ft ²	1.1 lm/ft ²	18.0 lm/ft ²	14.8 lm/ft ²
• F214	79.5 lm/ft ²	1.1 lm/ft ²	18.7 lm/ft ²	18.6 lm/ft ²

FINDINGS

The average illuminance from 07/23 - 11/19 on the 1st floor rooms (F105 & F106) was **25.2 lm/ft²**, and on the 2nd floor rooms (F213 & F214) was **18.4 lm/ft²**.

NOTES

sdasey Only weekday values between 6:30 AM - 6:00 PM were included.

2014-04-15 18:57:34

Kaimiloa F: Illuminance (July 2013)

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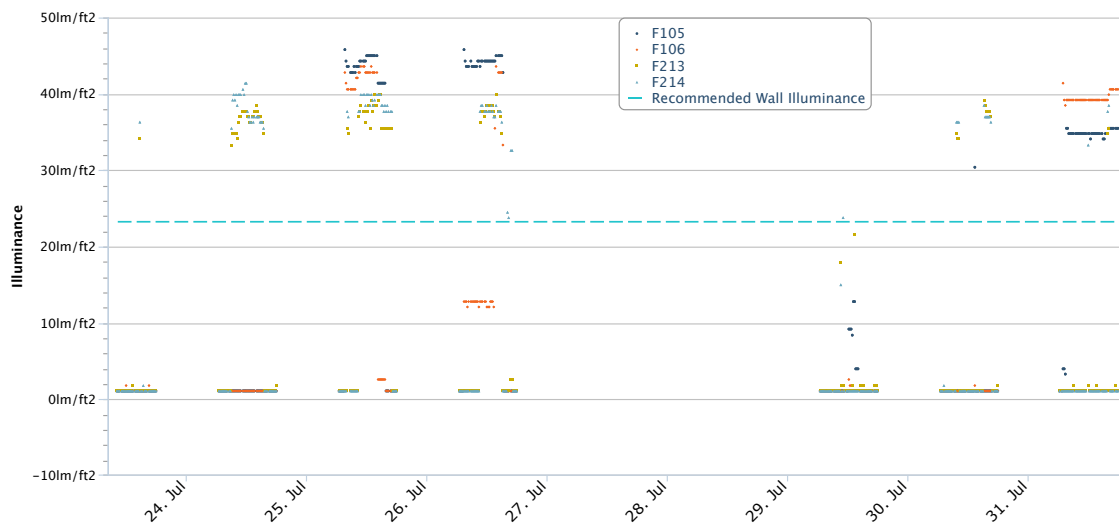


INPUTS

ATTRIBUTE		MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
▪ F105	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F105 - Illuminance (lm/ft2)	sensor	595	SW Wall, 5' high	15 minutes	2013-07-23 - 2013-07-31
▪ F106	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F106 - Illuminance (lm/ft2)	sensor	596	NE Wall, 5' high	15 minutes	2013-07-23 - 2013-07-31
▪ F213	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F213 - Illuminance (lm/ft2)	sensor	597	SW Wall, 5' high	15 minutes	2013-07-23 - 2013-07-31
▪ F214	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F214 - Illuminance (lm/ft2)	sensor	598	NE Wall, 5' high	15 minutes	2013-07-23 - 2013-07-31

INDICES

	VALUE	TYPE	SOURCE
— Recommended Wall Illuminance	23.25 lm/ft ²	Industry Standard	US General Services Administration 2003 Facilities Standards (P100)



OUTPUTS

	MAX	MIN	AVG	STDEV
• F105	45.8 lm/ft ²	1.1 lm/ft ²	14.8 lm/ft ²	18.7 lm/ft ²
• F106	43.6 lm/ft ²	1.1 lm/ft ²	12.5 lm/ft ²	17.1 lm/ft ²
• F213	39.9 lm/ft ²	1.1 lm/ft ²	11.2 lm/ft ²	16.0 lm/ft ²
• F214	41.4 lm/ft ²	1.1 lm/ft ²	11.9 lm/ft ²	16.6 lm/ft ²

FINDINGS

The average illuminance from 07/23 - 07/31 on the 1st floor rooms (F105 & F106) was **13.7 lm/ft²**, and on the 2nd floor rooms (F213 & F214) was **11.6 lm/ft²**.

NOTES

sdasey Only weekday values between 6:30 AM - 6:00 PM were included.

2014-04-15 18:57:34

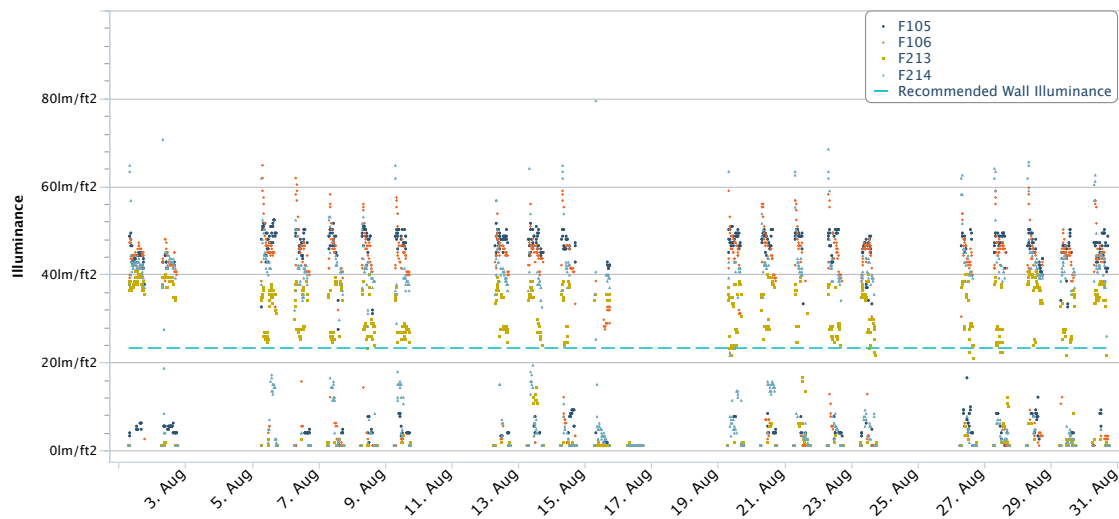


INPUTS

ATTRIBUTE		MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
▪ F105	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F105 - Illuminance (lm/ft2)	sensor	595	SW Wall, 5' high	15 minutes	2013-08-01 - 2013-08-31
▪ F106	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F106 - Illuminance (lm/ft2)	sensor	596	NE Wall, 5' high	15 minutes	2013-08-01 - 2013-08-31
▪ F213	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F213 - Illuminance (lm/ft2)	sensor	597	SW Wall, 5' high	15 minutes	2013-08-01 - 2013-08-31
▪ F214	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F214 - Illuminance (lm/ft2)	sensor	598	NE Wall, 5' high	15 minutes	2013-08-01 - 2013-08-31

INDICES

	VALUE	TYPE	SOURCE
— Recommended Wall Illuminance	23.25 lm/ft ²	Industry Standard	US General Services Administration 2003 Facilities Standards (P100)



OUTPUTS

	MAX	MIN	AVG	STDEV
• F105	52.4 lm/ft ²	1.1 lm/ft ²	26.4 lm/ft ²	22.1 lm/ft ²
• F106	64.8 lm/ft ²	1.1 lm/ft ²	29.3 lm/ft ²	21.0 lm/ft ²
• F213	41.4 lm/ft ²	1.1 lm/ft ²	21.7 lm/ft ²	15.1 lm/ft ²
• F214	79.5 lm/ft ²	1.1 lm/ft ²	23.9 lm/ft ²	20.0 lm/ft ²

FINDINGS

The average illuminance from 08/01 - 08/31 on the 1st floor rooms (F105 & F106) was **27.9 lm/ft²**, and on the 2nd floor rooms (F213 & F214) was **22.8 lm/ft²**.

NOTES

sdasey Only weekday values between 6:30 AM - 6:00 PM were included.

2014-04-15 18:57:34

Kaimiloa F: Illuminance (September 2013)

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Hawai'i Department of Education
K-12 Energy Systems Study

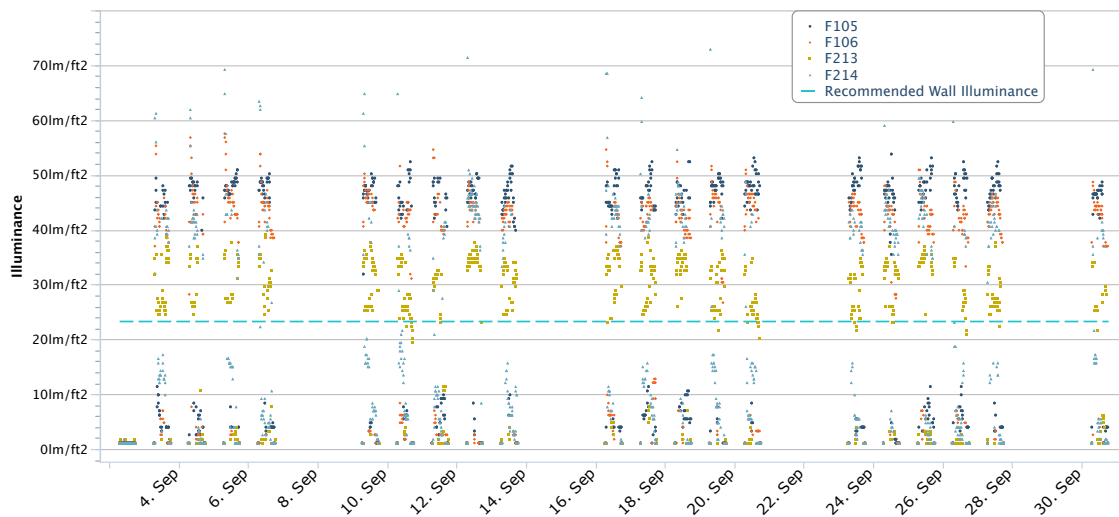


INPUTS

ATTRIBUTE		MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
▪ F105	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F105 - Illuminance (lm/ft2)	sensor	595	SW Wall, 5' high	15 minutes	2013-09-01 - 2013-09-30
▪ F106	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F106 - Illuminance (lm/ft2)	sensor	596	NE Wall, 5' high	15 minutes	2013-09-01 - 2013-09-30
▪ F213	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F213 - Illuminance (lm/ft2)	sensor	597	SW Wall, 5' high	15 minutes	2013-09-01 - 2013-09-30
▪ F214	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F214 - Illuminance (lm/ft2)	sensor	598	NE Wall, 5' high	15 minutes	2013-09-01 - 2013-09-30

INDICES

	VALUE	TYPE	SOURCE
— Recommended Wall Illuminance	23.25 lm/ft ²	Industry Standard	US General Services Administration 2003 Facilities Standards (P100)



OUTPUTS

	MAX	MIN	AVG	STDEV
• F105	53.8 lm/ft ²	1.1 lm/ft ²	28.0 lm/ft ²	21.9 lm/ft ²
• F106	57.5 lm/ft ²	1.1 lm/ft ²	28.3 lm/ft ²	20.0 lm/ft ²
• F213	39.2 lm/ft ²	1.1 lm/ft ²	19.7 lm/ft ²	14.2 lm/ft ²
• F214	72.9 lm/ft ²	1.1 lm/ft ²	19.4 lm/ft ²	18.9 lm/ft ²

FINDINGS

The average illuminance from 09/01 - 09/30 on the 1st floor rooms (F105 & F106) was **28.2 lm/ft²**, and on the 2nd floor rooms (F213 & F214) was **19.6 lm/ft²**.

NOTES

sdasey Only weekday values between 6:30 AM - 6:00 PM were included.

2014-04-15 18:57:34

Kaimiloa F: Illuminance (October 2013)

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Hawai'i Department of Education

K-12 Energy Systems Study

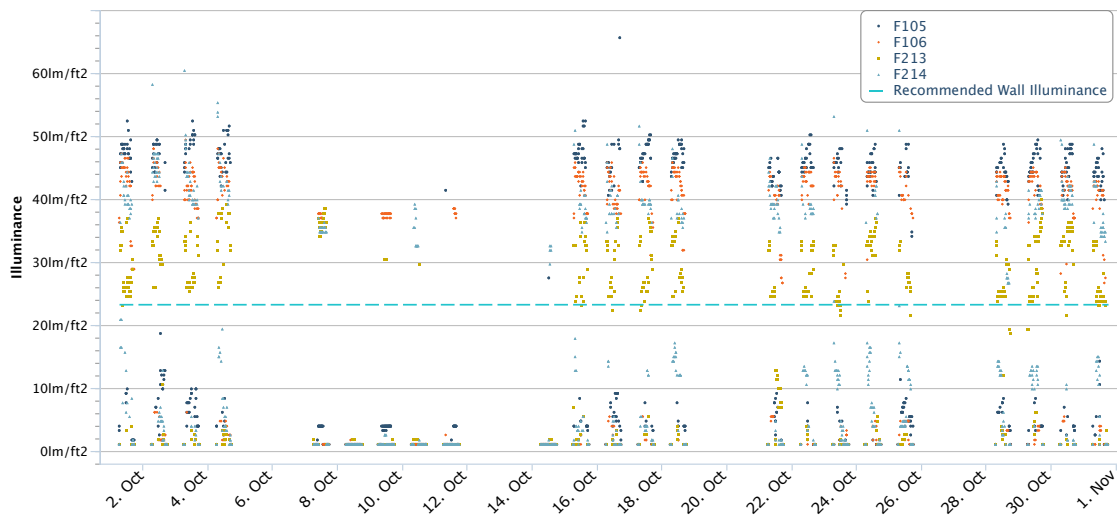


INPUTS

ATTRIBUTE		MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION
▪ F105	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F105 - Illuminance (lm/ft2)	sensor	595	SW Wall, 5' high	15 minutes	2013-10-01 - 2013-10-31
▪ F106	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F106 - Illuminance (lm/ft2)	sensor	596	NE Wall, 5' high	15 minutes	2013-10-01 - 2013-10-31
▪ F213	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F213 - Illuminance (lm/ft2)	sensor	597	SW Wall, 5' high	15 minutes	2013-10-01 - 2013-10-31
▪ F214	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F214 - Illuminance (lm/ft2)	sensor	598	NE Wall, 5' high	15 minutes	2013-10-01 - 2013-10-31

INDICES

	VALUE	TYPE	SOURCE
— Recommended Wall Illuminance	23.25 lm/ft ²	Industry Standard	US General Services Administration 2003 Facilities Standards (P100)



OUTPUTS

	MAX	MIN	AVG	STDEV
• F105	65.6 lm/ft ²	1.1 lm/ft ²	21.2 lm/ft ²	21.4 lm/ft ²
• F106	49.4 lm/ft ²	1.1 lm/ft ²	23.6 lm/ft ²	19.9 lm/ft ²
• F213	39.9 lm/ft ²	1.1 lm/ft ²	15.6 lm/ft ²	14.4 lm/ft ²
• F214	60.4 lm/ft ²	1.1 lm/ft ²	16.4 lm/ft ²	17.6 lm/ft ²

FINDINGS

The average illuminance from 10/01 - 10/31 on the 1st floor rooms (F105 & F106) was **22.4 lm/ft²**, and on the 2nd floor rooms (F213 & F214) was **16.0 lm/ft²**.

NOTES

sdasey Only weekday values between 6:30 AM - 6:00 PM were included.

2014-04-15 18:57:34

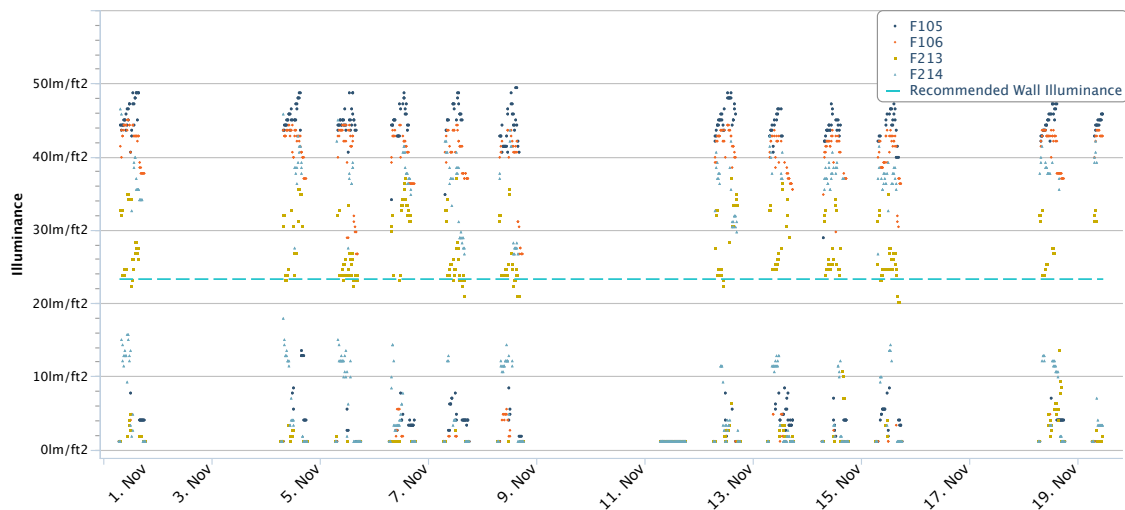


INPUTS

ATTRIBUTE		MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION	
▪	F105	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F105 - Illuminance (lm/ft2)	sensor	595	SW Wall, 5' high	15 minutes	2013-11-01 - 2013-11-19
▪	F106	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F106 - Illuminance (lm/ft2)	sensor	596	NE Wall, 5' high	15 minutes	2013-11-01 - 2013-11-19
▪	F213	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F213 - Illuminance (lm/ft2)	sensor	597	SW Wall, 5' high	15 minutes	2013-11-01 - 2013-11-19
▪	F214	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F214 - Illuminance (lm/ft2)	sensor	598	NE Wall, 5' high	15 minutes	2013-11-01 - 2013-11-19

INDICES

	VALUE	TYPE	SOURCE
— Recommended Wall Illuminance	23.25 lm/ft ²	Industry Standard	US General Services Administration 2003 Facilities Standards (P100)



OUTPUTS

	MAX	MIN	AVG	STDEV
• F105	49.4 lm/ft ²	1.1 lm/ft ²	25.1 lm/ft ²	21.1 lm/ft ²
• F106	45.0 lm/ft ²	1.1 lm/ft ²	28.6 lm/ft ²	18.4 lm/ft ²
• F213	37.0 lm/ft ²	1.1 lm/ft ²	16.4 lm/ft ²	13.1 lm/ft ²
• F214	46.5 lm/ft ²	1.1 lm/ft ²	16.1 lm/ft ²	15.8 lm/ft ²

FINDINGS

The average illuminance from 11/01 - 11/19 on the 1st floor rooms (F105 & F106) was **26.9 lm/ft²**, and on the 2nd floor rooms (F213 & F214) was **16.3 lm/ft²**.

