



Gary R. Herbert
Governor

Utah State Building Board

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MEMORANDUM

To: Utah State Building Board
From: Jeff Reddoor
Date: December 7, 2016
Subject: **DFCM: Utah State University State Facility Energy Efficiency Fund Loan Application**
Presenter: Jeff Wrigley, DFCM Project Manager

Recommendation

As per the administrative rules for the State Facility Energy Efficiency Fund, the State's energy revolving loan fund, each project seeking funding requires Building Board approval prior to moving forward. DFCM recommends that the Building Board review the request from Utah State University. This application has been reviewed and approved by the State Building Energy Efficiency Program Director and is submitted for your approval.

Background

Attached is an application pending approval for Utah State University. Utah State University is requesting a loan in the amount of \$300,000.00. The funds will be used to install energy efficient lighting across 7 facilities. The payback for this project will be 5.2 years. The estimated loan repayment schedule will begin by the end of 2017. There is a solid plan for M&V on this project using Option A from the International Performance Measurement and Verification Protocol (IPMVP). The project will result in significant energy savings and cost savings.

Attachment:
Loan application and supporting documentation

State of Utah

State Facility Energy Efficiency Fund Loan Application

A. State Agency:

Utah State University

B. Building names & locations:

USU Equine Center – 3580 South, US-89, Wellsville, UT
 USU Moab Bldgs. A & B – 125 West 200 South, Moab, UT
 USU Uintah Basin Education Center 987 E Lagoon St, Roosevelt, UT
 USU Merrill Library – 3000 Old Main Hill, Logan, UT
 USU Tooele Classroom Bldg. – 1021 W. Vine St, Tooele, UT
 USU BEERC – 320 N Aggie Blvd, Vernal, UT

C. Building description (use, seasonal variations, square footage):

All buildings with proposed projects are used year round for a variety of educational purposes. Some contain chemical laboratories (BEERC), faculty office space, classrooms, conference rooms, library, and an indoor horse area for equine education.

Equine Center – 43,279 sq. ft.
 Moab Bldg. A – 7,118 sq. ft.
 Moab Bldg. B - 5,726 sq. ft.
 Uintah Basin Education Bldg. – 21,911 sq. ft.
 Merrill Library – 267,120 sq. ft.
 Tooele Classroom Bldg. – 34,314 sq. ft.
 BEERC – 63,981 sq. ft.

D. Existing building systems and energy usage:

Lighting in the current buildings consists of T-8 fluorescents, metal halide, and compact fluorescents. The change in lighting will reduce the lighting electrical usage by more than 50%.

E. Project Description:

Eligible Measure / Materials to be installed	Estimated Cost of Measure	Projected Annual Energy Savings	Projected Annual Cost Savings
BEERC Lighting	\$65,650	131,068 kWh Annually – 26 kW	\$9,316
Tooele Lighting	\$44,300	88,538 kWh Annually – 19 kW	\$6,678
Moab Bldg. A Lighting	\$13,500	26,048 kWh Annually – 7 kW	\$2,532
Moab Bldg. B Lighting	\$14,000	20,850 kWh Annually – 5 kW	\$1822
Equine Center Lighting	\$59,762	145,597 kWh Annually – 22 kW	\$9,348
Merrill Library Lighting	\$88,600	266,559 kWh Annually – 44 kW	\$16,163
Uintah Basin Education Bldg. Lighting	\$13,620	81,503 kWh Annually - 11 kW	\$3,613
TOTAL	\$299,432	760,163 kWh Annually - 134 kW	\$49,472

F. Rebates and Incentives:

Provider and type of rebate or incentive	Estimated Amount of incentive
Questar Gas	
Rocky Mountain Power	\$40,579.36
TOTAL	

G. Payback

After the Rocky Mountain Power incentives, the total project costs come to \$258,853. With an annual savings of \$49,472 the payback would be approximately 5.2 years.

H. Description of energy costs savings measurement and verification:

Option A, from the International Performance Measurement and Verification Protocol (IPMVP), will be utilized. Local measurements will be taken of the power draw from the baseline and retrofit light fixtures to validate savings. Energy savings will be calculated as the difference in power draw multiplied by the operating hours.

I. Commissioning procedures. This must include a method of monitoring actual savings resulting from energy efficiency measures implemented using loan money from the fund, using objective and verifiable post-construction measures, if available:

The method referred to in section H. describes efforts that will be taken to ensure expected savings are achieved. Utility bills will be monitored to validate savings, if bills do not reflect anticipated savings, scheduling will be validated through the usage of available occupancy data loggers.

J. Other benefits to the environment, community, agency, or State of Utah

In addition to the reduced energy consumption at each of the facilities, maintenance over the next eight to fifteen years will be greatly reduced as LED fixtures, ballasts, and lamps will be installed. The high bay and exterior LED fixtures that will replace metal halide lighting are rated for 80,000 hours compared to metal halide bulb life of approximately 15,000 hours. The instant fit lamps have a life of 50,000 hours compared to 36,000 hours for traditional T-8 fluorescent lamps. This will have noticeable impacts on maintenance budgets for these facilities.

K. Total eligible costs to be financed by this loan:

Estimated costs:	\$ 300,000
Other funds to be used on project:	\$ 40,600
Total proposed loan amount:	\$ 300,000

L. Attachments

BEERC (Support Documentation)



**ROCKY MOUNTAIN
POWER**

Let's turn the answers on.

V 031016.2

Utah
wattsmart[®] Business
03/10/16 Effective Date

You Can Now Use The Project Information Tab

Project ID	UTA.126
Lighting Coordinator	
Tool Prepared by	Nexant
Project Manager	Mike Peterson
Account Manager	

Project Site Information

Project Name	USU Vernal BEERC		
Business Name	Utah State University		
Installation Address	320 North Aggie Blvd		
City, State, Zip	Vernal	UT	84078
Contact, Title	John Chase	Campus Manager	
Phone, Email	(435) 797-3126	john.chase@usu.edu	
Account, Meter, Rate	534285860027	36160705	6
Participant is:	<input checked="" type="checkbox"/> Acct Holder <input checked="" type="checkbox"/> Elect. User <input type="checkbox"/> Building Owner		
Business Type	School - University		

Coordinating Contractor Information

Contact	<input type="checkbox"/> wattsmart Business vendor		
Business Name			
Address			
City, State, Zip			
Phone, Email			

Payee Information

Incentive Should Be Addressed To:			
Business Name			
Attention			
Check Reference			
Address			
City, State, Zip			

Customer Information (As Shown On Tax Forms)

Business Name			
Address			
City, State, Zip			
Office Use Only			

Processing Information

Construction Type	Retrofit	Stage	Preliminary
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Project Cost

Material	Labor	Other	Total Project Cost
\$37,000.00	\$28,650.00	\$0.00	\$65,650.00

Space Type & Size

Calculation Method	Whole Building	Allowed Wattage	102,000	
1 School/University		FT ² 85,000	1.20	W/FT ²
		FT ²		W/FT ²
		FT ²		W/FT ²
		FT ²		W/FT ²
		FT ²		W/FT ²
School/University		FT ² 85,000	1.20	W/FT ²

Lighting Operation Schedule

# of Holidays Closed?	Day	A	B	C	D	E
8	Mon	16.0	12.0	9.0	4.0	2.0
Op Weeks Per Year	Tue	16.0	12.0	9.0	4.0	2.0
52	Wed	16.0	12.0	9.0	4.0	2.0
Add/Edit Seasonal Schedule	Thu	16.0	12.0	9.0	4.0	2.0
	Fri	16.0	12.0	9.0	4.0	2.0
	Sat	6.0	6.0	4.0	2.0	1.0
	Sun	0.0	0.0	0.0	0.0	0.0
	Total		4,386	3,366	2,499	1,122

Additional Information

Import Existing Project	wattsmart Business Participant Info	Email Coordinator	Lighting Catalog	LED Policy	Report A Problem
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Let's turn the answers on.

V 031016.2

Viewing The Preliminary Stage

Utah
wattsmart[®] Business

03/10/16 Effective Date

Project ID	UTA.126
Lighting Coordinator	
Lighting Tool Prepared by	Nexant

Customer Information

Project	USU Vernal BEERC
Company	Utah State University
Customer Contact	John Chase

Total Savings

Stipulated Wattage Actual Wattage

Stipulated Wattage	Lighting	kWh/Year	Avg kW/Month	\$ Savings/Year
		Control	131,068	25.80
	Total	0	0.00	\$0.00
		131,068	25.80	\$9,316.27

Project Costs

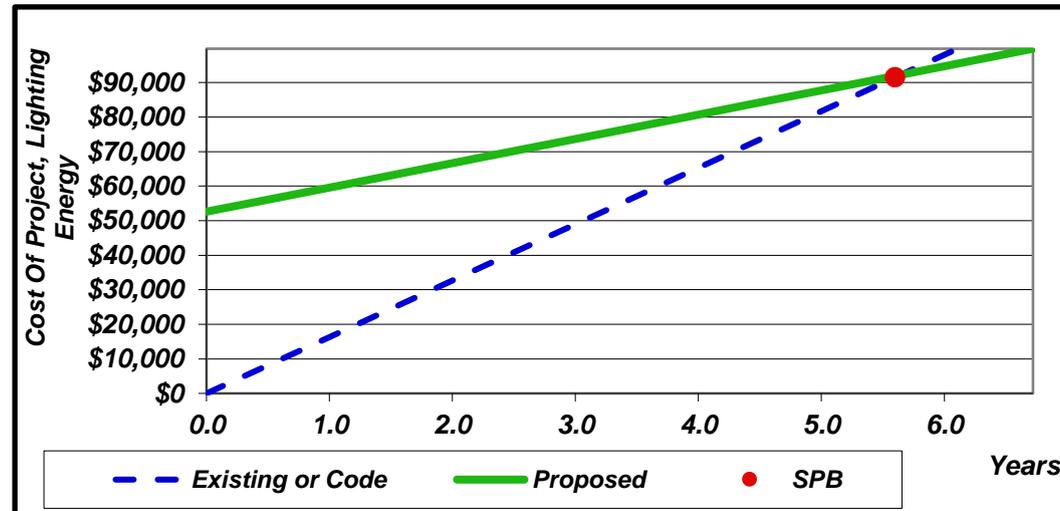
Total Cost	\$65,650.00	Lighting	\$13,038.80
Total Incentive	\$13,038.80	Controls	\$0.00
20% Of Cost Paid By Incentive		Incentive	\$13,038.80
Net Project Cost	\$52,611	Full Incentive	