NOTES

sdasey Only weekday values between 6:30 AM - 6:00 PM were included.

2014-04-15 18:57:34

Kaimiloa F: Illuminance (October, 23 2013)

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Hawai'i Department of Education
K-12 Energy Systems Study

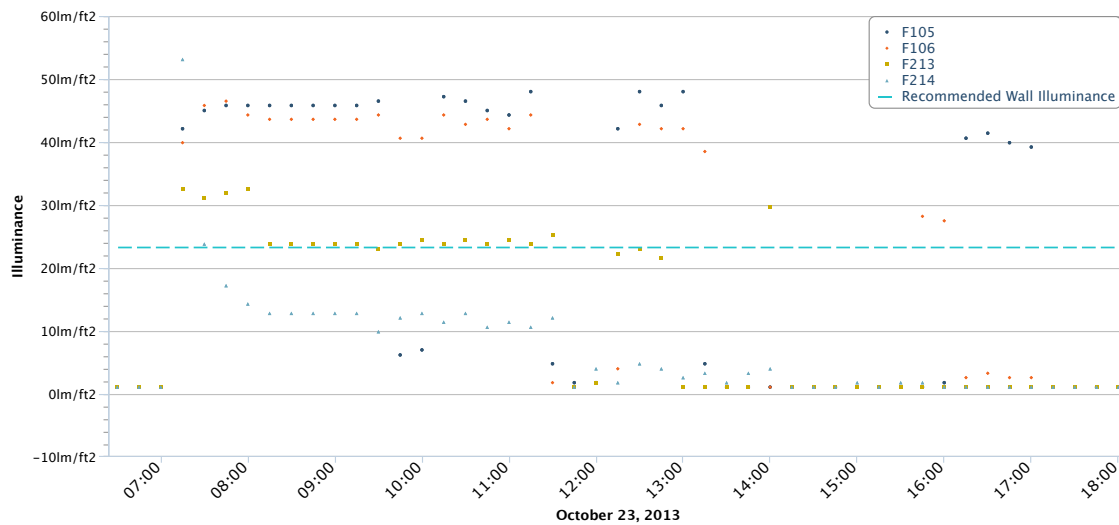


INPUTS

ATTRIBUTE		MEAS. DEVICE	SENSOR TYPE	SENSOR REF	TEST LOCATION	TEST INTERVAL	TEST DURATION	
▪	F105	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F105 - Illuminance (lm/ft2)	sensor	595	SW Wall, 5' high	15 minutes	2013-10-23
▪	F106	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F106 - Illuminance (lm/ft2)	sensor	596	NE Wall, 5' high	15 minutes	2013-10-23
▪	F213	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F213 - Illuminance (lm/ft2)	sensor	597	SW Wall, 5' high	15 minutes	2013-10-23
▪	F214	Sensor (1/8) - Illuminance (ft-c)	Kaimiloa - F214 - Illuminance (lm/ft2)	sensor	598	NE Wall, 5' high	15 minutes	2013-10-23

INDICES

	VALUE	TYPE	SOURCE
— Recommended Wall Illuminance	23.25 lm/ft ²	Industry Standard	US General Services Administration 2003 Facilities Standards (P100)



OUTPUTS

	MAX	MIN	AVG	STDEV
• F105	48.0 lm/ft ²	1.1 lm/ft ²	22.9 lm/ft ²	21.6 lm/ft ²
• F106	46.5 lm/ft ²	1.1 lm/ft ²	21.2 lm/ft ²	20.4 lm/ft ²
• F213	32.6 lm/ft ²	1.1 lm/ft ²	12.5 lm/ft ²	12.5 lm/ft ²
• F214	53.1 lm/ft ²	1.1 lm/ft ²	7.0 lm/ft ²	9.0 lm/ft ²

FINDINGS

The average illuminance on 10/23 on the 1st floor rooms (F105 & F106) was **22.1 lm/ft²**, and on the 2nd floor rooms (F213 & F214) was **9.8 lm/ft²**.

NOTES

sdasey Only weekday values between 6:30 AM - 6:00 PM were included.

2014-04-15 18:57:34

DATA SOURCE SUMMARY

000

SCALE #	SENSOR NAME	UNIT	CLIENT PROVIDED DESCRIPTION	ASSIGNMENT	INTERVAL	DATE RANGE	DATA FILES EXISTS	STATUS	DATA ACQUISITION RESPONSIBILITY	GAPS, LIMITATIONS, ASSUMPTIONS
0	Room2									
554	HIDOE101_A_004		Pohukaea - Bldg A - 104	Pohukaea - Bldg A			Yes	Usable	MKThink	
555	HIDOE101_A_005		Pohukaea - Bldg A - 101	Pohukaea - Bldg A			Yes	Usable	MKThink	
556	HIDOE101_A_009		Pohukaea - Bldg A - 202	Pohukaea - Bldg A			Yes	Usable	MKThink	
557	HIDOE101_A_010		Pohukaea - Bldg A - 201	Pohukaea - Bldg A			Yes	Usable	MKThink	
558	HIDOE101_B_003		Pohukaea - Bldg B - 111	Pohukaea - Bldg B			Yes	Usable	MKThink	
559	HIDOE101_B_005		Pohukaea - Bldg B - 113	Pohukaea - Bldg B			Yes	Usable	MKThink	
560	HIDOE101_B_008		Pohukaea - Bldg B - 208	Pohukaea - Bldg B			Yes	Usable	MKThink	
561	HIDOE101_B_010		Pohukaea - Bldg B - 210	Pohukaea - Bldg B			Yes	Usable	MKThink	
562	HIDOE101_P09_001		Pohukaea - P9 - 101	Pohukaea - P9			Yes	Usable	MKThink	
563	HIDOE101_P25_001		Pohukaea - P25 - 101	Pohukaea - P25			Yes	Usable	MKThink	
564	HIDOE101_P26_001		Pohukaea - P26 - 101	Pohukaea - P26			Yes	Usable	MKThink	
565	HIDOE101_P28_001		Pohukaea - P28 - 101	Pohukaea - P28			Yes	Usable	MKThink	
566	HIDOE102_E_103		Kaimiloa - Bldg E - 108	Kaimiloa - Building E 1F			Yes	Usable	MKThink	
567	HIDOE102_E_106		Kaimiloa - Bldg E - 107	Kaimiloa - Building E 1F			Yes	Usable	MKThink	
568	HIDOE102_E_203		Kaimiloa - Bldg E - 209	Kaimiloa - Building E 2F			Yes	Usable	MKThink	
569	HIDOE102_E_206		Kaimiloa - Bldg E - 208	Kaimiloa - Building E 2F			Yes	Usable	MKThink	
570	HIDOE102_F_105		Kaimiloa - Bldg F - 109	Kaimiloa - Building F 1F			Yes	Usable	MKThink	
571	HIDOE102_F_106		Kaimiloa - Bldg F - 110	Kaimiloa - Building F 1F			Yes	Usable	MKThink	
572	HIDOE102_F_213		Kaimiloa - Bldg F - 209	Kaimiloa - Building F 2F			Yes	Usable	MKThink	
573	HIDOE102_F_214		Kaimiloa - Bldg F - 210	Kaimiloa - Building F 2F			Yes	Usable	MKThink	
574	HIDOE102_P05_001		Kaimiloa - P5 - 101	Kaimiloa - P5			Yes	Usable	MKThink	
575	HIDOE102_P10_001		Kaimiloa - P10 - 101	Kaimiloa - P10			Yes	Usable	MKThink	
576	HIDOE102_P12_001		Kaimiloa - P12 - 101	Kaimiloa - P12			Yes	Usable	MKThink	
577	HIDOE102_P14_001		Kaimiloa - P14 - 101	Kaimiloa - P14			Yes	Usable	MKThink	
578	HIDOE201_C_116		Ilima - Bldg C - 116	Ilima - Building C 1F			Yes	Usable	MKThink	
579	HIDOE201_C_107		Ilima - Bldg C - 119	Ilima - Building C 1F			Yes	Usable	MKThink	
580	HIDOE201_C_206		Ilima - Bldg C - 218	Ilima - Building C 2F			Yes	Usable	MKThink	
581	HIDOE201_C_207		Ilima - Bldg C - 221	Ilima - Building C 2F			Yes	Usable	MKThink	
582	HIDOE201_D_101		Ilima - Bldg D - 101	Ilima - Bldg D			Yes	Usable	MKThink	
583	HIDOE201_D_102		Ilima - Bldg D - 104	Ilima - Bldg D			Yes	Usable	MKThink	
584	HIDOE201_D_201		Ilima - Bldg D - 201	Ilima - Bldg D			Yes	Usable	MKThink	
585	HIDOE201_D_202		Ilima - Bldg D - 203	Ilima - Bldg D			Yes	Usable	MKThink	
586	HIDOE201_I_101		Ilima - Bldg I - 101	Ilima - Bldg I			Yes	Usable	MKThink	
587	HIDOE201_I_102		Ilima - Bldg I - 109	Ilima - Bldg I			Yes	Usable	MKThink	
588	HIDOE201_I_103		Ilima - Bldg I - 114	Ilima - Bldg I			Yes	Usable	MKThink	
589	HIDOE201_I_104		Ilima - Bldg I - 125	Ilima - Bldg I			Yes	Usable	MKThink	
590	HIDOE201_J_101		Ilima - Bldg J - 110	Ilima - Bldg J			Yes	Usable	MKThink	
591	HIDOE201_J_102		Ilima - Bldg J - 101	Ilima - Bldg J			Yes	Usable	MKThink	
592	HIDOE201_K_101		Ilima - Bldg K - 101	Ilima - Bldg K			Yes	Usable	MKThink	
593	HIDOE201_R_102		Ilima - Bldg R - 104	Ilima - Bldg R			Yes	Usable	MKThink	
594	HIDOE301_D_102		Campbell - Bldg D - 102	Campbell - Building D 1F			Yes	Usable	MKThink	
595	HIDOE301_D_105		Campbell - Bldg D - 105	Campbell - Building D 1F			Yes	Usable	MKThink	
596	HIDOE301_D_109		Campbell - Bldg D - 109	Campbell - Building D 1F			Yes	Usable	MKThink	
597	HIDOE301_D_112		Campbell - Bldg D - 112	Campbell - Building D 1F			Yes	Usable	MKThink	
598	HIDOE301_D_202		Campbell - Bldg D - 202	Campbell - Building D 2F			Yes	Usable	MKThink	
599	HIDOE301_D_205		Campbell - Bldg D - 205	Campbell - Building D 2F			Yes	Usable	MKThink	
600	HIDOE301_D_209		Campbell - Bldg D - 209	Campbell - Building D 2F			Yes	Usable	MKThink	
601	HIDOE301_D_212		Campbell - Bldg D - 212	Campbell - Building D 2F			Yes	Usable	MKThink	
602	HIDOE301_D_302		Campbell - Bldg D - 302	Campbell - Building D 3F			Yes	Usable	MKThink	
603	HIDOE301_D_305		Campbell - Bldg D - 305	Campbell - Building D 3F			Yes	Usable	MKThink	
604	HIDOE301_D_309		Campbell - Bldg D - 309	Campbell - Building D 3F			Yes	Usable	MKThink	
605	HIDOE301_D_312		Campbell - Bldg D - 312	Campbell - Building D 3F			Yes	Usable	MKThink	
606	HIDOE301_F_102		Campbell - Bldg F - 102	Campbell - Bldg F			Yes	Usable	MKThink	
607	HIDOE301_J_105		Campbell - Bldg J - 104	Campbell - Bldg J			Yes	Usable	MKThink	
608	HIDOE301_J_109		Campbell - Bldg J - 120	Campbell - Bldg J			Yes	Usable	MKThink	
609	HIDOE301_N_001		Campbell - Bldg N - 122	Campbell - Bldg N			Yes	Usable	MKThink	
610	HIDOE301_O_102		Campbell - Bldg O - 114	Campbell - Building O 1F			Yes	Usable	MKThink	
611	HIDOE301_O_104		Campbell - Bldg O - 118	Campbell - Building O 1F			Yes	Usable	MKThink	
612	HIDOE301_O_105		Campbell - Bldg O - 104	Campbell - Building O 1F			Yes	Usable	MKThink	
613	HIDOE301_O_107		Campbell - Bldg O - 106	Campbell - Building O 1F			Yes	Usable	MKThink	
614	HIDOE301_O_202		Campbell - Bldg O - 215	Campbell - Building O 2F			Yes	Usable	MKThink	
615	HIDOE301_O_204		Campbell - Bldg O - 204	Campbell - Building O 2F			Yes	Usable	MKThink	
616	HIDOE301_O_205		Campbell - Bldg O - 206	Campbell - Building O 2F			Yes	Usable	MKThink	
617	HIDOE301_O_207		Campbell - Bldg O - 213	Campbell - Building O 2F			Yes	Usable	MKThink	
618	HIDOE301_O_302		Campbell - Bldg O - 311	Campbell - Building O 3F			Yes	Usable	MKThink	
619	HIDOE301_O_304		Campbell - Bldg O - 313	Campbell - Building O 3F			Yes	Usable	MKThink	
620	HIDOE301_O_307		Campbell - Bldg O - 303	Campbell - Building O 3F			Yes	Usable	MKThink	
621	HIDOE301_O_310		Campbell - Bldg O - 308	Campbell - Building O 3F			Yes	Usable	MKThink	
622	HIDOE301_P01_001		Campbell - P1 - 101	Campbell - P1			Yes	Usable	MKThink	
623	HIDOE301_P06_001		Campbell - P6 - 101	Campbell - P6			Yes	Usable	MKThink	
624	HIDOE301_P11_001		Campbell - P11 - 101	Campbell - P11			Yes	Usable	MKThink	
1379	Site101_Bldg001_102		Pohukaea - Bldg A - 102	Pohukaea - Bldg A			Yes	Usable	MKThink	
1380	Site101_Bldg001_103		Pohukaea - Bldg A - 103	Pohukaea - Bldg A			Yes	Usable	MKThink	
1381	Site101_Bldg001_105		Pohukaea - Bldg A - 105	Pohukaea - Bldg A			Yes	Usable	MKThink	
1382	Site101_Bldg001_106		Pohukaea - Bldg A - 106	Pohukaea - Bldg A			Yes	Usable	MKThink	
1383	Site101_Bldg001_107		Pohukaea - Bldg A - 107	Pohukaea - Bldg A			Yes	Usable	MKThink	
1384	Site101_Bldg001_108		Pohukaea - Bldg A - 108	Pohukaea - Bldg A			Yes	Usable	MKThink	
1385	Site101_Bldg001_109		Pohukaea - Bldg A - 109	Pohukaea - Bldg A			Yes	Usable	MKThink	
1386	Site101_Bldg001_110		Pohukaea - Bldg A - 110	Pohukaea - Bldg A			Yes	Usable	MKThink	
1387	Site101_Bldg001_111		Pohukaea - Bldg A - 111	Pohukaea - Bldg A			Yes	Usable	MKThink	

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SCALE #	SENSOR NAME	UNIT	CLIENT PROVIDED DESCRIPTION	ASSIGNMENT	INTERVAL	DATE RANGE	DATA FILES EXISTS	STATUS	DATA ACQUISITION RESPONSIBILITY	GAPS, LIMITATIONS, ASSUMPTIONS
1477	Site101_Bldg006_107		Pohakaea - Bldg F - 107	Pohakaea - Bldg F			Yes	Usable	MKThink	
1478	Site101_Bldg006_108		Pohakaea - Bldg F - 108	Pohakaea - Bldg F			Yes	Usable	MKThink	
1479	Site101_Bldg006_109		Pohakaea - Bldg F - 109	Pohakaea - Bldg F			Yes	Usable	MKThink	
1480	Site101_Bldg006_110		Pohakaea - Bldg F - 110	Pohakaea - Bldg F			Yes	Usable	MKThink	
1481	Site101_Bldg006_111		Pohakaea - Bldg F - 111	Pohakaea - Bldg F			Yes	Usable	MKThink	
1482	Site101_Bldg006_112		Pohakaea - Bldg F - 112	Pohakaea - Bldg F			Yes	Usable	MKThink	
1483	Site101_Bldg006_113		Pohakaea - Bldg F - 113	Pohakaea - Bldg F			Yes	Usable	MKThink	
1484	Site101_Bldg006_114		Pohakaea - Bldg F - 114	Pohakaea - Bldg F			Yes	Usable	MKThink	
1485	Site101_Port001_101		Pohakaea - P6 - 101	Pohakaea - P6			Yes	Usable	MKThink	
1486	Site101_Port003_101		Pohakaea - P27 - 101	Pohakaea - P27			Yes	Usable	MKThink	
887	Site102_Bldg001_101		Kaimiloa - Admin Bldg - 101	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
888	Site102_Bldg001_102		Kaimiloa - Admin Bldg - 102	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
889	Site102_Bldg001_103		Kaimiloa - Admin Bldg - 103	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
890	Site102_Bldg001_104		Kaimiloa - Admin Bldg - 104	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
891	Site102_Bldg001_105		Kaimiloa - Admin Bldg - 105	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
892	Site102_Bldg001_106		Kaimiloa - Admin Bldg - 106	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
893	Site102_Bldg001_107		Kaimiloa - Admin Bldg - 107	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
894	Site102_Bldg001_108		Kaimiloa - Admin Bldg - 108	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
895	Site102_Bldg001_109		Kaimiloa - Admin Bldg - 109	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
896	Site102_Bldg001_110		Kaimiloa - Admin Bldg - 110	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
897	Site102_Bldg001_111		Kaimiloa - Admin Bldg - 111	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
898	Site102_Bldg001_112		Kaimiloa - Admin Bldg - 112	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
899	Site102_Bldg001_113		Kaimiloa - Admin Bldg - 113	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
900	Site102_Bldg001_114		Kaimiloa - Admin Bldg - 114	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
901	Site102_Bldg001_115		Kaimiloa - Admin Bldg - 115	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
902	Site102_Bldg001_116		Kaimiloa - Admin Bldg - 116	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
903	Site102_Bldg001_117		Kaimiloa - Admin Bldg - 117	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
904	Site102_Bldg001_118		Kaimiloa - Admin Bldg - 118	Kaimiloa - Admin Bldg			Yes	Usable	MKThink	
905	Site102_Bldg002_101		Kaimiloa - Library Bldg - 101	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
906	Site102_Bldg002_102		Kaimiloa - Library Bldg - 102	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
907	Site102_Bldg002_103		Kaimiloa - Library Bldg - 103	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
908	Site102_Bldg002_104		Kaimiloa - Library Bldg - 104	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
909	Site102_Bldg002_105		Kaimiloa - Library Bldg - 105	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
910	Site102_Bldg002_106		Kaimiloa - Library Bldg - 106	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
911	Site102_Bldg002_107		Kaimiloa - Library Bldg - 107	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
912	Site102_Bldg002_108		Kaimiloa - Library Bldg - 108	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
913	Site102_Bldg002_109		Kaimiloa - Library Bldg - 109	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
914	Site102_Bldg002_110		Kaimiloa - Library Bldg - 110	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
915	Site102_Bldg002_111		Kaimiloa - Library Bldg - 111	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
916	Site102_Bldg002_112		Kaimiloa - Library Bldg - 112	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
917	Site102_Bldg002_113		Kaimiloa - Library Bldg - 113	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
918	Site102_Bldg002_114		Kaimiloa - Library Bldg - 114	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
919	Site102_Bldg002_115		Kaimiloa - Library Bldg - 115	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
920	Site102_Bldg002_116		Kaimiloa - Library Bldg - 116	Kaimiloa - Library Bldg			Yes	Usable	MKThink	
921	Site102_Bldg003_101		Kaimiloa - Bldg B - 101	Kaimiloa - Bldg B			Yes	Usable	MKThink	
922	Site102_Bldg003_102		Kaimiloa - Bldg B - 102	Kaimiloa - Bldg B			Yes	Usable	MKThink	
923	Site102_Bldg003_103		Kaimiloa - Bldg B - 103	Kaimiloa - Bldg B			Yes	Usable	MKThink	
924	Site102_Bldg003_104		Kaimiloa - Bldg B - 104	Kaimiloa - Bldg B			Yes	Usable	MKThink	
925	Site102_Bldg003_105		Kaimiloa - Bldg B - 105	Kaimiloa - Bldg B			Yes	Usable	MKThink	
926	Site102_Bldg003_106		Kaimiloa - Bldg B - 106	Kaimiloa - Bldg B			Yes	Usable	MKThink	
927	Site102_Bldg003_107		Kaimiloa - Bldg B - 107	Kaimiloa - Bldg B			Yes	Usable	MKThink	
928	Site102_Bldg003_108		Kaimiloa - Bldg B - 108	Kaimiloa - Bldg B			Yes	Usable	MKThink	
929	Site102_Bldg003_109		Kaimiloa - Bldg B - 109	Kaimiloa - Bldg B			Yes	Usable	MKThink	
930	Site102_Bldg003_110		Kaimiloa - Bldg B - 110	Kaimiloa - Bldg B			Yes	Usable	MKThink	
931	Site102_Bldg003_111		Kaimiloa - Bldg B - 111	Kaimiloa - Bldg B			Yes	Usable	MKThink	
932	Site102_Bldg003_112		Kaimiloa - Bldg B - 112	Kaimiloa - Bldg B			Yes	Usable	MKThink	
933	Site102_Bldg003_113		Kaimiloa - Bldg B - 113	Kaimiloa - Bldg B			Yes	Usable	MKThink	
934	Site102_Bldg004_101		Kaimiloa - Bldg E - 101	Kaimiloa - Bldg E			Yes	Usable	MKThink	
935	Site102_Bldg004_102		Kaimiloa - Bldg E - 102	Kaimiloa - Bldg E			Yes	Usable	MKThink	
936	Site102_Bldg004_103		Kaimiloa - Bldg E - 103	Kaimiloa - Bldg E			Yes	Usable	MKThink	
937	Site102_Bldg004_104		Kaimiloa - Bldg E - 104	Kaimiloa - Bldg E			Yes	Usable	MKThink	
938	Site102_Bldg004_105		Kaimiloa - Bldg E - 105	Kaimiloa - Bldg E			Yes	Usable	MKThink	
939	Site102_Bldg004_106		Kaimiloa - Bldg E - 106	Kaimiloa - Bldg E			Yes	Usable	MKThink	

SCALE #	SENSOR NAME	UNIT	CLIENT PROVIDED DESCRIPTION	ASSIGNMENT	INTERVAL	DATE RANGE	DATA FILES EXISTS	STATUS	DATA ACQUISITION RESPONSIBILITY	GAPS, LIMITATIONS, ASSUMPTIONS
980	Site102_Bldg004_109		Kaimiloa - Bldg E - 109	Kaimiloa - Bldg E			Yes	Usable	MKThink	
981	Site102_Bldg004_110		Kaimiloa - Bldg E - 110	Kaimiloa - Bldg E			Yes	Usable	MKThink	
982	Site102_Bldg004_111		Kaimiloa - Bldg E - 111	Kaimiloa - Bldg E			Yes	Usable	MKThink	
983	Site102_Bldg004_112		Kaimiloa - Bldg E - 112	Kaimiloa - Bldg E			Yes	Usable	MKThink	
984	Site102_Bldg004_201		Kaimiloa - Bldg E - 201	Kaimiloa - Bldg E			Yes	Usable	MKThink	
985	Site102_Bldg004_202		Kaimiloa - Bldg E - 202	Kaimiloa - Bldg E			Yes	Usable	MKThink	
986	Site102_Bldg004_203		Kaimiloa - Bldg E - 203	Kaimiloa - Bldg E			Yes	Usable	MKThink	
987	Site102_Bldg004_204		Kaimiloa - Bldg E - 204	Kaimiloa - Bldg E			Yes	Usable	MKThink	
988	Site102_Bldg004_205		Kaimiloa - Bldg E - 205	Kaimiloa - Bldg E			Yes	Usable	MKThink	
989	Site102_Bldg004_206		Kaimiloa - Bldg E - 206	Kaimiloa - Bldg E			Yes	Usable	MKThink	
990	Site102_Bldg004_207		Kaimiloa - Bldg E - 207	Kaimiloa - Bldg E			Yes	Usable	MKThink	
991	Site102_Bldg004_210		Kaimiloa - Bldg E - 210	Kaimiloa - Bldg E			Yes	Usable	MKThink	
992	Site102_Bldg004_211		Kaimiloa - Bldg E - 211	Kaimiloa - Bldg E			Yes	Usable	MKThink	
993	Site102_Bldg004_212		Kaimiloa - Bldg E - 212	Kaimiloa - Bldg E			Yes	Usable	MKThink	
994	Site102_Bldg004_213		Kaimiloa - Bldg E - 213	Kaimiloa - Bldg E			Yes	Usable	MKThink	
995	Site102_Bldg005_101		Kaimiloa - Bldg F - 101	Kaimiloa - Bldg F			Yes	Usable	MKThink	
996	Site102_Bldg005_102		Kaimiloa - Bldg F - 102	Kaimiloa - Bldg F			Yes	Usable	MKThink	
997	Site102_Bldg005_103		Kaimiloa - Bldg F - 103	Kaimiloa - Bldg F			Yes	Usable	MKThink	
998	Site102_Bldg005_104		Kaimiloa - Bldg F - 104	Kaimiloa - Bldg F			Yes	Usable	MKThink	
999	Site102_Bldg005_105		Kaimiloa - Bldg F - 105	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1000	Site102_Bldg005_106		Kaimiloa - Bldg F - 106	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1001	Site102_Bldg005_107		Kaimiloa - Bldg F - 107	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1002	Site102_Bldg005_108		Kaimiloa - Bldg F - 108	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1003	Site102_Bldg005_111		Kaimiloa - Bldg F - 111	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1004	Site102_Bldg005_112		Kaimiloa - Bldg F - 112	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1005	Site102_Bldg005_113		Kaimiloa - Bldg F - 113	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1006	Site102_Bldg005_114		Kaimiloa - Bldg F - 114	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1007	Site102_Bldg005_201		Kaimiloa - Bldg F - 201	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1008	Site102_Bldg005_202		Kaimiloa - Bldg F - 202	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1009	Site102_Bldg005_203		Kaimiloa - Bldg F - 203	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1010	Site102_Bldg005_204		Kaimiloa - Bldg F - 204	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1011	Site102_Bldg005_205		Kaimiloa - Bldg F - 205	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1012	Site102_Bldg005_206		Kaimiloa - Bldg F - 206	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1013	Site102_Bldg005_207		Kaimiloa - Bldg F - 207	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1014	Site102_Bldg005_208		Kaimiloa - Bldg F - 208	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1015	Site102_Bldg005_211		Kaimiloa - Bldg F - 211	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1016	Site102_Bldg005_212		Kaimiloa - Bldg F - 212	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1017	Site102_Bldg005_213		Kaimiloa - Bldg F - 213	Kaimiloa - Bldg F			Yes	Usable	MKThink	
1018	Site102_Port001_101		Kaimiloa - P1 - 101	Kaimiloa - P1			Yes	Usable	MKThink	
1019	Site102_Port002_101		Kaimiloa - P2 - 101	Kaimiloa - P2			Yes	Usable	MKThink	
1020	Site102_Port003_101		Kaimiloa - P3 - 101	Kaimiloa - P3			Yes	Usable	MKThink	
1021	Site102_Port004_101		Kaimiloa - P4 - 101	Kaimiloa - P4			Yes	Usable	MKThink	
1022	Site102_Port006_101		Kaimiloa - P6 - 101	Kaimiloa - P6			Yes	Usable	MKThink	
1023	Site102_Port006_102		Kaimiloa - P6 - 102	Kaimiloa - P6			Yes	Usable	MKThink	
1024	Site102_Port007_101		Kaimiloa - P7 - 101	Kaimiloa - P7			Yes	Usable	MKThink	
1025	Site102_Port008_101		Kaimiloa - P8 - 101	Kaimiloa - P8			Yes	Usable	MKThink	
1026	Site102_Port009_101		Kaimiloa - P9 - 101	Kaimiloa - P9			Yes	Usable	MKThink	
1027	Site102_Port011_101		Kaimiloa - P11 - 101	Kaimiloa - P11			Yes	Usable	MKThink	
1028	Site102_Port013_101		Kaimiloa - P13 - 101	Kaimiloa - P13			Yes	Usable	MKThink	
1029	Site201_Bldg001_101		Ilama - Bldg A - 101	Ilama - Bldg A			Yes	Usable	MKThink	
1030	Site201_Bldg001_102		Ilama - Bldg A - 102	Ilama - Bldg A			Yes	Usable	MKThink	
1031	Site201_Bldg001_103		Ilama - Bldg A - 103	Ilama - Bldg A			Yes	Usable	MKThink	
1032	Site201_Bldg001_104		Ilama - Bldg A - 104	Ilama - Bldg A			Yes	Usable	MKThink	
1033	Site201_Bldg001_105		Ilama - Bldg A - 105	Ilama - Bldg A			Yes	Usable	MKThink	
1034	Site201_Bldg001_106		Ilama - Bldg A - 106	Ilama - Bldg A			Yes	Usable	MKThink	
1035	Site201_Bldg001_107		Ilama - Bldg A - 107	Ilama - Bldg A			Yes	Usable	MKThink	
1036	Site201_Bldg001_108		Ilama - Bldg A - 108	Ilama - Bldg A			Yes	Usable	MKThink	
1037	Site201_Bldg001_109		Ilama - Bldg A - 109	Ilama - Bldg A			Yes	Usable	MKThink	
1038	Site201_Bldg001_110		Ilama - Bldg A - 110	Ilama - Bldg A			Yes	Usable	MKThink	
1039	Site201_Bldg001_111		Ilama - Bldg A - 111	Ilama - Bldg A			Yes	Usable	MKThink	
1040	Site201_Bldg001_112		Ilama - Bldg A - 112	Ilama - Bldg A			Yes	Usable	MKThink	
1041	Site201_Bldg001_201		Ilama - Bldg A - 201	Ilama - Bldg A			Yes	Usable	MKThink	
1042	Site201_Bldg001_202		Ilama - Bldg A - 202	Ilama - Bldg A			Yes	Usable	MKThink	
1043	Site201_Bldg001_203		Ilama - Bldg A - 203	Ilama - Bldg A			Yes	Usable	MKThink	
1044	Site201_Bldg001_204		Ilama - Bldg A - 204	Ilama - Bldg A			Yes	Usable	MKThink	
1045	Site201_Bldg001_205		Ilama - Bldg A - 205	Ilama - Bldg A			Yes	Usable	MKThink	
1046	Site201_Bldg001_206		Ilama - Bldg A - 206	Ilama - Bldg A			Yes	Usable	MKThink	
1047	Site201_Bldg001_207		Ilama - Bldg A - 207	Ilama - Bldg A			Yes	Usable	MKThink	
1048	Site201_Bldg001_208		Ilama - Bldg A - 208	Ilama - Bldg A			Yes	Usable	MKThink	
1049	Site201_Bldg001_209		Ilama - Bldg A - 209	Ilama - Bldg A			Yes	Usable	MKThink	
1050	Site201_Bldg001_210		Ilama - Bldg A - 210	Ilama - Bldg A			Yes	Usable	MKThink	
1051	Site201_Bldg001_211		Ilama - Bldg A - 211	Ilama - Bldg A			Yes	Usable	MKThink	
1052	Site201_Bldg001_212		Ilama - Bldg A - 212	Ilama - Bldg A			Yes	Usable	MKThink	
1053	Site201_Bldg001_213		Ilama - Bldg A - 213	Ilama - Bldg A			Yes	Usable	MKThink	
1054	Site201_Bldg001_214		Ilama - Bldg A - 214	Ilama - Bldg A			Yes	Usable	MKThink	
1055	Site201_Bldg001_215		Ilama - Bldg A - 215	Ilama - Bldg A			Yes	Usable	MKThink	
1056	Site201_Bldg002_101		Ilama - Bldg B - 101	Ilama - Bldg B			Yes	Usable	MKThink	
1057	Site201_Bldg002_102		Ilama - Bldg B - 102	Ilama - Bldg B			Yes	Usable	MKThink	
1058	Site201_Bldg002_103		Ilama - Bldg B - 103	Ilama - Bldg B			Yes	Usable	MKThink	
1059	Site201_Bldg002_104		Ilama - Bldg B - 104	Ilama - Bldg B			Yes	Usable	MKThink	
1060	Site201_Bldg002_105		Ilama - Bldg B - 105	Ilama - Bldg B			Yes	Usable	MKThink	
1061	Site201_Bldg002_106		Ilama - Bldg B - 106	Ilama - Bldg B			Yes	Usable	MKThink	
1062	Site201_Bldg002_107		Ilama - Bldg B - 107	Ilama - Bldg B			Yes	Usable	MKThink	
1063	Site201_Bldg002_108		Ilama - Bldg B - 108	Ilama - Bldg B			Yes	Usable	MKThink	
1064	Site201_Bldg002_109		Ilama - Bldg B - 109	Ilama - Bldg B			Yes	Usable	MKThink	
1065	Site201_Bldg002_110		Ilama - Bldg B - 110	Ilama - Bldg B			Yes	Usable	MKThink	
1066	Site201_Bldg002_111		Ilama - Bldg B - 111	Ilama - Bldg B			Yes	Usable	MKThink	
1067	Site201_Bldg002_112		Ilama - Bldg B - 112	Ilama - Bldg B			Yes	Usable	MKThink	
1068	Site201_Bldg002_113		Ilama - Bldg B - 113	Ilama - Bldg B			Yes	Usable	MKThink	