Project Detail

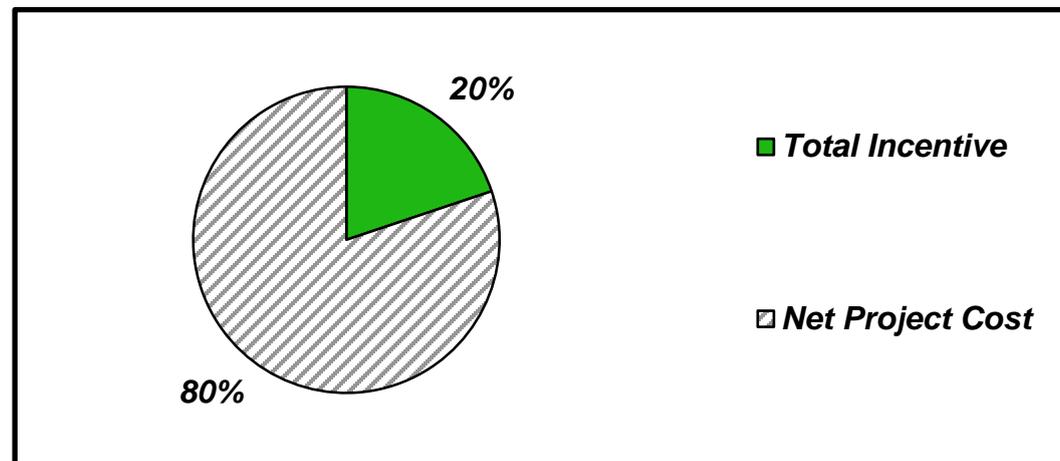
73% Better Than Code LPD (w/ft ²)			73% Better Than Code Operation Cost/Yr		
Existing	Code	Proposed	Existing	Code	Proposed
0.75	1.20	0.32	\$16,334	\$25,833	\$7,017

Simple Payback (Without Incentive)	7.0 Yrs	Simple Rate Of Return (Without Incentive)	14%
Simple Payback (With Incentive)	5.6 Yrs	Simple Rate Of Return (With Incentive)	18%

Cost of Project and Lighting Energy Usage Over Time



Percent of Initial Project Cost



The incentive and energy savings above are estimates only. This tool is designed to calculate savings and incentives for wattsmart Business lighting projects.

For wattsmart Business Lighting projects, lighting incentives are capped at 70% of eligible energy efficiency project costs, and the minimum simple payback (with incentive) for the project is one year. If needed, incentives will be decreased to reflect a one-year payback. The simple payback with incentive is the net project cost divided by the annual electric cost savings (dollar savings). For wattsmart Small Business Lighting projects, lighting retrofit incentives are capped at 80%.

Stipulated vs. Actual wattage – This tool has two calculation methods to distinguish between actual and stipulated wattages. There will only be a difference between actual and stipulated if the existing fixtures are impacted by efficacy standards (e.g. general service fluorescent and incandescent). Results from either calculation can be viewed by selecting “Stipulated wattage” or “Actual wattage.” Incentive calculations and 1-year simple payback cap are always based on stipulated wattage.

To receive an incentive you MUST sign an Incentive Offer before purchasing equipment.