SCALE #	SENSOR NAME	UNIT	CLIENT PROVIDED DESCRIPTION	ASSIGNMENT	INTERVAL	DATE RANGE	DATA FILES EXISTS	STATUS	DATA ACQUISITION RESPONSIBILITY	GAPS, LIMITATIONS, ASSUMPTIONS
1327	Site201_Rldg002_201		Hlma - Rldg B - 201	Hlma - Rldg B			Yes	Usable	MKThnk	
1328	Site201_Rldg002_202		Hlma - Rldg B - 202	Hlma - Rldg B			Yes	Usable	MKThnk	
1329	Site201_Rldg002_203		Hlma - Rldg B - 203	Hlma - Rldg B			Yes	Usable	MKThnk	
1330	Site201_Rldg002_204		Hlma - Rldg B - 204	Hlma - Rldg B			Yes	Usable	MKThnk	
1331	Site201_Rldg002_205		Hlma - Rldg B - 205	Hlma - Rldg B			Yes	Usable	MKThnk	
1332	Site201_Rldg002_206		Hlma - Rldg B - 206	Hlma - Rldg B			Yes	Usable	MKThnk	
1333	Site201_Rldg002_207		Hlma - Rldg B - 207	Hlma - Rldg B			Yes	Usable	MKThnk	
1334	Site201_Rldg002_208		Hlma - Rldg B - 208	Hlma - Rldg B			Yes	Usable	MKThnk	
1335	Site201_Rldg002_209		Hlma - Rldg B - 209	Hlma - Rldg B			Yes	Usable	MKThnk	
1336	Site201_Rldg002_210		Hlma - Rldg B - 210	Hlma - Rldg B			Yes	Usable	MKThnk	
1337	Site201_Rldg002_211		Hlma - Rldg B - 211	Hlma - Rldg B			Yes	Usable	MKThnk	
1338	Site201_Rldg002_212		Hlma - Rldg B - 212	Hlma - Rldg B			Yes	Usable	MKThnk	
1339	Site201_Rldg003_101		Hlma - Rldg C - 101	Hlma - Rldg C			Yes	Usable	MKThnk	
1340	Site201_Rldg003_102		Hlma - Rldg C - 102	Hlma - Rldg C			Yes	Usable	MKThnk	
1341	Site201_Rldg003_103		Hlma - Rldg C - 103	Hlma - Rldg C			Yes	Usable	MKThnk	
1342	Site201_Rldg003_104		Hlma - Rldg C - 104	Hlma - Rldg C			Yes	Usable	MKThnk	
1343	Site201_Rldg003_105		Hlma - Rldg C - 105	Hlma - Rldg C			Yes	Usable	MKThnk	
1344	Site201_Rldg003_106		Hlma - Rldg C - 106	Hlma - Rldg C			Yes	Usable	MKThnk	
1345	Site201_Rldg003_107		Hlma - Rldg C - 107	Hlma - Rldg C			Yes	Usable	MKThnk	
1346	Site201_Rldg003_108		Hlma - Rldg C - 108	Hlma - Rldg C			Yes	Usable	MKThnk	
1347	Site201_Rldg003_109		Hlma - Rldg C - 109	Hlma - Rldg C			Yes	Usable	MKThnk	
1348	Site201_Rldg003_110		Hlma - Rldg C - 110	Hlma - Rldg C			Yes	Usable	MKThnk	
1349	Site201_Rldg003_111		Hlma - Rldg C - 111	Hlma - Rldg C			Yes	Usable	MKThnk	
1350	Site201_Rldg003_112		Hlma - Rldg C - 112	Hlma - Rldg C			Yes	Usable	MKThnk	
1351	Site201_Rldg003_113		Hlma - Rldg C - 113	Hlma - Rldg C			Yes	Usable	MKThnk	
1352	Site201_Rldg003_114		Hlma - Rldg C - 114	Hlma - Rldg C			Yes	Usable	MKThnk	
1353	Site201_Rldg003_115		Hlma - Rldg C - 115	Hlma - Rldg C			Yes	Usable	MKThnk	
1354	Site201_Rldg003_117		Hlma - Rldg C - 117	Hlma - Rldg C			Yes	Usable	MKThnk	
1355	Site201_Rldg003_118		Hlma - Rldg C - 118	Hlma - Rldg C			Yes	Usable	MKThnk	
1356	Site201_Rldg003_201		Hlma - Rldg C - 201	Hlma - Rldg C			Yes	Usable	MKThnk	
1357	Site201_Rldg003_202		Hlma - Rldg C - 202	Hlma - Rldg C			Yes	Usable	MKThnk	
1358	Site201_Rldg003_203		Hlma - Rldg C - 203	Hlma - Rldg C			Yes	Usable	MKThnk	
1359	Site201_Rldg003_204		Hlma - Rldg C - 204	Hlma - Rldg C			Yes	Usable	MKThnk	
1360	Site201_Rldg003_205		Hlma - Rldg C - 205	Hlma - Rldg C			Yes	Usable	MKThnk	
1361	Site201_Rldg003_206		Hlma - Rldg C - 206	Hlma - Rldg C			Yes	Usable	MKThnk	
1362	Site201_Rldg003_207		Hlma - Rldg C - 207	Hlma - Rldg C			Yes	Usable	MKThnk	
1363	Site201_Rldg003_208		Hlma - Rldg C - 208	Hlma - Rldg C			Yes	Usable	MKThnk	
1364	Site201_Rldg003_209		Hlma - Rldg C - 209	Hlma - Rldg C			Yes	Usable	MKThnk	
1365	Site201_Rldg003_210		Hlma - Rldg C - 210	Hlma - Rldg C			Yes	Usable	MKThnk	
1366	Site201_Rldg003_211		Hlma - Rldg C - 211	Hlma - Rldg C			Yes	Usable	MKThnk	
1367	Site201_Rldg003_212		Hlma - Rldg C - 212	Hlma - Rldg C			Yes	Usable	MKThnk	
1368	Site201_Rldg003_213		Hlma - Rldg C - 213	Hlma - Rldg C			Yes	Usable	MKThnk	
1369	Site201_Rldg003_214		Hlma - Rldg C - 214	Hlma - Rldg C			Yes	Usable	MKThnk	
1370	Site201_Rldg003_215		Hlma - Rldg C - 215	Hlma - Rldg C			Yes	Usable	MKThnk	
1371	Site201_Rldg003_216		Hlma - Rldg C - 216	Hlma - Rldg C			Yes	Usable	MKThnk	
1372	Site201_Rldg003_217		Hlma - Rldg C - 217	Hlma - Rldg C			Yes	Usable	MKThnk	
1373	Site201_Rldg003_219		Hlma - Rldg C - 219	Hlma - Rldg C			Yes	Usable	MKThnk	
1374	Site201_Rldg003_220		Hlma - Rldg C - 220	Hlma - Rldg C			Yes	Usable	MKThnk	
1375	Site201_Rldg004_102		Hlma - Rldg D - 102	Hlma - Rldg D			Yes	Usable	MKThnk	
1376	Site201_Rldg004_103		Hlma - Rldg D - 103	Hlma - Rldg D			Yes	Usable	MKThnk	
1377	Site201_Rldg004_105		Hlma - Rldg D - 105	Hlma - Rldg D			Yes	Usable	MKThnk	
1378	Site201_Rldg004_106		Hlma - Rldg D - 106	Hlma - Rldg D			Yes	Usable	MKThnk	
1379	Site201_Rldg004_107		Hlma - Rldg D - 107	Hlma - Rldg D			Yes	Usable	MKThnk	
1380	Site201_Rldg004_108		Hlma - Rldg D - 108	Hlma - Rldg D			Yes	Usable	MKThnk	
1381	Site201_Rldg004_109		Hlma - Rldg D - 109	Hlma - Rldg D			Yes	Usable	MKThnk	
1382	Site201_Rldg004_110		Hlma - Rldg D - 110	Hlma - Rldg D			Yes	Usable	MKThnk	
1383	Site201_Rldg004_111		Hlma - Rldg D - 111	Hlma - Rldg D			Yes	Usable	MKThnk	
1384	Site201_Rldg004_112		Hlma - Rldg D - 112	Hlma - Rldg D			Yes	Usable	MKThnk	
1385	Site201_Rldg004_202		Hlma - Rldg D - 202	Hlma - Rldg D			Yes	Usable	MKThnk	
1386	Site201_Rldg004_204		Hlma - Rldg D - 204	Hlma - Rldg D			Yes	Usable	MKThnk	
1387	Site201_Rldg004_205		Hlma - Rldg D - 205	Hlma - Rldg D			Yes	Usable	MKThnk	
1388	Site201_Rldg004_206		Hlma - Rldg D - 206	Hlma - Rldg D			Yes	Usable	MKThnk	
1389	Site201_Rldg004_207		Hlma - Rldg D - 207	Hlma - Rldg D			Yes	Usable	MKThnk	
1390	Site201_Rldg004_208		Hlma - Rldg D - 208	Hlma - Rldg D			Yes	Usable	MKThnk	
1391	Site201_Rldg004_209		Hlma - Rldg D - 209	Hlma - Rldg D			Yes	Usable	MKThnk	
1392	Site201_Rldg004_210		Hlma - Rldg D - 210	Hlma - Rldg D			Yes	Usable	MKThnk	
1393	Site201_Rldg004_211		Hlma - Rldg D - 211	Hlma - Rldg D			Yes	Usable	MKThnk	
1394	Site201_Rldg004_212		Hlma - Rldg D - 212	Hlma - Rldg D			Yes	Usable	MKThnk	
1395	Site201_Rldg005_101		Hlma - Rldg E - 101	Hlma - Rldg E			Yes	Usable	MKThnk	
1396	Site201_Rldg005_102		Hlma - Rldg E - 102	Hlma - Rldg E			Yes	Usable	MKThnk	
1397	Site201_Rldg005_103		Hlma - Rldg E - 103	Hlma - Rldg E			Yes	Usable	MKThnk	
1398	Site201_Rldg005_104		Hlma - Rldg E - 104	Hlma - Rldg E			Yes	Usable	MKThnk	
1399	Site201_Rldg005_105		Hlma - Rldg E - 105	Hlma - Rldg E			Yes	Usable	MKThnk	
1400	Site201_Rldg005_106		Hlma - Rldg E - 106	Hlma - Rldg E			Yes	Usable	MKThnk	
1401	Site201_Rldg005_107		Hlma - Rldg E - 107	Hlma - Rldg E			Yes	Usable	MKThnk	
1402	Site201_Rldg005_108		Hlma - Rldg E - 108	Hlma - Rldg E			Yes	Usable	MKThnk	
1403	Site201_Rldg005_109		Hlma - Rldg E - 109	Hlma - Rldg E			Yes	Usable	MKThnk	
1404	Site201_Rldg005_110		Hlma - Rldg E - 110	Hlma - Rldg E			Yes	Usable	MKThnk	
1405	Site201_Rldg005_111		Hlma - Rldg E - 111	Hlma - Rldg E			Yes	Usable	MKThnk	
1406	Site201_Rldg005_201		Hlma - Rldg E - 201	Hlma - Rldg E			Yes	Usable	MKThnk	
1407	Site201_Rldg005_202		Hlma - Rldg E - 202	Hlma - Rldg E			Yes	Usable	MKThnk	
1408	Site201_Rldg005_203		Hlma - Rldg E - 203	Hlma - Rldg E			Yes	Usable	MKThnk	
1409	Site201_Rldg005_204		Hlma - Rldg E - 204	Hlma - Rldg E			Yes	Usable	MKThnk	
1410	Site201_Rldg005_205		Hlma - Rldg E - 205	Hlma - Rldg E			Yes	Usable	MKThnk	
1411	Site201_Rldg005_206		Hlma - Rldg E - 206	Hlma - Rldg E			Yes	Usable	MKThnk	
1412	Site201_Rldg005_207		Hlma - Rldg E - 207	Hlma - Rldg E			Yes	Usable	MKThnk	
1413	Site201_Rldg005_208		Hlma - Rldg E - 208	Hlma - Rldg E			Yes	Usable	MKThnk	
1414	Site201_Rldg005_209		Hlma - Rldg E - 209	Hlma - Rldg E			Yes	Usable	MKThnk	
1415	Site201_Rldg005_210		Hlma - Rldg E - 210	Hlma - Rldg E			Yes	Usable	MKThnk	

Data Source Summary

SCALE #	SENSOR NAME	UNIT	CLIENT PROVIDED DESCRIPTION	ASSIGNMENT	INTERVAL	DATE RANGE	DATA FILES EXISTS	STATUS	DATA ACQUISITION RESPONSIBILITY	GAPS, LIMITATIONS, ASSUMPTIONS
1616	Site201_Bldg006_101		Iluma - Bldg F - 101	Iluma - Bldg F			Yes	Usable	MKTthink	
1617	Site201_Bldg006_102		Iluma - Bldg F - 102	Iluma - Bldg F			Yes	Usable	MKTthink	
1618	Site201_Bldg006_103		Iluma - Bldg F - 103	Iluma - Bldg F			Yes	Usable	MKTthink	
1619	Site201_Bldg006_104		Iluma - Bldg F - 104	Iluma - Bldg F			Yes	Usable	MKTthink	
1620	Site201_Bldg006_105		Iluma - Bldg F - 105	Iluma - Bldg F			Yes	Usable	MKTthink	
1621	Site201_Bldg006_106		Iluma - Bldg F - 106	Iluma - Bldg F			Yes	Usable	MKTthink	
1622	Site201_Bldg007_101		Iluma - Bldg G - 101	Iluma - Bldg G			Yes	Usable	MKTthink	
1623	Site201_Bldg007_102		Iluma - Bldg G - 102	Iluma - Bldg G			Yes	Usable	MKTthink	
1624	Site201_Bldg007_103		Iluma - Bldg G - 103	Iluma - Bldg G			Yes	Usable	MKTthink	
1625	Site201_Bldg007_104		Iluma - Bldg G - 104	Iluma - Bldg G			Yes	Usable	MKTthink	
1626	Site201_Bldg007_105		Iluma - Bldg G - 105	Iluma - Bldg G			Yes	Usable	MKTthink	
1627	Site201_Bldg007_106		Iluma - Bldg G - 106	Iluma - Bldg G			Yes	Usable	MKTthink	
1628	Site201_Bldg007_107		Iluma - Bldg G - 107	Iluma - Bldg G			Yes	Usable	MKTthink	
1629	Site201_Bldg007_108		Iluma - Bldg G - 108	Iluma - Bldg G			Yes	Usable	MKTthink	
1630	Site201_Bldg007_109		Iluma - Bldg G - 109	Iluma - Bldg G			Yes	Usable	MKTthink	
1631	Site201_Bldg007_110		Iluma - Bldg G - 110	Iluma - Bldg G			Yes	Usable	MKTthink	
1632	Site201_Bldg007_111		Iluma - Bldg G - 111	Iluma - Bldg G			Yes	Usable	MKTthink	
1633	Site201_Bldg007_112		Iluma - Bldg G - 112	Iluma - Bldg G			Yes	Usable	MKTthink	
1634	Site201_Bldg007_113		Iluma - Bldg G - 113	Iluma - Bldg G			Yes	Usable	MKTthink	
1635	Site201_Bldg007_114		Iluma - Bldg G - 114	Iluma - Bldg G			Yes	Usable	MKTthink	
1636	Site201_Bldg007_115		Iluma - Bldg G - 115	Iluma - Bldg G			Yes	Usable	MKTthink	
1637	Site201_Bldg007_116		Iluma - Bldg G - 116	Iluma - Bldg G			Yes	Usable	MKTthink	
1638	Site201_Bldg007_117		Iluma - Bldg G - 117	Iluma - Bldg G			Yes	Usable	MKTthink	
1639	Site201_Bldg007_118		Iluma - Bldg G - 118	Iluma - Bldg G			Yes	Usable	MKTthink	
1640	Site201_Bldg007_119		Iluma - Bldg G - 119	Iluma - Bldg G			Yes	Usable	MKTthink	
1641	Site201_Bldg007_120		Iluma - Bldg G - 120	Iluma - Bldg G			Yes	Usable	MKTthink	
1642	Site201_Bldg007_121		Iluma - Bldg G - 121	Iluma - Bldg G			Yes	Usable	MKTthink	
1643	Site201_Bldg007_122		Iluma - Bldg G - 122	Iluma - Bldg G			Yes	Usable	MKTthink	
1644	Site201_Bldg007_123		Iluma - Bldg G - 123	Iluma - Bldg G			Yes	Usable	MKTthink	
1645	Site201_Bldg007_124		Iluma - Bldg G - 124	Iluma - Bldg G			Yes	Usable	MKTthink	
1646	Site201_Bldg007_125		Iluma - Bldg G - 125	Iluma - Bldg G			Yes	Usable	MKTthink	
1647	Site201_Bldg007_126		Iluma - Bldg G - 126	Iluma - Bldg G			Yes	Usable	MKTthink	
1648	Site201_Bldg007_127		Iluma - Bldg G - 127	Iluma - Bldg G			Yes	Usable	MKTthink	
1649	Site201_Bldg007_128		Iluma - Bldg G - 128	Iluma - Bldg G			Yes	Usable	MKTthink	
1650	Site201_Bldg007_129		Iluma - Bldg G - 129	Iluma - Bldg G			Yes	Usable	MKTthink	
1651	Site201_Bldg007_130		Iluma - Bldg G - 130	Iluma - Bldg G			Yes	Usable	MKTthink	
1652	Site201_Bldg007_131		Iluma - Bldg G - 131	Iluma - Bldg G			Yes	Usable	MKTthink	
1653	Site201_Bldg007_132		Iluma - Bldg G - 132	Iluma - Bldg G			Yes	Usable	MKTthink	
1654	Site201_Bldg008_101		Iluma - Bldg H - 101	Iluma - Bldg H			Yes	Usable	MKTthink	
1655	Site201_Bldg008_102		Iluma - Bldg H - 102	Iluma - Bldg H			Yes	Usable	MKTthink	
1656	Site201_Bldg008_103		Iluma - Bldg H - 103	Iluma - Bldg H			Yes	Usable	MKTthink	
1657	Site201_Bldg008_104		Iluma - Bldg H - 104	Iluma - Bldg H			Yes	Usable	MKTthink	
1658	Site201_Bldg008_105		Iluma - Bldg H - 105	Iluma - Bldg H			Yes	Usable	MKTthink	
1659	Site201_Bldg008_106		Iluma - Bldg H - 106	Iluma - Bldg H			Yes	Usable	MKTthink	
1660	Site201_Bldg008_107		Iluma - Bldg H - 107	Iluma - Bldg H			Yes	Usable	MKTthink	
1661	Site201_Bldg008_108		Iluma - Bldg H - 108	Iluma - Bldg H			Yes	Usable	MKTthink	
1662	Site201_Bldg008_109		Iluma - Bldg H - 109	Iluma - Bldg H			Yes	Usable	MKTthink	
1663	Site201_Bldg008_110		Iluma - Bldg H - 110	Iluma - Bldg H			Yes	Usable	MKTthink	
1664	Site201_Bldg008_111		Iluma - Bldg H - 111	Iluma - Bldg H			Yes	Usable	MKTthink	
1665	Site201_Bldg008_112		Iluma - Bldg H - 112	Iluma - Bldg H			Yes	Usable	MKTthink	
1666	Site201_Bldg008_113		Iluma - Bldg H - 113	Iluma - Bldg H			Yes	Usable	MKTthink	
1667	Site201_Bldg008_114		Iluma - Bldg H - 114	Iluma - Bldg H			Yes	Usable	MKTthink	
1668	Site201_Bldg008_115		Iluma - Bldg H - 115	Iluma - Bldg H			Yes	Usable	MKTthink	
1669	Site201_Bldg008_116		Iluma - Bldg H - 116	Iluma - Bldg H			Yes	Usable	MKTthink	
1670	Site201_Bldg008_117		Iluma - Bldg H - 117	Iluma - Bldg H			Yes	Usable	MKTthink	
1671	Site201_Bldg008_118		Iluma - Bldg H - 118	Iluma - Bldg H			Yes	Usable	MKTthink	
1672	Site201_Bldg008_119		Iluma - Bldg H - 119	Iluma - Bldg H			Yes	Usable	MKTthink	
1673	Site201_Bldg008_120		Iluma - Bldg H - 120	Iluma - Bldg H			Yes	Usable	MKTthink	
1674	Site201_Bldg008_121		Iluma - Bldg H - 121	Iluma - Bldg H			Yes	Usable	MKTthink	
1675	Site201_Bldg008_122		Iluma - Bldg H - 122	Iluma - Bldg H			Yes	Usable	MKTthink	
1676	Site201_Bldg009_102		Iluma - Bldg I - 102	Iluma - Bldg I			Yes	Usable	MKTthink	
1677	Site201_Bldg009_103		Iluma - Bldg I - 103	Iluma - Bldg I			Yes	Usable	MKTthink	
1678	Site201_Bldg009_104		Iluma - Bldg I - 104	Iluma - Bldg I			Yes	Usable	MKTthink	
1679	Site201_Bldg009_105		Iluma - Bldg I - 105	Iluma - Bldg I			Yes	Usable	MKTthink	
1680	Site201_Bldg009_106		Iluma - Bldg I - 106	Iluma - Bldg I			Yes	Usable	MKTthink	
1681	Site201_Bldg009_107		Iluma - Bldg I - 107	Iluma - Bldg I			Yes	Usable	MKTthink	
1682	Site201_Bldg009_108		Iluma - Bldg I - 108	Iluma - Bldg I			Yes	Usable	MKTthink	
1683	Site201_Bldg009_110		Iluma - Bldg I - 110	Iluma - Bldg I			Yes	Usable	MKTthink	
1684	Site201_Bldg009_111		Iluma - Bldg I - 111	Iluma - Bldg I			Yes	Usable	MKTthink	
1685	Site201_Bldg009_112		Iluma - Bldg I - 112	Iluma - Bldg I			Yes	Usable	MKTthink	
1686	Site201_Bldg009_113		Iluma - Bldg I - 113	Iluma - Bldg I			Yes	Usable	MKTthink	
1687	Site201_Bldg009_115		Iluma - Bldg I - 115	Iluma - Bldg I			Yes	Usable	MKTthink	
1688	Site201_Bldg009_116		Iluma - Bldg I - 116	Iluma - Bldg I			Yes	Usable	MKTthink	
1689	Site201_Bldg009_117		Iluma - Bldg I - 117	Iluma - Bldg I			Yes	Usable	MKTthink	
1690	Site201_Bldg009_118		Iluma - Bldg I - 118	Iluma - Bldg I			Yes	Usable	MKTthink	
1691	Site201_Bldg009_119		Iluma - Bldg I - 119	Iluma - Bldg I			Yes	Usable	MKTthink	
1692	Site201_Bldg009_120		Iluma - Bldg I - 120	Iluma - Bldg I			Yes	Usable	MKTthink	
1693	Site201_Bldg009_121		Iluma - Bldg I - 121	Iluma - Bldg I			Yes	Usable	MKTthink	
1694	Site201_Bldg009_122		Iluma - Bldg I - 122	Iluma - Bldg I			Yes	Usable	MKTthink	
1695	Site201_Bldg009_123		Iluma - Bldg I - 123	Iluma - Bldg I			Yes	Usable	MKTthink	
1696	Site201_Bldg009_124		Iluma - Bldg I - 124	Iluma - Bldg I			Yes	Usable	MKTthink	
1697	Site201_Bldg009_126		Iluma - Bldg I - 126	Iluma - Bldg I			Yes	Usable	MKTthink	
1698	Site201_Bldg009_127		Iluma - Bldg I - 127	Iluma - Bldg I			Yes	Usable	MKTthink	
1699	Site201_Bldg009_128		Iluma - Bldg I - 128	Iluma - Bldg I			Yes	Usable	MKTthink	
1700	Site201_Bldg009_129		Iluma - Bldg I - 129	Iluma - Bldg I			Yes	Usable	MKTthink	
1701	Site201_Bldg010_102		Iluma - Bldg J - 102	Iluma - Bldg J			Yes	Usable	MKTthink	
1702	Site201_Bldg010_103		Iluma - Bldg J - 103	Iluma - Bldg J			Yes	Usable	MKTthink	
1703	Site201_Bldg010_104		Iluma - Bldg J - 104	Iluma - Bldg J			Yes	Usable	MKTthink	
1704	Site201_Bldg010_105		Iluma - Bldg J - 105	Iluma - Bldg J			Yes	Usable	MKTthink	