Category	20W - FCE-5W x 2L-MG 9W - FCE-5W-MG 26W - FCE-6W x 2L-MG 13W - FCE-6W-MG 21W - FCE-7W x 2L-MG 10W - FCE-7W-MG 20W - FCE-9W x 2L-MG 12W - FCE-9W-MG 5W - FLE-2W x 2L-IS N 18W - FLE-6W x 2L-MG 9W - FLE-6W-MG	<input type="button" value="Add Fixture"/> <input type="button" value="Remove Fixture"/> <input type="button" value="Clear Filter"/> <input type="button" value="Build Fixture"/> <input type="button" value="Reset"/>	12.5 W - CUST: LEDT-12.5W 117W - FLTSHO-54W x 2L x 4'-RS/PRS H 229W - FLTSHO-54W x 4L x 4'-RS/PRS H 28W - FCP-26W-IS N 35W - FCP-32W-IS N 42W - FCM-42W-IS N 55W - FLT8-17W x 4L x 2'-IS L 18W - FCM-18W-IS N 69W - FCP-32W x 2L-IS N 7.5 W - CUST: LEDT-7.5W 14 W - CUST: LEDSI-14W	Incentive	 ROCKY MOUNTAIN POWER Let's turn the answers on.	57% kW % Savings												
8W - LEDDL-8W LED Recessed Downlight (8W x 1L) Missing/Incorrect Information On Line 29			\$13,038.80 Savings Information \$9,316 Saved Per Year 5.6 Year Simple Payback 131,068 kWh Saved Per Year	↓↓Project Tracking↓↓ Preliminary Pre-Inspection Incentive Offer Needed Contracted Post-Inspection Final Review Needed														
Stipulated Wattage			Lighting Power Density 1.20 Code 0.75 Existing 0.32 Proposed	73.0% Better Than Code LPD (w/ft²)														
Preliminary			UTA.126 USU Vernal BEERC															
Line Number	Exterior Schedule	Space Description	Existing				Proposed				↓↓Project Notes↓↓	57%	CTRL \$\$\$	LT \$\$\$	LT Incentive Type			
			2733	0	Interior Exterior	63,927 714	2333	0	Interior Exterior	27,570 254			\$0.00	\$13,038.80				
			Fixture	Qty	Controls	Fixture Wattage	Space Wattage	Fixture	Qty	Controls	Fixture Wattage	Space Wattage						
1	X	Interior Recessed EM	FCP-26W-IS N	6		28	168	LEDDL-10W	6		10	60			64%		\$94.60	\$0.10/kWh Saved
2	X	Hallway Emergency	FLT8-17W x 4L x 2'-IS N	24		61	1,464	CUST: LEDT-7.5W	72		7.5	540			63%		\$809.40	\$0.10/kWh Saved
3	+ X	Exterior recessed EM	FCP-26W-IS N	15		28	420	LEDDL-10W	15		10	150			64%		\$189.20	\$0.08/kWh Saved
4	+ A	Exterior recessed	FCP-26W-IS N	8		28	224	LEDDL-10W	8		10	80			64%		\$50.56	\$0.08/kWh Saved
5	A	West entrance vestibule	FCP-26W-IS N	2		28	56	LEDDL-10W	2		10	20			64%		\$15.80	\$0.10/kWh Saved
6	X	Main lobby EM	FCM-18W-IS N	10		18	180	LEDDL-8W	10		8	80			56%		\$87.60	\$0.10/kWh Saved
7	A	Main lobby	FCM-18W-IS N	22		18	396	LEDDL-8W	22		8	176			56%		\$96.50	\$0.10/kWh Saved
8	C	Conference 101	FCP-32W x 2L-IS N	20		69	1,380	LEDDL-10W	20		10	200			86%		\$294.90	\$0.10/kWh Saved
9	E	Conference 101 storage	FLT8-32W x 2L x 4'-IS N	3		58	174	CUST: LEDT-12.5W	6		12.5	75			57%		\$5.60	\$0.10/kWh Saved
10	C	Conference 101	FLT8-32W x 3L x 4'-IS N	6		85	510	CUST: LEDT-12.5W	18		12.5	225			56%		\$71.20	\$0.10/kWh Saved
11	B	E station 103	FLT8-32W x 3L x 4'-IS N	14		85	1,190	CUST: LEDT-12.5W	42		12.5	525			56%		\$223.80	\$0.10/kWh Saved
12	B	VCC Rehab 105	FLT8-32W x 3L x 4'-IS N	9		85	765	CUST: LEDT-12.5W	27		12.5	338			56%		\$143.90	\$0.10/kWh Saved
13	C	105A workrm	FLT8-32W x 2L x 4'-IS N	2		58	116	CUST: LEDT-12.5W	4		12.5	50			57%		\$16.50	\$0.10/kWh Saved
14	C	101D Break	FLT8-32W x 2L x 4'-IS N	2		58	116	CUST: LEDT-12.5W	4		12.5	50			57%		\$16.50	\$0.10/kWh Saved
15	C	105C Office	FLT8-32W x 2L x 4'-IS N	2		58	116	CUST: LEDT-12.5W	4		12.5	50			57%		\$16.50	\$0.10/kWh Saved
16	C	105B office	FLT8-32W x 2L x 4'-IS N	2		58	116	CUST: LEDT-12.5W	4		12.5	50			57%		\$16.50	\$0.10/kWh Saved
17	D	Janitor 109	FLT8-32W x 2L x 4'-IS N	1		58	58	CUST: LEDT-12.5W	2		12.5	25			57%		\$3.70	\$0.10/kWh Saved
18	C	Vending	FLT8-32W x 2L x 4'-IS N	2		58	116	CUST: LEDT-12.5W	4		12.5	50			57%		\$16.50	\$0.10/kWh Saved