SCALE	#	SENSOR NAME	UNIT	CLIENT PROVIDED DESCRIPTION	ASSIGNMENT	INTERVAL	DATE RANGE	DATA FILES EXISTS	STATUS	DATA ACQUISITION RESPONSIBILITY	GAPS, LIMITATIONS, ASSUMPTIONS
	1705	Site201_Rldg010_106		Ilma - Rldg J - 106	Ilma - Rldg J			Yes	Usable	McThann	
	1706	Site201_Rldg010_107		Ilma - Rldg J - 107	Ilma - Rldg J			Yes	Usable	McThann	
	1707	Site201_Rldg010_108		Ilma - Rldg J - 108	Ilma - Rldg J			Yes	Usable	McThann	
	1708	Site201_Rldg010_109		Ilma - Rldg J - 109	Ilma - Rldg J			Yes	Usable	McThann	
	1709	Site201_Rldg010_111		Ilma - Rldg J - 111	Ilma - Rldg J			Yes	Usable	McThann	
	1710	Site201_Rldg010_112		Ilma - Rldg J - 112	Ilma - Rldg J			Yes	Usable	McThann	
	1711	Site201_Rldg010_113		Ilma - Rldg J - 113	Ilma - Rldg J			Yes	Usable	McThann	
	1712	Site201_Rldg010_114		Ilma - Rldg J - 114	Ilma - Rldg J			Yes	Usable	McThann	
	1713	Site201_Rldg010_115		Ilma - Rldg J - 115	Ilma - Rldg J			Yes	Usable	McThann	
	1714	Site201_Rldg010_116		Ilma - Rldg J - 116	Ilma - Rldg J			Yes	Usable	McThann	
	1715	Site201_Rldg010_117		Ilma - Rldg J - 117	Ilma - Rldg J			Yes	Usable	McThann	
	1716	Site201_Rldg010_118		Ilma - Rldg J - 118	Ilma - Rldg J			Yes	Usable	McThann	
	1717	Site201_Rldg011_101		Ilma - Rldg K - 101	Ilma - Rldg K			Yes	Usable	McThann	
	1718	Site201_Rldg011_102		Ilma - Rldg K - 102	Ilma - Rldg K			Yes	Usable	McThann	
	1719	Site201_Rldg012_101		Ilma - Rldg L - 101	Ilma - Rldg L			Yes	Usable	McThann	
	1720	Site201_Rldg012_102		Ilma - Rldg L - 102	Ilma - Rldg L			Yes	Usable	McThann	
	1721	Site201_Rldg012_103		Ilma - Rldg L - 103	Ilma - Rldg L			Yes	Usable	McThann	
	1722	Site201_Rldg012_104		Ilma - Rldg L - 104	Ilma - Rldg L			Yes	Usable	McThann	
	1723	Site201_Rldg012_105		Ilma - Rldg L - 105	Ilma - Rldg L			Yes	Usable	McThann	
	1724	Site201_Rldg012_106		Ilma - Rldg L - 106	Ilma - Rldg L			Yes	Usable	McThann	
	1725	Site201_Rldg012_107		Ilma - Rldg L - 107	Ilma - Rldg L			Yes	Usable	McThann	
	1726	Site201_Rldg012_108		Ilma - Rldg L - 108	Ilma - Rldg L			Yes	Usable	McThann	
	1727	Site201_Rldg012_109		Ilma - Rldg L - 109	Ilma - Rldg L			Yes	Usable	McThann	
	1728	Site201_Rldg012_110		Ilma - Rldg L - 110	Ilma - Rldg L			Yes	Usable	McThann	
	1729	Site201_Rldg012_111		Ilma - Rldg L - 111	Ilma - Rldg L			Yes	Usable	McThann	
	1730	Site201_Rldg012_112		Ilma - Rldg L - 112	Ilma - Rldg L			Yes	Usable	McThann	
	1731	Site201_Rldg012_113		Ilma - Rldg L - 113	Ilma - Rldg L			Yes	Usable	McThann	
	1732	Site201_Rldg012_114		Ilma - Rldg L - 114	Ilma - Rldg L			Yes	Usable	McThann	
	1733	Site201_Rldg013_101		Ilma - Rldg M - 101	Ilma - Rldg M			Yes	Usable	McThann	
	1734	Site201_Rldg013_102		Ilma - Rldg M - 102	Ilma - Rldg M			Yes	Usable	McThann	
	1735	Site201_Rldg013_103		Ilma - Rldg M - 103	Ilma - Rldg M			Yes	Usable	McThann	
	1736	Site201_Rldg013_104		Ilma - Rldg M - 104	Ilma - Rldg M			Yes	Usable	McThann	
	1737	Site201_Rldg013_105		Ilma - Rldg M - 105	Ilma - Rldg M			Yes	Usable	McThann	
	1738	Site201_Rldg013_106		Ilma - Rldg M - 106	Ilma - Rldg M			Yes	Usable	McThann	
	1739	Site201_Rldg013_107		Ilma - Rldg M - 107	Ilma - Rldg M			Yes	Usable	McThann	
	1740	Site201_Rldg013_108		Ilma - Rldg M - 108	Ilma - Rldg M			Yes	Usable	McThann	
	1741	Site201_Rldg013_109		Ilma - Rldg M - 109	Ilma - Rldg M			Yes	Usable	McThann	
	1742	Site201_Rldg013_110		Ilma - Rldg M - 110	Ilma - Rldg M			Yes	Usable	McThann	
	1743	Site201_Rldg013_111		Ilma - Rldg M - 111	Ilma - Rldg M			Yes	Usable	McThann	
	1744	Site201_Rldg013_112		Ilma - Rldg M - 112	Ilma - Rldg M			Yes	Usable	McThann	
	1745	Site201_Rldg013_113		Ilma - Rldg M - 113	Ilma - Rldg M			Yes	Usable	McThann	
	1746	Site201_Rldg013_114		Ilma - Rldg M - 114	Ilma - Rldg M			Yes	Usable	McThann	
	1747	Site201_Rldg014_102		Ilma - Rldg R - 102	Ilma - Rldg R			Yes	Usable	McThann	
	1748	Site201_Rldg014_103		Ilma - Rldg R - 103	Ilma - Rldg R			Yes	Usable	McThann	
	1749	Site201_Rldg014_105		Ilma - Rldg R - 105	Ilma - Rldg R			Yes	Usable	McThann	
	1750	Site201_Rldg014_106		Ilma - Rldg R - 106	Ilma - Rldg R			Yes	Usable	McThann	
	1751	Site201_Pwr001_101		Ilma - P1 - 101	Ilma - P1			Yes	Usable	McThann	
	1752	Site201_Pwr002_101		Ilma - P2 - 101	Ilma - P2			Yes	Usable	McThann	
	1753	Site201_Pwr002_102		Ilma - P2 - 102	Ilma - P2			Yes	Usable	McThann	
	1754	Site201_Pwr003_101		Ilma - T01 - 101	Ilma - T01			Yes	Usable	McThann	
	1755	Site201_Pwr004_101		Ilma - T02 - 101	Ilma - T02			Yes	Usable	McThann	
	1756	Site201_Pwr005_101		Ilma - T03 - 101	Ilma - T03			Yes	Usable	McThann	
	1757	Site201_Pwr006_101		Ilma - T04 - 101	Ilma - T04			Yes	Usable	McThann	
	989	Site301_Rldg001_101		Campbell - Rldg A - 101	Campbell - Rldg A			Yes	Usable	McThann	
	990	Site301_Rldg001_102		Campbell - Rldg A - 102	Campbell - Rldg A			Yes	Usable	McThann	
	991	Site301_Rldg001_103		Campbell - Rldg A - 103	Campbell - Rldg A			Yes	Usable	McThann	
	992	Site301_Rldg001_104		Campbell - Rldg A - 104	Campbell - Rldg A			Yes	Usable	McThann	
	993	Site301_Rldg001_105		Campbell - Rldg A - 105	Campbell - Rldg A			Yes	Usable	McThann	
	994	Site301_Rldg001_106		Campbell - Rldg A - 106	Campbell - Rldg A			Yes	Usable	McThann	
	995	Site301_Rldg001_107		Campbell - Rldg A - 107	Campbell - Rldg A			Yes	Usable	McThann	
	996	Site301_Rldg001_108		Campbell - Rldg A - 108	Campbell - Rldg A			Yes	Usable	McThann	
	997	Site301_Rldg001_109		Campbell - Rldg A - 109	Campbell - Rldg A			Yes	Usable	McThann	
	998	Site301_Rldg001_110		Campbell - Rldg A - 110	Campbell - Rldg A			Yes	Usable	McThann	
	999	Site301_Rldg001_111		Campbell - Rldg A - 111	Campbell - Rldg A			Yes	Usable	McThann	
	1000	Site301_Rldg001_112		Campbell - Rldg A - 112	Campbell - Rldg A			Yes	Usable	McThann	
	1001	Site301_Rldg001_113		Campbell - Rldg A - 113	Campbell - Rldg A			Yes	Usable	McThann	
	1002	Site301_Rldg001_114		Campbell - Rldg A - 114	Campbell - Rldg A			Yes	Usable	McThann	
	1003	Site301_Rldg001_115		Campbell - Rldg A - 115	Campbell - Rldg A			Yes	Usable	McThann	
	1004	Site301_Rldg001_116		Campbell - Rldg A - 116	Campbell - Rldg A			Yes	Usable	McThann	
	1005	Site301_Rldg001_117		Campbell - Rldg A - 117	Campbell - Rldg A			Yes	Usable	McThann	
	1006	Site301_Rldg001_118		Campbell - Rldg A - 118	Campbell - Rldg A			Yes	Usable	McThann	
	1007	Site301_Rldg001_119		Campbell - Rldg A - 119	Campbell - Rldg A			Yes	Usable	McThann	
	1008	Site301_Rldg001_120		Campbell - Rldg A - 120	Campbell - Rldg A			Yes	Usable	McThann	
	1009	Site301_Rldg001_121		Campbell - Rldg A - 121	Campbell - Rldg A			Yes	Usable	McThann	
	1010	Site301_Rldg001_122		Campbell - Rldg A - 122	Campbell - Rldg A			Yes	Usable	McThann	
	1011	Site301_Rldg001_123		Campbell - Rldg A - 123	Campbell - Rldg A			Yes	Usable	McThann	
	1012	Site301_Rldg001_124		Campbell - Rldg A - 124	Campbell - Rldg A			Yes	Usable	McThann	
	1013	Site301_Rldg001_125		Campbell - Rldg A - 125	Campbell - Rldg A			Yes	Usable	McThann	
	1014	Site301_Rldg001_126		Campbell - Rldg A - 126	Campbell - Rldg A			Yes	Usable	McThann	
	1015	Site301_Rldg001_127		Campbell - Rldg A - 127	Campbell - Rldg A			Yes	Usable	McThann	
	1016	Site301_Rldg001_128		Campbell - Rldg A - 128	Campbell - Rldg A			Yes	Usable	McThann	
	1017	Site301_Rldg001_129		Campbell - Rldg A - 129	Campbell - Rldg A			Yes	Usable	McThann	
	1018	Site301_Rldg001_130		Campbell - Rldg A - 130	Campbell - Rldg A			Yes	Usable	McThann	
	1019	Site301_Rldg001_131		Campbell - Rldg A - 131	Campbell - Rldg A			Yes	Usable	McThann	
	1020	Site301_Rldg001_132		Campbell - Rldg A - 132	Campbell - Rldg A			Yes	Usable	McThann	
	1021	Site301_Rldg001_133		Campbell - Rldg A - 133	Campbell - Rldg A			Yes	Usable	McThann	
	1022	Site301_Rldg001_134		Campbell - Rldg A - 134	Campbell - Rldg A			Yes	Usable	McThann	
	1023	Site301_Rldg002_101		Campbell - Rldg D - 101	Campbell - Rldg D			Yes	Usable	McThann	
	1024	Site301_Rldg002_103		Campbell - Rldg D - 103	Campbell - Rldg D			Yes	Usable	McThann	

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SCALE #	SENSOR NAME	UNIT	CLIENT PROVIDED DESCRIPTION	ASSIGNMENT	INTERVAL	DATE RANGE	DATA FILES EXISTS	STATUS	DATA ACQUISITION RESPONSIBILITY	GAPS, LIMITATIONS, ASSUMPTIONS
1760	Site301_Pwr004_101		Campbell - P4 - 101	Campbell - P4			Yes	Usable	MKThink	
1761	Site301_Pwr005_101		Campbell - P5 - 101	Campbell - P5			Yes	Usable	MKThink	
1762	Site301_Pwr007_101		Campbell - P7 - 101	Campbell - P7			Yes	Usable	MKThink	
1763	Site301_Pwr008_101		Campbell - P8 - 101	Campbell - P8			Yes	Usable	MKThink	
1764	Site301_Pwr009_101		Campbell - P9 - 101	Campbell - P9			Yes	Usable	MKThink	
1765	Site301_Pwr010_101		Campbell - P10 - 101	Campbell - P10			Yes	Usable	MKThink	
1766	Site301_Pwr012_101		Campbell - P12 - 101	Campbell - P12			Yes	Usable	MKThink	
625	HIDOE101_A_004_AirTemp		Pahokena - A4 - Air Temperature (F)	Pohakou - Bldg A - 104	0	2013-07-20 - 2013-11-20	Yes	Usable	MKThink	
628	HIDOE101_A_004_Illuminance		Pahokena - A4 - Illuminance (lm#2)	Pohakou - Bldg A - 104	0	2013-07-20 - 2013-11-20	Yes	Usable	MKThink	
626	HIDOE101_A_004_RH		Pahokena - A4 - Relative Humidity (%)	Pohakou - Bldg A - 104	0	2013-07-20 - 2013-11-20	Yes	Usable	MKThink	
631	HIDOE101_A_005_AirTemp		Pahokena - A5 - Air Temperature (F)	Pohakou - Bldg A - 101	0	2013-07-20 - 2013-11-20	Yes	Usable	MKThink	
640	HIDOE101_A_005_AirTempHEIGHTICAL		Pahokena - A5 - Air Temperature (F) HEIGHT CALIBRAI	Pohakou - Bldg A - 101	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
637	HIDOE101_A_005_Illuminance		Pahokena - A5 - Illuminance (lm#2)	Pohakou - Bldg A - 101	0	2013-07-20 - 2013-11-20	Yes	Usable	MKThink	
646	HIDOE101_A_005_IlluminanceHEIGHTICAL		Pahokena - A5 - Illuminance (lm#2) HEIGHT CALIBRA	Pohakou - Bldg A - 101	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
634	HIDOE101_A_005_RH		Pahokena - A5 - Relative Humidity (%)	Pohakou - Bldg A - 101	0	2013-07-20 - 2013-11-20	Yes	Usable	MKThink	
643	HIDOE101_A_005_RHHEIGHTICAL		Pahokena - A5 - Relative Humidity (%) HEIGHT CALIBRA	Pohakou - Bldg A - 101	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
649	HIDOE101_A_009_AirTemp		Pahokena - A9 - Air Temperature (F)	Pohakou - Bldg A - 202	0	2013-07-20 - 2013-11-20	Yes	Usable	MKThink	
655	HIDOE101_A_009_Illuminance		Pahokena - A9 - Illuminance (lm#2)	Pohakou - Bldg A - 202	0	2013-07-20 - 2013-11-20	Yes	Usable	MKThink	
652	HIDOE101_A_009_RH		Pahokena - A9 - Relative Humidity (%)	Pohakou - Bldg A - 202	0	2013-07-20 - 2013-11-20	Yes	Usable	MKThink	
658	HIDOE101_A_010_AirTemp		Pahokena - A10 - Air Temperature (F)	Pohakou - Bldg A - 201	0	2013-07-20 - 2013-11-20	Yes	Usable	MKThink	
664	HIDOE101_A_010_Illuminance		Pahokena - A10 - Illuminance (lm#2)	Pohakou - Bldg A - 201	0	2013-07-20 - 2013-11-20	Yes	Usable	MKThink	
661	HIDOE101_A_010_RH		Pahokena - A10 - Relative Humidity (%)	Pohakou - Bldg A - 201	0	2013-07-20 - 2013-11-20	Yes	Usable	MKThink	
667	HIDOE101_B_003_AirTemp		Pahokena - B3 - Air Temperature (F)	Pohakou - Bldg B - 111	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
673	HIDOE101_B_003_Illuminance		Pahokena - B3 - Illuminance (lm#2)	Pohakou - Bldg B - 111	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
670	HIDOE101_B_003_RH		Pahokena - B3 - Relative Humidity (%)	Pohakou - Bldg B - 111	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
676	HIDOE101_B_005_AirTemp		Pahokena - B5 - Air Temperature (F)	Pohakou - Bldg B - 113	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
682	HIDOE101_B_005_Illuminance		Pahokena - B5 - Illuminance (lm#2)	Pohakou - Bldg B - 113	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
679	HIDOE101_B_005_RH		Pahokena - B5 - Relative Humidity (%)	Pohakou - Bldg B - 113	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
685	HIDOE101_B_008_AirTemp		Pahokena - B8 - Air Temperature (F)	Pohakou - Bldg B - 208	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
691	HIDOE101_B_008_Illuminance		Pahokena - B8 - Illuminance (lm#2)	Pohakou - Bldg B - 208	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
688	HIDOE101_B_008_RH		Pahokena - B8 - Relative Humidity (%)	Pohakou - Bldg B - 208	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
693	HIDOE101_B_010_AirTemp		Pahokena - B10 - Air Temperature (F)	Pohakou - Bldg B - 210	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
699	HIDOE101_B_010_Illuminance		Pahokena - B10 - Illuminance (lm#2)	Pohakou - Bldg B - 210	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
696	HIDOE101_B_010_RH		Pahokena - B10 - Relative Humidity (%)	Pohakou - Bldg B - 210	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
702	HIDOE101_P09_001_AirTemp		Pahokena - P9 - Air Temperature (F)	Pohakou - P9 - 101	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
707	HIDOE101_P09_001_Illuminance		Pahokena - P9 - Illuminance (lm#2)	Pohakou - P9 - 101	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
705	HIDOE101_P09_001_RH		Pahokena - P9 - Relative Humidity (%)	Pohakou - P9 - 101	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
710	HIDOE101_P25_001_AirTemp		Pahokena - P25 - Air Temperature (F)	Pohakou - P25 - 101	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
716	HIDOE101_P25_001_Illuminance		Pahokena - P25 - Illuminance (lm#2)	Pohakou - P25 - 101	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
713	HIDOE101_P25_001_RH		Pahokena - P25 - Relative Humidity (%)	Pohakou - P25 - 101	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	



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718	HEDOE101_P26_001_AirTemp		Pohakoa - P26 - Air Temperature (F)	Pohakoa - P26 - 101	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
722	HEDOE101_P26_001_Illuminance		Pohakoa - P26 - Illuminance (lm/ft2)	Pohakoa - P26 - 101	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
726	HEDOE101_P26_001_RH		Pohakoa - P26 - Relative Humidity (%)	Pohakoa - P26 - 101	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
724	HEDOE101_P28_001_AirTemp		Pohakoa - P28 - Air Temperature (F)	Pohakoa - P28 - 101	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
728	HEDOE101_P28_001_Illuminance		Pohakoa - P28 - Illuminance (lm/ft2)	Pohakoa - P28 - 101	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
726	HEDOE101_P28_001_RH		Pohakoa - P28 - Relative Humidity (%)	Pohakoa - P28 - 101	0	2013-07-23 - 2013-11-20	Yes	Usable	MKThink	
730	HEDOE102_E_103_AirTemp		Kaimiloa - E103 - Air Temperature (F)	Kaimiloa - Bldg E - 108	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
734	HEDOE102_E_103_Illuminance		Kaimiloa - E103 - Illuminance (lm/ft2)	Kaimiloa - Bldg E - 108	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
732	HEDOE102_E_103_RH		Kaimiloa - E103 - Relative Humidity (%)	Kaimiloa - Bldg E - 108	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
736	HEDOE102_E_106_AirTemp		Kaimiloa - E106 - Air Temperature (F)	Kaimiloa - Bldg E - 107	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
740	HEDOE102_E_106_Illuminance		Kaimiloa - E106 - Illuminance (lm/ft2)	Kaimiloa - Bldg E - 107	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
736	HEDOE102_E_106_RH		Kaimiloa - E106 - Relative Humidity (%)	Kaimiloa - Bldg E - 107	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
742	HEDOE102_E_203_AirTemp		Kaimiloa - E203 - Air Temperature (F)	Kaimiloa - Bldg E - 209	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
746	HEDOE102_E_203_Illuminance		Kaimiloa - E203 - Illuminance (lm/ft2)	Kaimiloa - Bldg E - 209	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
744	HEDOE102_E_203_RH		Kaimiloa - E203 - Relative Humidity (%)	Kaimiloa - Bldg E - 209	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
748	HEDOE102_E_206_AirTemp		Kaimiloa - E206 - Air Temperature (F)	Kaimiloa - Bldg E - 208	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
752	HEDOE102_E_206_Illuminance		Kaimiloa - E206 - Illuminance (lm/ft2)	Kaimiloa - Bldg E - 208	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
750	HEDOE102_E_206_RH		Kaimiloa - E206 - Relative Humidity (%)	Kaimiloa - Bldg E - 208	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
754	HEDOE102_F_105_AirTemp		Kaimiloa - F105 - Air Temperature (F)	Kaimiloa - Bldg F - 109	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
758	HEDOE102_F_105_Illuminance		Kaimiloa - F105 - Illuminance (lm/ft2)	Kaimiloa - Bldg F - 109	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
756	HEDOE102_F_105_RH		Kaimiloa - F105 - Relative Humidity (%)	Kaimiloa - Bldg F - 109	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
762	HEDOE102_F_106						Yes	Usable	MKThink	
760	HEDOE102_F_106_AirTemp		Kaimiloa - F106 - Air Temperature (F)	Kaimiloa - Bldg F - 110	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
760	HEDOE102_F_106_Illuminance		Kaimiloa - F106 - Illuminance (lm/ft2)	Kaimiloa - Bldg F - 110	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
763	HEDOE102_F_106_RH		Kaimiloa - F106 - Relative Humidity (%)	Kaimiloa - Bldg F - 110	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
767	HEDOE102_F_213_AirTemp		Kaimiloa - F213 - Air Temperature (F)	Kaimiloa - Bldg F - 209	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
771	HEDOE102_F_213_Illuminance		Kaimiloa - F213 - Illuminance (lm/ft2)	Kaimiloa - Bldg F - 209	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
769	HEDOE102_F_213_RH		Kaimiloa - F213 - Relative Humidity (%)	Kaimiloa - Bldg F - 209	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
773	HEDOE102_F_214_AirTemp		Kaimiloa - F214 - Air Temperature (F)	Kaimiloa - Bldg F - 210	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
777	HEDOE102_F_214_Illuminance		Kaimiloa - F214 - Illuminance (lm/ft2)	Kaimiloa - Bldg F - 210	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
775	HEDOE102_F_214_RH		Kaimiloa - F214 - Relative Humidity (%)	Kaimiloa - Bldg F - 210	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
779	HEDOE102_P05_001_AirTemp		Kaimiloa - P5 - Air Temperature (F)	Kaimiloa - P5 - 101	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
783	HEDOE102_P05_001_Illuminance		Kaimiloa - P5 - Illuminance (lm/ft2)	Kaimiloa - P5 - 101	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
781	HEDOE102_P05_001_RH		Kaimiloa - P5 - Relative Humidity (%)	Kaimiloa - P5 - 101	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
785	HEDOE102_P10_001_AirTemp		Kaimiloa - P10 - Air Temperature (F)	Kaimiloa - P10 - 101	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	
789	HEDOE102_P10_001_Illuminance		Kaimiloa - P10 - Illuminance (lm/ft2)	Kaimiloa - P10 - 101	0	2013-07-23 - 2013-11-19	Yes	Usable	MKThink	



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787	HEDOE102_P10_001_RH		Kaimiloa - P10 - Relative Humidity (%)	Kaimiloa - P10 - 101	0	2013-07-23 - 2013-1- -19	Yes	Usable	MKThink	
791	HEDOE102_P12_001_AirTemp		Kaimiloa - P12 - Air Temperature (F)	Kaimiloa - P12 - 101	0	2013-07-23 - 2013-1- -19	Yes	Usable	MKThink	
795	HEDOE102_P12_001_Illuminance		Kaimiloa - P12 - Illuminance (lm/ft2)	Kaimiloa - P12 - 101	0	2013-07-23 - 2013-1- -19	Yes	Usable	MKThink	
793	HEDOE102_P12_001_RH		Kaimiloa - P12 - Relative Humidity (%)	Kaimiloa - P12 - 101	0	2013-07-23 - 2013-1- -19	Yes	Usable	MKThink	
797	HEDOE102_P14_001_AirTemp		Kaimiloa - P14 - Air Temperature (F)	Kaimiloa - P14 - 101	0	2013-07-23 - 2013-1- -19	Yes	Usable	MKThink	
801	HEDOE102_P14_001_Illuminance		Kaimiloa - P14 - Illuminance (lm/ft2)	Kaimiloa - P14 - 101	0	2013-07-23 - 2013-1- -19	Yes	Usable	MKThink	
799	HEDOE102_P14_001_RH		Kaimiloa - P14 - Relative Humidity (%)	Kaimiloa - P14 - 101	0	2013-07-23 - 2013-1- -19	Yes	Usable	MKThink	
803	HEDOE201_C_106_AirTemp		Hima - C106 - Air Temperature (F)	Hima - Bldg C - 116	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
807	HEDOE201_C_106_Illuminance		Hima - C106 - Illuminance (lm/ft2)	Hima - Bldg C - 116	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
805	HEDOE201_C_106_RH		Hima - C106 - Relative Humidity (%)	Hima - Bldg C - 116	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
810	HEDOE201_C_107_AirTemp		Hima - C107 - Air Temperature (F)	Hima - Bldg C - 119	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
814	HEDOE201_C_107_Illuminance		Hima - C107 - Illuminance (lm/ft2)	Hima - Bldg C - 119	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
812	HEDOE201_C_107_RH		Hima - C107 - Relative Humidity (%)	Hima - Bldg C - 119	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
816	HEDOE201_C_206_AirTemp		Hima - C206 - Air Temperature (F)	Hima - Bldg C - 218	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
820	HEDOE201_C_206_Illuminance		Hima - C206 - Illuminance (lm/ft2)	Hima - Bldg C - 218	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
818	HEDOE201_C_206_RH		Hima - C206 - Relative Humidity (%)	Hima - Bldg C - 218	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
822	HEDOE201_C_207_AirTemp		Hima - C207 - Air Temperature (F)	Hima - Bldg C - 221	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
826	HEDOE201_C_207_Illuminance		Hima - C207 - Illuminance (lm/ft2)	Hima - Bldg C - 221	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
834	HEDOE201_C_207_RH		Hima - C207 - Relative Humidity (%)	Hima - Bldg C - 221	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
828	HEDOE201_D_101_AirTemp		Hima - D101 - Air Temperature (F)	Hima - Bldg D - 101	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
832	HEDOE201_D_101_Illuminance		Hima - D101 - Illuminance (lm/ft2)	Hima - Bldg D - 101	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
830	HEDOE201_D_101_RH		Hima - D101 - Relative Humidity (%)	Hima - Bldg D - 101	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
827	HEDOE201_D_102_AirTemp		Hima - D102 - Air Temperature (F)	Hima - Bldg D - 104	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
833	HEDOE201_D_102_Illuminance		Hima - D102 - Illuminance (lm/ft2)	Hima - Bldg D - 104	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
830	HEDOE201_D_102_RH		Hima - D102 - Relative Humidity (%)	Hima - Bldg D - 104	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
836	HEDOE201_D_201_AirTemp		Hima - D201 - Air Temperature (F)	Hima - Bldg D - 201	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
842	HEDOE201_D_201_Illuminance		Hima - D201 - Illuminance (lm/ft2)	Hima - Bldg D - 201	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
839	HEDOE201_D_201_RH		Hima - D201 - Relative Humidity (%)	Hima - Bldg D - 201	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
845	HEDOE201_D_202_AirTemp		Hima - D202 - Air Temperature (F)	Hima - Bldg D - 203	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
851	HEDOE201_D_202_Illuminance		Hima - D202 - Illuminance (lm/ft2)	Hima - Bldg D - 203	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
848	HEDOE201_D_202_RH		Hima - D202 - Relative Humidity (%)	Hima - Bldg D - 203	0	2013-07-20 - 2013-1- -19	Yes	Usable	MKThink	
854	HEDOE201_I_101_AirTemp		Hima - I101 - Air Temperature (F)	Hima - Bldg I - 101	0	2013-07-20 - 2013-1- -20	Yes	Usable	MKThink	
860	HEDOE201_I_101_Illuminance		Hima - I101 - Illuminance (lm/ft2)	Hima - Bldg I - 101	0	2013-07-20 - 2013-1- -20	Yes	Usable	MKThink	
857	HEDOE201_I_101_RH		Hima - I101 - Relative Humidity (%)	Hima - Bldg I - 101	0	2013-07-20 - 2013-1- -20	Yes	Usable	MKThink	
863	HEDOE201_I_103_AirTemp		Hima - I103 - Air Temperature (F)	Hima - Bldg I - 114	0	2013-07-20 - 2013-1- -20	Yes	Usable	MKThink	



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	669	HIDOE201_I_103_Illuminance		Ilima - I103 - Illuminance (lm/f2)	Ilima - Bldg I - 114	0	2013-07-20 - 2013-1-20	Yes	Usable	MXThink	
	666	HIDOE201_I_103_RH		Ilima - I103 - Relative Humidity (%)	Ilima - Bldg I - 114	0	2013-07-20 - 2013-1-20	Yes	Usable	MXThink	
	672	HIDOE201_I_104_AirTemp		Ilima - I104 - Air Temperature (F)	Ilima - Bldg I - 125	0	2013-07-20 - 2013-1-20	Yes	Usable	MXThink	
	678	HIDOE201_I_104_Illuminance		Ilima - I104 - Illuminance (lm/f2)	Ilima - Bldg I - 125	0	2013-07-20 - 2013-1-20	Yes	Usable	MXThink	
	675	HIDOE201_I_104_RH		Ilima - I104 - Relative Humidity (%)	Ilima - Bldg I - 125	0	2013-07-20 - 2013-1-20	Yes	Usable	MXThink	
	681	HIDOE201_J_101_AirTemp		Ilima - J101 - Air Temperature (F)	Ilima - Bldg J - 110	0	2013-07-20 - 2013-1-20	Yes	Usable	MXThink	
	687	HIDOE201_J_101_Illuminance		Ilima - J101 - Illuminance (lm/f2)	Ilima - Bldg J - 110	0	2013-07-20 - 2013-1-20	Yes	Usable	MXThink	
	684	HIDOE201_J_101_RH		Ilima - J101 - Relative Humidity (%)	Ilima - Bldg J - 110	0	2013-07-20 - 2013-1-20	Yes	Usable	MXThink	
	690	HIDOE201_J_102_AirTemp		Ilima - J102 - Air Temperature (F)	Ilima - Bldg J - 101	0	2013-07-20 - 2013-1-19	Yes	Usable	MXThink	
	695	HIDOE201_J_102_Illuminance		Ilima - J102 - Illuminance (lm/f2)	Ilima - Bldg J - 101	0	2013-07-20 - 2013-1-19	Yes	Usable	MXThink	
	1777	HIDOE201_J_102_RH		Ilima - J102 - Relative Humidity (%)	Ilima - Bldg J - 101	0	2013-07-20 - 2013-1-19	Yes	Usable	MXThink	
	698	HIDOE201_R_101_AirTemp		Ilima - R101 - Air Temperature (F)	Ilima - Bldg R - 101	0	2013-07-20 - 2013-1-20	Yes	Usable	MXThink	
	704	HIDOE201_R_101_Illuminance		Ilima - R101 - Illuminance (lm/f2)	Ilima - Bldg R - 101	0	2013-07-20 - 2013-1-20	Yes	Usable	MXThink	
	701	HIDOE201_R_101_RH		Ilima - R101 - Relative Humidity (%)	Ilima - Bldg R - 101	0	2013-07-20 - 2013-1-20	Yes	Usable	MXThink	
	708	HIDOE201_R_102_AirTemp		Ilima - R102 - Air Temperature (F)	Ilima - Bldg R - 104	0	2013-07-20 - 2013-1-19	Yes	Usable	MXThink	
	714	HIDOE201_R_102_Illuminance		Ilima - R102 - Illuminance (lm/f2)	Ilima - Bldg R - 104	0	2013-07-20 - 2013-1-19	Yes	Usable	MXThink	
	711	HIDOE201_R_102_RH		Ilima - R102 - Relative Humidity (%)	Ilima - Bldg R - 104	0	2013-07-20 - 2013-1-19	Yes	Usable	MXThink	
	717	HIDOE301_D_102_AirTemp		Campbell - D102 - Air Temperature (F)	Campbell - Bldg D - 102	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	721	HIDOE301_D_102_Illuminance		Campbell - D102 - Illuminance (lm/f2)	Campbell - Bldg D - 102	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	719	HIDOE301_D_102_RH		Campbell - D102 - Relative Humidity (%)	Campbell - Bldg D - 102	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	723	HIDOE301_D_105_AirTemp		Campbell - D105 - Air Temperature (F)	Campbell - Bldg D - 105	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	727	HIDOE301_D_105_Illuminance		Campbell - D105 - Illuminance (lm/f2)	Campbell - Bldg D - 105	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	725	HIDOE301_D_105_RH		Campbell - D105 - Relative Humidity (%)	Campbell - Bldg D - 105	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	729	HIDOE301_D_109_AirTemp		Campbell - D109 - Air Temperature (F)	Campbell - Bldg D - 109	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	733	HIDOE301_D_109_Illuminance		Campbell - D109 - Illuminance (lm/f2)	Campbell - Bldg D - 109	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	731	HIDOE301_D_109_RH		Campbell - D109 - Relative Humidity (%)	Campbell - Bldg D - 109	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	735	HIDOE301_D_112_AirTemp		Campbell - D112 - Air Temperature (F)	Campbell - Bldg D - 112	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	739	HIDOE301_D_112_Illuminance		Campbell - D112 - Illuminance (lm/f2)	Campbell - Bldg D - 112	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	737	HIDOE301_D_112_RH		Campbell - D112 - Relative Humidity (%)	Campbell - Bldg D - 112	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	741	HIDOE301_D_202_AirTemp		Campbell - D202 - Air Temperature (F)	Campbell - Bldg D - 202	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	745	HIDOE301_D_202_Illuminance		Campbell - D202 - Illuminance (lm/f2)	Campbell - Bldg D - 202	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	743	HIDOE301_D_202_RH		Campbell - D202 - Relative Humidity (%)	Campbell - Bldg D - 202	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	747	HIDOE301_D_205_AirTemp		Campbell - D205 - Air Temperature (F)	Campbell - Bldg D - 205	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	751	HIDOE301_D_205_Illuminance		Campbell - D205 - Illuminance (lm/f2)	Campbell - Bldg D - 205	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	
	749	HIDOE301_D_205_RH		Campbell - D205 - Relative Humidity (%)	Campbell - Bldg D - 205	0	2013-07-23 - 2013-1-20	Yes	Usable	MXThink	