19	C	Elevator equip 102	FLT8-32W x 2L x 4'-IS N	1		58	58	CUST: LEDT-12.5W	2		12.5	25			57%		\$8.20	\$0.10/kWh Saved
20																		
21	X	Data 104	FLT8-32W x 2L x 4'-IS N	8		58	464	CUST: LEDT-12.5W	16		12.5	200			57%		\$231.30	\$0.10/kWh Saved
22	A	Bathrooms 111/113	FLT8-32W x 2L x 4'-IS N	6		58	348	CUST: LEDT-12.5W	12		12.5	150			57%		\$86.80	\$0.10/kWh Saved
23	A	Bathrooms 111/113	FCP-26W-IS N	4		28	112	LEDDL-10W	4		10	40			64%		\$31.60	\$0.10/kWh Saved
24	C	Equipment Storage 106	FLT8-32W x 2L x 4'-IS N	11		58	638	CUST: LEDT-12.5W	22		12.5	275			57%		\$90.70	\$0.10/kWh Saved
25	D	Electrical 106A	FLT8-32W x 2L x 4'-IS N	5		58	290	CUST: LEDT-12.5W	10		12.5	125			57%		\$18.50	\$0.10/kWh Saved
26	D	Mechanical 106B	FLT8-32W x 2L x 4'-IS N	11		58	638	CUST: LEDT-12.5W	22		12.5	275			57%		\$40.70	\$0.10/kWh Saved
27	B	Receiving 106C	FLT8-32W x 2L x 4'-IS N	4		58	232	CUST: LEDT-12.5W	8		12.5	100			57%		\$44.40	\$0.10/kWh Saved
28	B	wash down 106D	FLT8-32W x 2L x 4'-IS N	9		58	522	CUST: LEDT-12.5W	18		12.5	225			57%		\$100.00	\$0.10/kWh Saved
29	B																	
30	A	East hall/study booths	FLT8-17W x 4L x 2'-IS N	8		61	488	CUST: LEDT-7.5W	24		7.5	180			63%		\$135.10	\$0.10/kWh Saved
31	A	East entr. Vestibule	FCP-26W-IS N	2		28	56	LEDDL-10W	2		10	20			64%		\$15.80	\$0.10/kWh Saved
32	B	classroom 110	FLT8-32W x 3L x 4'-IS N	9		85	765	CUST: LEDT-12.5W	27		12.5	338			56%		\$143.90	\$0.10/kWh Saved
33	B	classroom 108	FLT8-32W x 3L x 4'-IS N	9		85	765	CUST: LEDT-12.5W	27		12.5	338			56%		\$143.90	\$0.10/kWh Saved
34	B	Reception 138	FLT8-32W x 3L x 4'-IS N	8		85	680	CUST: LEDT-12.5W	24		12.5	300			56%		\$127.90	\$0.10/kWh Saved
35	C	Conf. 138A	FCP-26W-IS N	6		28	168	LEDDL-10W	6		10	60			64%		\$27.00	\$0.10/kWh Saved
36	C	Conf. 138A	FLT8-32W x 3L x 4'-IS N	2		85	170	CUST: LEDT-12.5W	6		12.5	75			56%		\$23.70	\$0.10/kWh Saved
37	C	Admin 138B	FLT8-32W x 3L x 4'-IS N	4		85	340	CUST: LEDT-12.5W	12		12.5	150			56%		\$47.50	\$0.10/kWh Saved
38	C	Offices 138 (x15)	FLT8-32W x 2L x 4'-IS N	30		58	1,740	CUST: LEDT-12.5W	60		12.5	750			57%		\$247.40	\$0.10/kWh Saved
39	C	Training office 138V	FLT8-32W x 2L x 4'-IS N	4		58	232	CUST: LEDT-12.5W	8		12.5	100			57%		\$33.00	\$0.10/kWh Saved
40	C	OSEC office 138U	FLT8-32W x 2L x 4'-IS N	4		58	232	CUST: LEDT-12.5W	8		12.5	100			57%		\$33.00	\$0.10/kWh Saved
41	A	138 office Hallway	FLT8-17W x 4L x 2'-IS N	6		61	366	CUST: LEDT-7.5W	18		7.5	135			63%		\$101.30	\$0.10/kWh Saved
42	A	Hallways	FLT8-17W x 4L x 2'-IS N	25		61	1,525	CUST: LEDT-7.5W	75		7.5	563			63%		\$422.20	\$0.10/kWh Saved
43	B	Chem lab 134	FLT8-32W x 3L x 4'-IS N	21		85	1,785	CUST: LEDT-12.5W	63		12.5	788			56%		\$335.80	\$0.10/kWh Saved
44	B	Org. Chem 132	FLT8-32W x 3L x 4'-IS N	14		85	1,190	CUST: LEDT-12.5W	42		12.5	525			56%		\$223.80	\$0.10/kWh Saved
45	B	Watershed lab 130	FLT8-32W x 3L x 4'-IS N	14		85	1,190	CUST: LEDT-12.5W	42		12.5	525			56%		\$223.80	\$0.10/kWh Saved
46	E	elec. 128	FLT8-32W x 2L x 4'-IS N	1		58	58	CUST: LEDT-12.5W	2		12.5	25			57%		\$1.90	\$0.10/kWh Saved
47	E	data 126	FLT8-32W x 2L x 4'-IS N	1		58	58	CUST: LEDT-12.5W	2		12.5	25			57%		\$1.90	\$0.10/kWh Saved
48	B	Geology lab 124	FLT8-32W x 3L x 4'-IS N	21		85	1,785	CUST: LEDT-12.5W	63		12.5	788			56%		\$335.80	\$0.10/kWh Saved
49	C	lab prep 124A	FLT8-32W x 2L x 4'-IS N	3		58	174	CUST: LEDT-12.5W	6		12.5	75			57%		\$24.70	\$0.10/kWh Saved
50	A	Break room 137	FLT8-32W x 2L x 4'-IS N	3		58	174	CUST: LEDT-12.5W	6		12.5	75			57%		\$43.40	\$0.10/kWh Saved
51	B	Class 135	FLT8-32W x 3L x 4'-IS N	4		85	340	CUST: LEDT-12.5W	12		12.5	150			56%		\$64.00	\$0.10/kWh Saved

52	B	class 133	FLT8-32W x 3L x 4'-IS N	8	85	680	CUST: LEDT-12.5W	24	12.5	300	56%	\$127.90	\$0.10/kWh Saved	
53	B	Biology lab 122	FLT8-32W x 3L x 4'-IS N	21	85	1,785	CUST: LEDT-12.5W	63	12.5	788	56%	\$335.80	\$0.10/kWh Saved	
54	B	Lab prep 120A	FLT8-32W x 2L x 4'-IS N	4	58	232	CUST: LEDT-12.5W	8	12.5	100	57%	\$44.40	\$0.10/kWh Saved	
55	B	Biology lab 120	FLT8-32W x 3L x 4'-IS N	21	85	1,785	CUST: LEDT-12.5W	63	12.5	788	56%	\$335.80	\$0.10/kWh Saved	
56	C	Instrument prep 118	FLT8-32W x 2L x 4'-IS N	8	58	464	CUST: LEDT-12.5W	16	12.5	200	57%	\$66.00	\$0.10/kWh Saved	
57	C	Registration 116	FLT8-32W x 3L x 4'-IS N	8	85	680	CUST: LEDT-12.5W	24	12.5	300	56%	\$95.00	\$0.10/kWh Saved	
58	A	Hall adjacent 116	FLT8-32W x 3L x 4'-IS N	3	85	255	CUST: LEDT-12.5W	9	12.5	113	56%	\$62.50	\$0.10/kWh Saved	
59	B	Reception 117	FCP-26W-IS N	1	28	28	LEDDL-10W	1	10	10	64%	\$6.10	\$0.10/kWh Saved	
60	B	Reception 117	FLT8-32W x 3L x 4'-IS N	4	85	340	CUST: LEDT-12.5W	12	12.5	150	56%	\$64.00	\$0.10/kWh Saved	
61	C	Advisor 117A/B	FLT8-32W x 3L x 4'-IS N	4	85	340	CUST: LEDT-12.5W	12	12.5	150	56%	\$47.50	\$0.10/kWh Saved	
62	C	Dean 117 C	FLT8-32W x 3L x 4'-IS N	4	85	340	CUST: LEDT-12.5W	12	12.5	150	56%	\$47.50	\$0.10/kWh Saved	
63	C	Conf. 117D	FLT8-32W x 3L x 4'-IS N	2	85	170	CUST: LEDT-12.5W	6	12.5	75	56%	\$23.70	\$0.10/kWh Saved	
64	C	Conf. 117D	FCP-26W-IS N	6	28	168	LEDDL-10W	6	10	60	64%	\$27.00	\$0.10/kWh Saved	
65	C	Work 117E	FLT8-32W x 2L x 4'-IS N	2	58	116	CUST: LEDT-12.5W	4	12.5	50	57%	\$16.50	\$0.10/kWh Saved	
66	B	class 119	FLT8-32W x 3L x 4'-IS N	6	85	510	CUST: LEDT-12.5W	18	12.5	225	56%	\$95.90	\$0.10/kWh Saved	
67	B	class 121	FLT8-32W x 3L x 4'-IS N	6	85	510	CUST: LEDT-12.5W	18	12.5	225	56%	\$95.90	\$0.10/kWh Saved	
68	B	class 123	FLT8-32W x 3L x 4'-IS N	6	85	510	CUST: LEDT-12.5W	18	12.5	225	56%	\$95.90	\$0.10/kWh Saved	
69	B	class 125	FLT8-32W x 3L x 4'-IS N	6	85	510	CUST: LEDT-12.5W	18	12.5	225	56%	\$95.90	\$0.10/kWh Saved	
70	B	class 127	FLT8-32W x 3L x 4'-IS N	9	85	765	CUST: LEDT-12.5W	27	12.5	338	56%	\$143.90	\$0.10/kWh Saved	
71	B	class 129	FLT8-32W x 3L x 4'-IS N	9	85	765	CUST: LEDT-12.5W	27	12.5	338	56%	\$143.90	\$0.10/kWh Saved	
72	A	Open Foyer wall	FLT5HO-54W x 2L x 4'-RS/PRS H	9	117	1,053	FLT5HO-54W x 2L x 4'-RS/PRS H	9	117	1,053	LED Fixture replacement (no recommendation)	0%	\$0.00	New Fixture Not Installed
73	X	Stairs/hall EM	FCM-18W-IS N	9	18	162	LEDDL-8W	9	8	72	56%	\$78.80	\$0.10/kWh Saved	
74	A	2nd floor halls	FCM-18W-IS N	13	18	234	LEDDL-8W	13	8	104	56%	\$57.00	\$0.10/kWh Saved	
75	X	2nd floor Halls EM	FLT8-17W x 4L x 2'-IS N	26	61	1,586	CUST: LEDT-7.5W	78	7.5	585	63%	\$876.90	\$0.10/kWh Saved	
76	A	2nd floor halls	FLT8-17W x 4L x 2'-IS N	34	61	2,074	CUST: LEDT-7.5W	102	7.5	765	63%	\$574.10	\$0.10/kWh Saved	
77	A	2nd floor restrooms	FCP-26W-IS N	6	28	168	LEDDL-10W	6	10	60	64%	\$47.40	\$0.10/kWh Saved	
78	A	2nd floor restrooms	FLT8-32W x 2L x 4'-IS N	12	58	696	CUST: LEDT-12.5W	24	12.5	300	57%	\$173.70	\$0.10/kWh Saved	
79	D	Janitor 203	FLT8-32W x 2L x 4'-IS N	1	58	58	CUST: LEDT-12.5W	2	12.5	25	57%	\$3.70	\$0.10/kWh Saved	
80	D	Mech 205	FLT8-32W x 2L x 4'-IS N	15	58	870	CUST: LEDT-12.5W	30	12.5	375	57%	\$55.50	\$0.10/kWh Saved	
81	D	Storage 206	FLT8-32W x 2L x 4'-IS N	9	58	522	CUST: LEDT-12.5W	18	12.5	225	57%	\$33.30	\$0.10/kWh Saved	
82	E	Server rm 202	FLT8-32W x 2L x 4'-IS N	6	58	348	CUST: LEDT-12.5W	12	12.5	150	57%	\$11.10	\$0.10/kWh Saved	
83	D	Op Center 201	FLT8-32W x 2L x 4'-IS N	6	58	348	CUST: LEDT-12.5W	12	12.5	150	57%	\$22.20	\$0.10/kWh Saved	
84	C	Mail 221D	FLT8-32W x 2L x 4'-IS N	3	58	174	CUST: LEDT-12.5W	6	12.5	75	57%	\$24.70	\$0.10/kWh Saved	
85	C	Open office 221	FLT8-32W x 3L x 4'-IS N	24	85	2,040	CUST: LEDT-12.5W	72	12.5	900	56%	\$284.90	\$0.10/kWh Saved	
86	C	2nd floor offices (x13)	FLT8-32W x 2L x 4'-IS N	26	58	1,508	CUST: LEDT-12.5W	52	12.5	650	57%	\$214.40	\$0.10/kWh Saved	
87	D	2nd floor conference	FCM-42W-IS N	10	42	420	CUST: LEDT-12.5W	10	12.5	125	70%	\$33.10	\$0.10/kWh Saved	
88	C	2nd floor conference	FLT8-32W x 3L x 4'-IS N	4	85	340	CUST: LEDT-12.5W	12	12.5	150	56%	\$47.50	\$0.10/kWh Saved	
89	B	Bio Research lab 222	FLT8-32W x 3L x 4'-IS N	33	85	2,805	CUST: LEDT-12.5W	99	12.5	1,238	56%	\$527.60	\$0.10/kWh Saved	
90	C	Lab support 222	FLT8-32W x 2L x 4'-IS N	4	58	232	CUST: LEDT-12.5W	8	12.5	100	57%	\$33.00	\$0.10/kWh Saved	
91	E	Data 226	FLT8-32W x 2L x 4'-IS N	1	58	58	CUST: LEDT-12.5W	2	12.5	25	57%	\$1.90	\$0.10/kWh Saved	
92	E	Elec 228	FLT8-32W x 2L x 4'-IS N	1	58	58	CUST: LEDT-12.5W	2	12.5	25	57%	\$1.90	\$0.10/kWh Saved	
93	B	shared equip 230	FLT8-32W x 2L x 4'-IS N	6	58	348	CUST: LEDT-12.5W	12	12.5	150	57%	\$66.60	\$0.10/kWh Saved	
94	B	Herbarium 234	FLT8-32W x 3L x 4'-IS N	8	85	680	CUST: LEDT-12.5W	24	12.5	300	56%	\$127.90	\$0.10/kWh Saved	
95	D	Coolers 230A	FLT8-32W x 2L x 4'-IS N	2	58	116	CUST: LEDT-12.5W	4	12.5	50	57%	\$7.40	\$0.10/kWh Saved	
96	B	Shelled Lab 236	FLT8-32W x 3L x 4'-IS N	14	85	1,190	CUST: LEDT-12.5W	42	12.5	525	56%	\$223.80	\$0.10/kWh Saved	
97	B	Interaction Space 238	FLT8-32W x 3L x 4'-IS N	14	85	1,190	CUST: LEDT-12.5W	42	12.5	525	56%	\$223.80	\$0.10/kWh Saved	
98	B	Electronics shop 220	FLT8-32W x 3L x 4'-IS N	10	85	850	CUST: LEDT-12.5W	30	12.5	375	56%	\$159.90	\$0.10/kWh Saved	
99	B	Chem Research lab 218	FLT8-32W x 3L x 4'-IS N	28	85	2,380	CUST: LEDT-12.5W	84	12.5	1,050	56%	\$447.70	\$0.10/kWh Saved	
100	B	Open lab 216	FLT8-32W x 3L x 4'-IS N	8	85	680	CUST: LEDT-12.5W	24	12.5	300	56%	\$127.90	\$0.10/kWh Saved	
101	C	TA Prep 212	FLT8-32W x 2L x 4'-IS N	3	58	174	CUST: LEDT-12.5W	6	12.5	75	57%	\$24.70	\$0.10/kWh Saved	
102	C	Chem Prep 218A	FLT8-32W x 2L x 4'-IS N	3	58	174	CUST: LEDT-12.5W	6	12.5	75	57%	\$24.70	\$0.10/kWh Saved	
103	B	Computer Lab 213	FLT8-32W x 3L x 4'-IS N	24	85	2,040	CUST: LEDT-12.5W	72	12.5	900	56%	\$383.70	\$0.10/kWh Saved	
104	B	Natural resource instrument lab 215	FLT8-32W x 3L x 4'-IS N	20	85	1,700	CUST: LEDT-12.5W	60	12.5	750	56%	\$319.80	\$0.10/kWh Saved	
105	C	Lab Support 215A	FLT8-32W x 2L x 4'-IS N	3	58	174	CUST: LEDT-12.5W	6	12.5	75	57%	\$24.70	\$0.10/kWh Saved	
106	B	Geology Lab 217	FLT8-32W x 3L x 4'-IS N	12	85	1,020	CUST: LEDT-12.5W	36	12.5	450	56%	\$191.90	\$0.10/kWh Saved	
107	+ X	Condenser wallpacks	FCP-32W-IS N	2	35	70	LEDWP-12W	2	12	24	66%	\$32.24	\$0.08/kWh Saved	
108				955										
109														
110			Ballasts Required	823										
111														
112														
113														