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753	HIDOE301_D_209_AirTemp		Campbell - D209 - Air Temperature (F)	Campbell - Rtdg D - 209	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
757	HIDOE301_D_209_Illuminance		Campbell - D209 - Illuminance (lm/ft2)	Campbell - Rtdg D - 209	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
753	HIDOE301_D_209_RH		Campbell - D209 - Relative Humidity (%)	Campbell - Rtdg D - 209	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
739	HIDOE301_D_212_AirTemp		Campbell - D212 - Air Temperature (F)	Campbell - Rtdg D - 212	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
764	HIDOE301_D_212_Illuminance		Campbell - D212 - Illuminance (lm/ft2)	Campbell - Rtdg D - 212	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
761	HIDOE301_D_212_RH		Campbell - D212 - Relative Humidity (%)	Campbell - Rtdg D - 212	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
766	HIDOE301_D_302_AirTemp		Campbell - D302 - Air Temperature (F)	Campbell - Rtdg D - 302	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
770	HIDOE301_D_302_Illuminance		Campbell - D302 - Illuminance (lm/ft2)	Campbell - Rtdg D - 302	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
768	HIDOE301_D_302_RH		Campbell - D302 - Relative Humidity (%)	Campbell - Rtdg D - 302	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
772	HIDOE301_D_305_AirTemp		Campbell - D305 - Air Temperature (F)	Campbell - Rtdg D - 305	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
776	HIDOE301_D_305_Illuminance		Campbell - D305 - Illuminance (lm/ft2)	Campbell - Rtdg D - 305	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
774	HIDOE301_D_305_RH		Campbell - D305 - Relative Humidity (%)	Campbell - Rtdg D - 305	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
778	HIDOE301_D_309_AirTemp		Campbell - D309 - Air Temperature (F)	Campbell - Rtdg D - 309	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
782	HIDOE301_D_309_Illuminance		Campbell - D309 - Illuminance (lm/ft2)	Campbell - Rtdg D - 309	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
780	HIDOE301_D_309_RH		Campbell - D309 - Relative Humidity (%)	Campbell - Rtdg D - 309	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
784	HIDOE301_D_312_AirTemp		Campbell - D312 - Air Temperature (F)	Campbell - Rtdg D - 312	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
788	HIDOE301_D_312_Illuminance		Campbell - D312 - Illuminance (lm/ft2)	Campbell - Rtdg D - 312	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
786	HIDOE301_D_312_RH		Campbell - D312 - Relative Humidity (%)	Campbell - Rtdg D - 312	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
790	HIDOE301_F_102_AirTemp		Campbell - F102 - Air Temperature (F)	Campbell - Rtdg F - 102	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
794	HIDOE301_F_102_Illuminance		Campbell - F102 - Illuminance (lm/ft2)	Campbell - Rtdg F - 102	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
792	HIDOE301_F_102_RH		Campbell - F102 - Relative Humidity (%)	Campbell - Rtdg F - 102	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
796	HIDOE301_J_105_AirTemp		Campbell - J105 - Air Temperature (F)	Campbell - Rtdg J - 104	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
800	HIDOE301_J_105_Illuminance		Campbell - J105 - Illuminance (lm/ft2)	Campbell - Rtdg J - 104	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
798	HIDOE301_J_105_RH		Campbell - J105 - Relative Humidity (%)	Campbell - Rtdg J - 104	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
802	HIDOE301_J_109_AirTemp		Campbell - J109 - Air Temperature (F)	Campbell - Rtdg J - 120	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
806	HIDOE301_J_109_Illuminance		Campbell - J109 - Illuminance (lm/ft2)	Campbell - Rtdg J - 120	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
804	HIDOE301_J_109_RH		Campbell - J109 - Relative Humidity (%)	Campbell - Rtdg J - 120	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
808	HIDOE301_N_001_AirTemp		Campbell - N001 - Air Temperature (F)	Campbell - Rtdg N - 122	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
811	HIDOE301_N_001_Illuminance		Campbell - N001 - Illuminance (lm/ft2)	Campbell - Rtdg N - 122	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
809	HIDOE301_N_001_RH		Campbell - N001 - Relative Humidity (%)	Campbell - Rtdg N - 122	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
813	HIDOE301_O_102_AirTemp		Campbell - O102 - Air Temperature (F)	Campbell - Rtdg O - 114	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
817	HIDOE301_O_102_Illuminance		Campbell - O102 - Illuminance (lm/ft2)	Campbell - Rtdg O - 114	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
815	HIDOE301_O_102_RH		Campbell - O102 - Relative Humidity (%)	Campbell - Rtdg O - 114	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
819	HIDOE301_O_104_AirTemp		Campbell - O104 - Air Temperature (F)	Campbell - Rtdg O - 118	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
823	HIDOE301_O_104_Illuminance		Campbell - O104 - Illuminance (lm/ft2)	Campbell - Rtdg O - 118	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	

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821	HEDOES01_O_104_RH		Campbell - 0104 - Relative Humidity (%)	Campbell - Rtdg O - 104	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
825	HEDOES01_O_105_AirTemp		Campbell - 0105 - Air Temperature (F)	Campbell - Rtdg O - 104	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
829	HEDOES01_O_105_Illuminance		Campbell - 0105 - Illuminance (lm/ft2)	Campbell - Rtdg O - 104	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
827	HEDOES01_O_105_RH		Campbell - 0105 - Relative Humidity (%)	Campbell - Rtdg O - 104	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
831	HEDOES01_O_107_AirTemp		Campbell - 0107 - Air Temperature (F)	Campbell - Rtdg O - 106	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
834	HEDOES01_O_107_Illuminance		Campbell - 0107 - Illuminance (lm/ft2)	Campbell - Rtdg O - 106	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
833	HEDOES01_O_107_RH		Campbell - 0107 - Relative Humidity (%)	Campbell - Rtdg O - 106	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
629	HEDOES01_O_202_AirTemp		Campbell - 0202 - Air Temperature (F)	Campbell - Rtdg O - 213	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
635	HEDOES01_O_202_Illuminance		Campbell - 0202 - Illuminance (lm/ft2)	Campbell - Rtdg O - 213	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
632	HEDOES01_O_202_RH		Campbell - 0202 - Relative Humidity (%)	Campbell - Rtdg O - 213	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
638	HEDOES01_O_204_AirTemp		Campbell - 0204 - Air Temperature (F)	Campbell - Rtdg O - 204	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
644	HEDOES01_O_204_Illuminance		Campbell - 0204 - Illuminance (lm/ft2)	Campbell - Rtdg O - 204	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
641	HEDOES01_O_204_RH		Campbell - 0204 - Relative Humidity (%)	Campbell - Rtdg O - 204	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
647	HEDOES01_O_205_AirTemp		Campbell - 0205 - Air Temperature (F)	Campbell - Rtdg O - 206	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
653	HEDOES01_O_205_Illuminance		Campbell - 0205 - Illuminance (lm/ft2)	Campbell - Rtdg O - 206	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
650	HEDOES01_O_205_RH		Campbell - 0205 - Relative Humidity (%)	Campbell - Rtdg O - 206	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
656	HEDOES01_O_207_AirTemp		Campbell - 0207 - Air Temperature (F)	Campbell - Rtdg O - 213	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
662	HEDOES01_O_207_Illuminance		Campbell - 0207 - Illuminance (lm/ft2)	Campbell - Rtdg O - 213	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
659	HEDOES01_O_207_RH		Campbell - 0207 - Relative Humidity (%)	Campbell - Rtdg O - 213	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
665	HEDOES01_O_302_AirTemp		Campbell - 0302 - Air Temperature (F)	Campbell - Rtdg O - 311	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
671	HEDOES01_O_302_Illuminance		Campbell - 0302 - Illuminance (lm/ft2)	Campbell - Rtdg O - 311	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
668	HEDOES01_O_302_RH		Campbell - 0302 - Relative Humidity (%)	Campbell - Rtdg O - 311	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
674	HEDOES01_O_304_AirTemp		Campbell - 0304 - Air Temperature (F)	Campbell - Rtdg O - 313	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
680	HEDOES01_O_304_Illuminance		Campbell - 0304 - Illuminance (lm/ft2)	Campbell - Rtdg O - 313	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
677	HEDOES01_O_304_RH		Campbell - 0304 - Relative Humidity (%)	Campbell - Rtdg O - 313	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
683	HEDOES01_O_310_AirTemp		Campbell - 0310 - Air Temperature (F)	Campbell - Rtdg O - 308	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
689	HEDOES01_O_310_Illuminance		Campbell - 0310 - Illuminance (lm/ft2)	Campbell - Rtdg O - 308	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
686	HEDOES01_O_310_RH		Campbell - 0310 - Relative Humidity (%)	Campbell - Rtdg O - 308	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
692	HEDOES01_P01_001_AirTemp		Campbell - P1 - Air Temperature (F)	Campbell - P1 - 101	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
697	HEDOES01_P01_001_Illuminance		Campbell - P1 - Illuminance (lm/ft2)	Campbell - P1 - 101	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
694	HEDOES01_P01_001_RH		Campbell - P1 - Relative Humidity (%)	Campbell - P1 - 101	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
700	HEDOES01_P06_001_AirTemp		Campbell - P6 - Air Temperature (F)	Campbell - P6 - 101	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
706	HEDOES01_P06_001_Illuminance		Campbell - P6 - Illuminance (lm/ft2)	Campbell - P6 - 101	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
703	HEDOES01_P06_001_RH		Campbell - P6 - Relative Humidity (%)	Campbell - P6 - 101	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
709	HEDOES01_P11_001_AirTemp		Campbell - P11 - Air Temperature (F)	Campbell - P11 - 101	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	

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	715 HEDOE301_P11_001_Illuminance		Campbell - P11 - Illuminance (lux/2)	Campbell - P11 - 101	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
	712 HEDOE301_P11_001_HH		Campbell - P11 - Relative Humidity (%)	Campbell - P11 - 101	0	2013-07-23 - 2013-1-20	Yes	Usable	MKThink	
16	Floor Plate									
	542 HEDOE102_E_F1		Kaimiloa - Building E 1F	Kaimiloa - Bldg E			Yes	Usable	MKThink	
	543 HEDOE102_E_F2		Kaimiloa - Building E 2F	Kaimiloa - Bldg E			Yes	Usable	MKThink	
	544 HEDOE102_F_F1		Kaimiloa - Building F 1F	Kaimiloa - Bldg F			Yes	Usable	MKThink	
	545 HEDOE102_F_F2		Kaimiloa - Building F 2F	Kaimiloa - Bldg F			Yes	Usable	MKThink	
	546 HEDOE201_C_F1		Ilima - Building C 1F	Ilima - Bldg C			Yes	Usable	MKThink	
	547 HEDOE201_C_F2		Ilima - Building C 2F	Ilima - Bldg C			Yes	Usable	MKThink	
	548 HEDOE301_D_F1		Campbell - Building D 1F	Campbell - Bldg D			Yes	Usable	MKThink	
	549 HEDOE301_D_F2		Campbell - Building D 2F	Campbell - Bldg D			Yes	Usable	MKThink	
	550 HEDOE301_D_F3		Campbell - Building D 3F	Campbell - Bldg D			Yes	Usable	MKThink	
	551 HEDOE301_O_F1		Campbell - Building O 1F	Campbell - Bldg O			Yes	Usable	MKThink	
	552 HEDOE301_O_F2		Campbell - Building O 2F	Campbell - Bldg O			Yes	Usable	MKThink	
	553 HEDOE301_O_F3		Campbell - Building O 3F	Campbell - Bldg O			Yes	Usable	MKThink	
32	Building2									
	517 HEDOE101_A		Pohukoa - Bldg A	Pohukoa Elementary School			Yes	Usable	MKThink	
	518 HEDOE101_B		Pohukoa - Bldg B	Pohukoa Elementary School			Yes	Usable	MKThink	
	519 HEDOE101_P09		Pohukoa - P9	Pohukoa Elementary School			Yes	Usable	MKThink	
	520 HEDOE101_P25		Pohukoa - P25	Pohukoa Elementary School			Yes	Usable	MKThink	
	521 HEDOE101_P26		Pohukoa - P26	Pohukoa Elementary School			Yes	Usable	MKThink	
	522 HEDOE101_P28		Pohukoa - P28	Pohukoa Elementary School			Yes	Usable	MKThink	
	523 HEDOE102_E		Kaimiloa - Bldg E	Kaimiloa Elementary School			Yes	Usable	MKThink	
	524 HEDOE102_F		Kaimiloa - Bldg F	Kaimiloa Elementary School			Yes	Usable	MKThink	
	525 HEDOE102_P05		Kaimiloa - P5	Kaimiloa Elementary School			Yes	Usable	MKThink	
	526 HEDOE102_P10		Kaimiloa - P10	Kaimiloa Elementary School			Yes	Usable	MKThink	
	527 HEDOE102_P12		Kaimiloa - P12	Kaimiloa Elementary School			Yes	Usable	MKThink	
	528 HEDOE102_P14		Kaimiloa - P14	Kaimiloa Elementary School			Yes	Usable	MKThink	
	529 HEDOE201_C		Ilima - Bldg C	Ilima Intermediate School			Yes	Usable	MKThink	
	530 HEDOE201_D		Ilima - Bldg D	Ilima Intermediate School			Yes	Usable	MKThink	
	531 HEDOE201_I		Ilima - Bldg I	Ilima Intermediate School			Yes	Usable	MKThink	
	532 HEDOE201_J		Ilima - Bldg J	Ilima Intermediate School			Yes	Usable	MKThink	
	533 HEDOE201_R		Ilima - Bldg R	Ilima Intermediate School			Yes	Usable	MKThink	
	534 HEDOE301_D		Campbell - Bldg D	Campbell High School			Yes	Usable	MKThink	
	535 HEDOE301_F		Campbell - Bldg F	Campbell High School			Yes	Usable	MKThink	
	536 HEDOE301_J		Campbell - Bldg J	Campbell High School			Yes	Usable	MKThink	
	537 HEDOE301_N		Campbell - Bldg N	Campbell High School			Yes	Usable	MKThink	
	538 HEDOE301_O		Campbell - Bldg O	Campbell High School			Yes	Usable	MKThink	
	539 HEDOE301_P01		Campbell - P1	Campbell High School			Yes	Usable	MKThink	
	540 HEDOE301_P06		Campbell - P6	Campbell High School			Yes	Usable	MKThink	
	541 HEDOE301_P11		Campbell - P11	Campbell High School			Yes	Usable	MKThink	
	638 Site101_Bldg003		Pohukoa - Bldg C	Pohukoa Elementary School			Yes	Usable	MKThink	
	639 Site101_Bldg004		Pohukoa - Bldg D	Pohukoa Elementary School			Yes	Usable	MKThink	
	640 Site101_Bldg005		Pohukoa - Bldg E	Pohukoa Elementary School			Yes	Usable	MKThink	
	641 Site101_Bldg006		Pohukoa - Bldg F	Pohukoa Elementary School			Yes	Usable	MKThink	
	670 Site101_Port001		Pohukoa - P6	Pohukoa Elementary School			Yes	Usable	MKThink	
	671 Site101_Port005		Pohukoa - P27	Pohukoa Elementary School			Yes	Usable	MKThink	
	635 Site102_Bldg001		Kaimiloa - Admin Bldg	Kaimiloa Elementary School			Yes	Usable	MKThink	
	636 Site102_Bldg002		Kaimiloa - Library Bldg	Kaimiloa Elementary School			Yes	Usable	MKThink	
	637 Site102_Bldg003		Kaimiloa - Bldg B	Kaimiloa Elementary School			Yes	Usable	MKThink	
	660 Site102_Port001		Kaimiloa - P1	Kaimiloa Elementary School			Yes	Usable	MKThink	
	661 Site102_Port002		Kaimiloa - P2	Kaimiloa Elementary School			Yes	Usable	MKThink	
	662 Site102_Port003		Kaimiloa - P3	Kaimiloa Elementary School			Yes	Usable	MKThink	
	663 Site102_Port004		Kaimiloa - P4	Kaimiloa Elementary School			Yes	Usable	MKThink	
	664 Site102_Port006		Kaimiloa - P6	Kaimiloa Elementary School			Yes	Usable	MKThink	
	665 Site102_Port007		Kaimiloa - P7	Kaimiloa Elementary School			Yes	Usable	MKThink	
	666 Site102_Port008		Kaimiloa - P8	Kaimiloa Elementary School			Yes	Usable	MKThink	
	667 Site102_Port009		Kaimiloa - P9	Kaimiloa Elementary School			Yes	Usable	MKThink	
	668 Site102_Port011		Kaimiloa - P11	Kaimiloa Elementary School			Yes	Usable	MKThink	

SCALE #	SENSOR NAME	UNIT	CLIENT PROVIDED DESCRIPTION	ASSIGNMENT	INTERVAL	DATE RANGE	DATA FILES EXISTS	STATUS	DATA ACQUISITION RESPONSIBILITY	CAPS, LIMITATIONS, ASSUMPTIONS
	869 Site102_Port013		Kaimiloa - P13	Kaimiloa Elementary School			Yes	Usable	MKTthink	
	842 Site201_Bldg001		Ilima - Bldg A	Ilima Intermediate School			Yes	Usable	MKTthink	
	843 Site201_Bldg002		Ilima - Bldg B	Ilima Intermediate School			Yes	Usable	MKTthink	
	844 Site201_Bldg003		Ilima - Bldg E	Ilima Intermediate School			Yes	Usable	MKTthink	
	845 Site201_Bldg006		Ilima - Bldg F	Ilima Intermediate School			Yes	Usable	MKTthink	
	846 Site201_Bldg007		Ilima - Bldg G	Ilima Intermediate School			Yes	Usable	MKTthink	
	847 Site201_Bldg008		Ilima - Bldg H	Ilima Intermediate School			Yes	Usable	MKTthink	
	848 Site201_Bldg011		Ilima - Bldg K	Ilima Intermediate School			Yes	Usable	MKTthink	
	849 Site201_Bldg012		Ilima - Bldg L	Ilima Intermediate School			Yes	Usable	MKTthink	
	850 Site201_Bldg013		Ilima - Bldg M	Ilima Intermediate School			Yes	Usable	MKTthink	
	872 Site201_Port001		Ilima - P1	Ilima Intermediate School			Yes	Usable	MKTthink	
	873 Site201_Port002		Ilima - P2	Ilima Intermediate School			Yes	Usable	MKTthink	
	874 Site201_Port003		Ilima - TB1	Ilima Intermediate School			Yes	Usable	MKTthink	
	875 Site201_Port004		Ilima - TB2	Ilima Intermediate School			Yes	Usable	MKTthink	
	876 Site201_Port005		Ilima - TB3	Ilima Intermediate School			Yes	Usable	MKTthink	
	877 Site201_Port006		Ilima - TB4	Ilima Intermediate School			Yes	Usable	MKTthink	
	851 Site301_Bldg001		Campbell - Bldg A	Campbell High School			Yes	Usable	MKTthink	
	852 Site301_Bldg003		Campbell - Bldg E	Campbell High School			Yes	Usable	MKTthink	
	853 Site301_Bldg005		Campbell - Bldg G	Campbell High School			Yes	Usable	MKTthink	
	854 Site301_Bldg006		Campbell - Bldg H	Campbell High School			Yes	Usable	MKTthink	
	855 Site301_Bldg007		Campbell - Bldg I	Campbell High School			Yes	Usable	MKTthink	
	856 Site301_Bldg009		Campbell - Bldg K	Campbell High School			Yes	Usable	MKTthink	
	857 Site301_Bldg010		Campbell - Bldg L	Campbell High School			Yes	Usable	MKTthink	
	858 Site301_Bldg013		Campbell - Bldg Q	Campbell High School			Yes	Usable	MKTthink	
	859 Site301_Bldg014		Campbell - Bldg R	Campbell High School			Yes	Usable	MKTthink	
	878 Site301_Port002		Campbell - P2	Campbell High School			Yes	Usable	MKTthink	
	879 Site301_Port003		Campbell - P3	Campbell High School			Yes	Usable	MKTthink	
	880 Site301_Port004		Campbell - P4	Campbell High School			Yes	Usable	MKTthink	
	881 Site301_Port005		Campbell - P5	Campbell High School			Yes	Usable	MKTthink	
	882 Site301_Port007		Campbell - P7	Campbell High School			Yes	Usable	MKTthink	
	883 Site301_Port008		Campbell - P8	Campbell High School			Yes	Usable	MKTthink	
	884 Site301_Port009		Campbell - P9	Campbell High School			Yes	Usable	MKTthink	
	885 Site301_Port010		Campbell - P10	Campbell High School			Yes	Usable	MKTthink	
	886 Site301_Port012		Campbell - P12	Campbell High School			Yes	Usable	MKTthink	
64	School2									
	514 401		Pohukoa Elementary School	Pohukoa Elementary School	0	2013-06-18 - 2013-0-18	Yes	Usable	MKTthink	
	515 402		Kaimiloa Elementary School	Kaimiloa Elementary School	0	2013-06-18 - 2013-0-18	Yes	Usable	MKTthink	
	513 501		Ilima Intermediate School	Ilima Intermediate School	0	2013-06-18 - 2013-0-18	Yes	Usable	MKTthink	
	516 601		Campbell High School	Campbell High School	0	2013-06-18 - 2013-0-18	Yes	Usable	MKTthink	
128	Site2									
	487 HIDEO101		Pohukoa Elementary School				Yes	Usable	MKTthink	
	488 HIDEO102		Kaimiloa Elementary School				Yes	Usable	MKTthink	
	1767 HIDEO103		Ewa Beach Elementary School				Yes	Usable	MKTthink	
	489 HIDEO201		Ilima Intermediate School				Yes	Usable	MKTthink	
	490 HIDEO301		Campbell High School				Yes	Usable	MKTthink	
	508 HIDEO101_electricity001		HIDEO101_electricity001	HIDEO101_electricity001	1h 36m	2012-03-02 - 2013-0-18	Yes	Usable	MKTthink	
	491 HIDEO101_gas001		HIDEO101_gas001	HIDEO101_gas001	1h 24m 42s	2012-01-31 - 2013-0-18	Yes	Usable	MKTthink	
	509 HIDEO101_water001		HIDEO101_water001	HIDEO101_water001	1h 36m	2012-03-29 - 2013-0-18	Yes	Usable	MKTthink	
	567 HIDEO102_electricity001		HIDEO102_electricity001	HIDEO102_electricity001	1h 36m	2012-04-03 - 2013-0-18	Yes	Usable	MKTthink	
	519 HIDEO102_water001		HIDEO102_water001	HIDEO102_water001	1h 36m	2012-03-29 - 2013-0-18	Yes	Usable	MKTthink	
	1774 HIDEO103						Yes	Usable	MKTthink	
	1773 HIDEO103_Weather_AirT		Ewa - Weather Station - Air Temperature		0	2013-07-16 - 2013-1-30	Yes	Usable	MKTthink	
	1770 HIDEO103_Weather_BarometricPressure		Ewa - Weather Station - Pressure	Ewa Beach Elementary School	0	2013-07-16 - 2013-1-30	Yes	Usable	MKTthink	
	1768 HIDEO103_Weather_DewPoint		Ewa - Weather Station - Dew Point	Ewa Beach Elementary School	0	2013-07-16 - 2013-1-30	Yes	Usable	MKTthink	

SCALE #	SENSOR NAME	UNIT	CLIENT PROVIDED DESCRIPTION	ASSIGNMENT	INTERVAL	DATE RANGE	DATA FILES EXISTS	STATUS	DATA ACQUISITION RESPONSIBILITY	GAPS, LIMITATIONS, ASSUMPTIONS
1769	HIDOE103_Weather_GustSpeed		Ewa - Weather Station - Gust Speed	Ewa Beach Elementary School	0	2013-07-16 - 2013-1- -30	Yes	Usable	McThink	
1772	HIDOE103_Weather_Rainfall		Ewa - Weather Station - Rain	Ewa Beach Elementary School	0	2013-07-16 - 2013-1- -30	Yes	Usable	McThink	
1771	HIDOE103_Weather_RelHumidity		Ewa - Weather Station - Relative Humidity	Ewa Beach Elementary School	0	2013-07-16 - 2013-1- -30	Yes	Usable	McThink	
1773	HIDOE103_Weather_SolarRadiation		Ewa - Weather Station - Solar Radiation	Ewa Beach Elementary School	0	2013-07-16 - 2013-1- -30	Yes	Usable	McThink	
1776	HIDOE103_Weather_WindDirection		Ewa - Weather Station - Wind Dir		0	2013-07-16 - 2013-1- -04	Yes	Usable	McThink	
506	HIDOE201_electricity001		HIDOE201_electricity001	HIDOE201_electricity001	2h 10m 54s	2012-07-02 - 2013-0- -18	Yes	Usable	McThink	
492	HIDOE201_gas001		HIDOE201_gas001	HIDOE201_gas001	1h 24m 42s	2012-01-31 - 2013-0- -18	Yes	Usable	McThink	
493	HIDOE201_gas002		HIDOE201_gas002	HIDOE201_gas002	1h 24m 42s	2012-01-31 - 2013-0- -18	Yes	Usable	McThink	
494	HIDOE201_gas003		HIDOE201_gas003	HIDOE201_gas003	1h 24m 42s	2012-01-31 - 2013-0- -18	Yes	Usable	McThink	
495	HIDOE201_gas004		HIDOE201_gas004	HIDOE201_gas004	1h 24m 42s	2012-01-31 - 2013-0- -18	Yes	Usable	McThink	
511	HIDOE201_water001		HIDOE201_water001	HIDOE201_water001	1h 50m 46s	2012-04-30 - 2013-0- -18	Yes	Usable	McThink	
503	HIDOE301_electricity001		HIDOE301_electricity001	HIDOE301_electricity001	1h 36m	2012-02-01 - 2013-0- -18	Yes	Usable	McThink	
504	HIDOE301_electricity002		HIDOE301_electricity002	HIDOE301_electricity002	1h 36m	2012-02-01 - 2013-0- -18	Yes	Usable	McThink	
505	HIDOE301_electricity003		HIDOE301_electricity003	HIDOE301_electricity003	1h 36m	2012-02-01 - 2013-0- -18	Yes	Usable	McThink	
496	HIDOE301_gas001		HIDOE301_gas001	HIDOE301_gas001	1h 24m 42s	2012-01-31 - 2013-0- -18	Yes	Usable	McThink	
497	HIDOE301_gas002		HIDOE301_gas002	HIDOE301_gas002	1h 24m 42s	2012-01-31 - 2013-0- -18	Yes	Usable	McThink	
498	HIDOE301_gas003		HIDOE301_gas003	HIDOE301_gas003	1h 24m 42s	2012-01-31 - 2013-0- -18	Yes	Usable	McThink	
499	HIDOE301_gas004		HIDOE301_gas004	HIDOE301_gas004	1h 24m 42s	2012-01-31 - 2013-0- -18	Yes	Usable	McThink	
500	HIDOE301_gas005		HIDOE301_gas005	HIDOE301_gas005	1h 24m 42s	2012-01-31 - 2013-0- -18	Yes	Usable	McThink	
501	HIDOE301_gas006		HIDOE301_gas006	HIDOE301_gas006	1h 24m 42s	2012-01-31 - 2013-0- -18	Yes	Usable	McThink	
502	HIDOE301_gas007		HIDOE301_gas007	HIDOE301_gas007	1h 24m 42s	2012-01-31 - 2013-0- -18	Yes	Usable	McThink	
512	HIDOE301_water001		HIDOE301_water001	HIDOE301_water001	1h 42m 51s	2012-01-08 - 2013-0- -18	Yes	Usable	McThink	

RECOMMENDATIONS

RECOMMENDATIONS

The data collected for Task 1.1 provides a base-level understanding of the indoor environmental conditions by measuring temperature, relative humidity, and illuminance. These variables begin to describe the factors that contribute to user comfortability, but a more robust data collection system should be deployed in order to capture a fuller picture of the interior and exterior environmental conditions on-site. To this end, MKThink recommends installing six high-detail sensor kits to augment the temperature, relative humidity, and illuminance data with CO2 and mean radiant temperature data. Additionally, air quality sensors should be deployed to collect data points describing the levels of NO2 and CO in classrooms near major roads with heavy traffic. This additional information will provide a more refined picture of the indoor environmental quality of classrooms across the Campbell, Ilima, Pohakea, and Kaimiloa campuses. In order to have reliable, site-specific information on the exterior environmental conditions to compare against the interior environmental conditions, MKThink recommends installing five micro-weather stations on site to collect detailed weather information.

Additionally, MKThink recommends tying energy monitoring sensors into the existing electrical supply system to gather fine-grained information about the levels of energy use and consumption for buildings, floors, and individual classrooms on site. This data will be used to determine baseline levels of energy consumption as a benchmark for project energy costs.

In addition to the build out of the sensor network, MKThink will conduct site visits to the Pohakea, Kaimiloa, Ilima, and Campbell school sites to collect information regarding the utilization, construction, and quality of building assets at each school. Further user-related information including occupancy, activity levels, and occupant dress will be collected during on-site visits in order to understand the cultural variables that affect the comfortability of building inhabitants. This information will be used to produce an analytic output demonstrating the relationships between asset, resource, and cultural variables. An initial site visit should be conducted following the stakeholder workshop outlined in Task 1.3. Follow up site visits will be used to target specific asset and cultural variables.

Hawai'i Department of Education
K-12 Energy Systems Study
Part 1: Research and Planning
Contract #MA140034

Task 1.3 Project Kickoff

July 2014

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Hawai'i Department of Education K-12 Energy Systems Study

Project Kickoff Workshop

10 June 2014



HNEI MKTHINK

1 Task 1.3: Project Kickoff Meeting and Workshop

DELIVERABLE 1.3 TASK ORDER

- a) Joint workshop with DOE to confirm project goals, metrics, objectives and schedule
- b) Define family of metrics to be during study
- c) Establish core team and project management/communication protocols
- d) Acquire additional DOE-provided study data and benchmarks
- e) Review field data collection and monitoring plan; schedule field collection
- f) Develop catalog of sources and data to be used during the study

Task Overview

Task 1.3 included a presentation and joint workshop with DOE to confirm project goals, metrics, objectives, and the project schedule. The presentation for this workshop included a summary of the metrics, methodology, and initial data included in the Task 1.2 deliverable.

The presentation in June 2014 covered the following topics:

- Project Goals
- Thermal Comfort Literature Review
- Data Collection Plan
 - Resource Data
 - Asset Data
 - Cultural Data
- Project Kickoff Items
 - Goals, Objectives, and Metrics
 - Team and Project Responsibilities
 - Communications Protocol
 - Project Schedule
 - Final Field Data Collection and Monitoring Plan
 - Catalogue of Data Sources and Data to be Used During Study

Project Goals and Objectives

The presentation and workshop confirmed that the aim of this project is to assess the Asset, Resource, and Cultural (ARC) conditions that are currently affecting thermal comfort levels at the Campbell School complex on O'ahu. The main project objective is to maintain natural ventilation at the schools while supporting DOE's overall strategic objectives.

The project goals were defined as the following:

- Collect data pertaining to building assets, energy usage, comfort level, and financials from the Campbell, Ilima, Kaimiloa, and Pohakea campuses through field installed instrumentation and on-site observation
- Identify opportunities for improvements in energy consumption, comfort levels, and overall economics associated with comfortable learning environments
- Develop a various scenarios and options through to create a draft strategic plan to guide future physical building modifications

TASK 1.3 PROJECT KICKOFF

Hawai'i Department of Education K-12 Energy Systems Study

Project Kickoff Workshop

10 June 2014

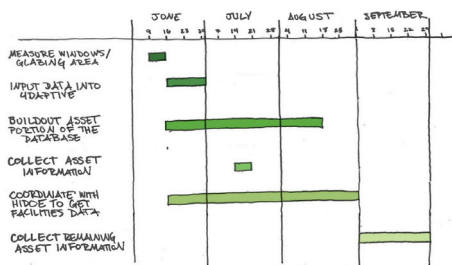


Agenda

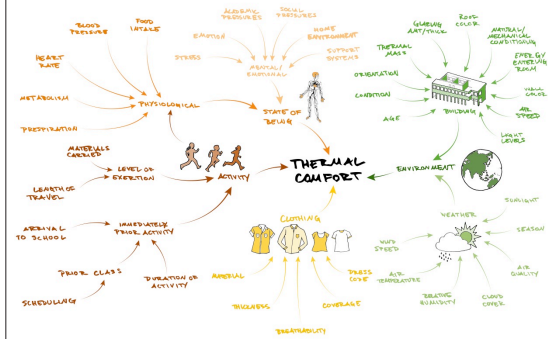
1. Project Goals
2. Thermal Comfort Literature Review
3. Data Collection Plan
 - A. Resource Data
 - B. Asset Data
 - C. Cultural Data
4. Project Kickoff Items



Asset Observation Plan



Factors Affecting Thermal Comfort



What Is Thermal Comfort?

Comfort is a result of thermal, visual, and acoustic conditions.

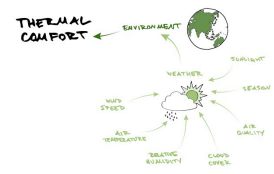
Thermal Comfort is that condition of mind which expresses satisfaction with the thermal environment.

Adaptive Thermal Comfort...assumes that people are able to adapt to the thermal environment by means of behavioral adjustments, relaxation of expectations, and acclimatization to the conditions to which they are exposed

Frontczak, Monika. "Literature Survey on how different factors influence human comfort in indoor environments." *Building and Environment*. 21 October 2010.

Resource Data Sets

- Resource data includes environmental data such as temperature, relative humidity, wind/air speed, illuminance, etc.
- Resource data will be collected using a network of sensors that will record environmental conditions on site at a recurring interval for the duration of the study period



PRESENTATION SLIDES

TASK 1.3 PROJECT KICKOFF

Metrics

The following metrics were identified for this project:

- Temperature, Humidity, Illuminance
- Similar Days (set of days with similar environmental profiles)
- Predicted Mean Vote
- CO2 Levels
- Operative Temperature

Project Team and Responsibilities

The project team and their responsibilities were outlined in the joint workshop. The team is comprised of the following MKThink members:

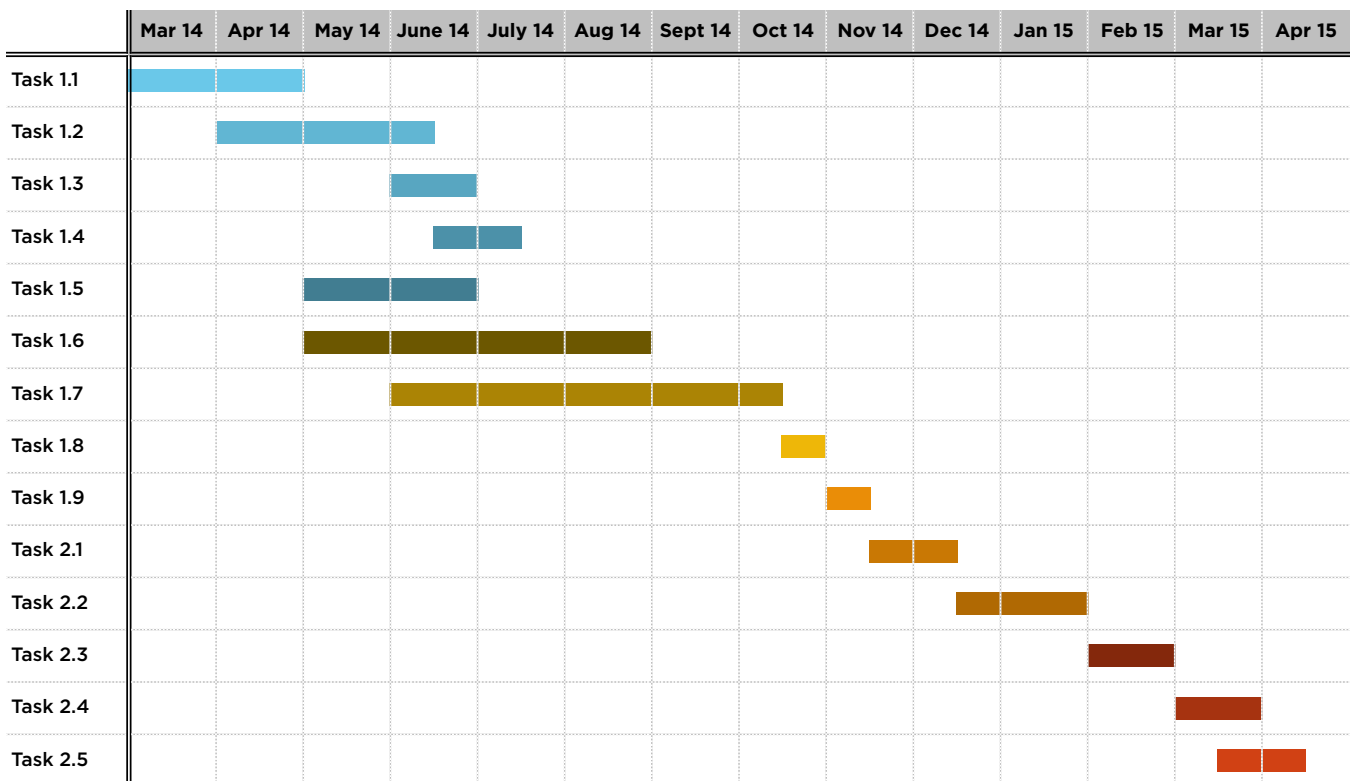
- Nate Goore - Project Lead
- Allan Donnelly - Project Manager
- Sean Dasey - Environmental Analyst
- Jen Tai - Design Strategist
- Rachel Bramwell - Design Strategist

The project schedule presented at the joint workshop with DOE in June 2014 is shown below. The project schedule is broken down by task and when each task was anticipated to be completed. The schedule spans from March 2014 to April 2015.

Next Steps

Building on the joint workshop discussions and presentation deliverable completed for Task 1.3, Task 1.4 and Task 1.5 focus on presenting the data collected to date in a combined database and analytic software platform called 4daptive. The next two tasks focus on developing 4daptive specifically for the DOE project and familiarizing DOE with how to use this software tool.

Project Schedule



PROJECT SCHEDULE FROM JUNE 2014