Tooele Classroom (Support Documentation)



**ROCKY MOUNTAIN
POWER**

Let's turn the answers on.

V 031016.2

Utah
wattsmart[®] Business
03/10/16 Effective Date

You Can Now Use The Project Information Tab

Project ID	UTA.125
Lighting Coordinator	
Tool Prepared by	Nexant
Project Manager	Mike Peterson
Account Manager	

Project Site Information

Project Name	Tooele Campus Lighting		
Business Name	USU		
Installation Address	1021 W. Vine Street		
City, State, Zip	Tooele	UT	84074
Contact, Title	John Chase	Regional manager	
Phone, Email			
Account, Meter, Rate			6
Participant is:	<input checked="" type="checkbox"/> Acct Holder <input checked="" type="checkbox"/> Elect. User <input checked="" type="checkbox"/> Building Owner		
Business Type	School - University		

Coordinating Contractor Information

Contact		<input type="checkbox"/> wattsmart Business vendor
Business Name		
Address		
City, State, Zip		
Phone, Email		

Payee Information

Incentive Should Be Addressed To:			
Business Name			
Attention			
Check Reference			
Address			
City, State, Zip			

Customer Information (As Shown On Tax Forms)

Business Name			
Address			
City, State, Zip			
Office Use Only			

Processing Information

Construction Type	Retrofit	Stage	Preliminary
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Project Cost

Material	Labor	Other	Total Project Cost
\$26,000.00	\$18,000.00	\$0.00	\$44,000.00

Space Type & Size

Calculation Method	Whole Building	Allowed Wattage	21,600		
1 School/University		FT ²	18,000	1.20	W/FT ²
		FT ²			W/FT ²
		FT ²			W/FT ²
		FT ²			W/FT ²
		FT ²			W/FT ²
School/University		FT ²	18,000	1.20	W/FT ²

Lighting Operation Schedule

# of Holidays Closed?	Day	A	B	C	D	E
8	Mon	14.5	10.0	8.0	2.0	
Op Weeks Per Year	Tue	14.5	10.0	8.0	2.0	
52	Wed	14.5	10.0	8.0	2.0	
Add/Edit Seasonal Schedule S is for 0 hrs/year X is for 8760 hrs/year Y is for 4380 hrs/year	Thu	14.5	10.0	8.0	2.0	
	Fri	12.0	8.0	6.0	2.0	
	Sat	4.0	4.0	2.0	1.0	
	Sun	0.0	0.0	0.0	0.0	
	Total		3,774	2,652	2,040	561

Additional Information

Import Existing Project	wattsmart Business Participant Info	Email Coordinator	Lighting Catalog	LED Policy	Report A Problem
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Let's turn the answers on.

V 031016.2

Viewing The Preliminary Stage

Utah
wattsmart[®] Business

03/10/16 Effective Date

Project ID	UTA.125
Lighting Coordinator	
Lighting Tool Prepared by	Nexant

Customer Information

Project	Tooele Campus Lighting		
Company	USU		
Customer Contact	John Chase		

Total Savings

Stipulated Wattage Actual Wattage

Stipulated Wattage	Lighting	kWh/Year	Avg kW/Month	\$ Savings/Year
		Control	88,538	19.80
	Total	0	0.00	\$0.00
		88,538	19.80	\$6,678.33

Project Costs

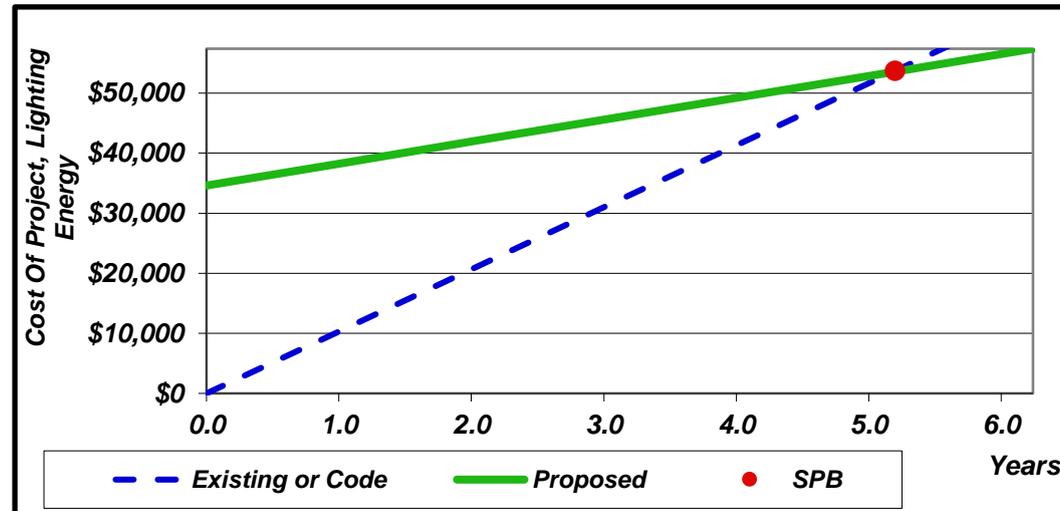
Total Cost	\$44,000.00	Lighting	\$9,384.70
Total Incentive	\$9,384.70	Controls	\$0.00
21% Of Cost Paid By Incentive		Incentive	\$9,384.70
Net Project Cost	\$34,615	Full Incentive	

Project Detail

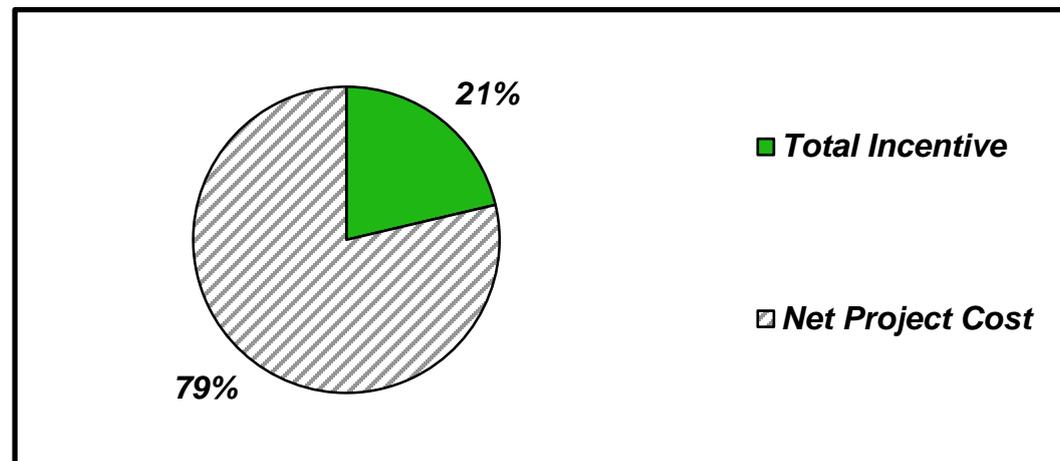
28% Better Than Code LPD (w/ft ²)			28% Better Than Code Operation Cost/Yr		
Existing	Code	Proposed	Existing	Code	Proposed
2.41	1.20	0.87	\$10,329	\$5,064	\$3,650

Simple Payback (Without Incentive)	6.6 Yrs	Simple Rate Of Return (Without Incentive)	15%
Simple Payback (With Incentive)	5.2 Yrs	Simple Rate Of Return (With Incentive)	19%

Cost of Project and Lighting Energy Usage Over Time



Percent of Initial Project Cost



The incentive and energy savings above are estimates only. This tool is designed to calculate savings and incentives for wattsmart Business lighting projects.

For wattsmart Business Lighting projects, lighting incentives are capped at 70% of eligible energy efficiency project costs, and the minimum simple payback (with incentive) for the project is one year. If needed, incentives will be decreased to reflect a one-year payback. The simple payback with incentive is the net project cost divided by the annual electric cost savings (dollar savings). For wattsmart Small Business Lighting projects, lighting retrofit incentives are capped at 80%.

Stipulated vs. Actual wattage – This tool has two calculation methods to distinguish between actual and stipulated wattages. There will only be a difference between actual and stipulated if the existing fixtures are impacted by efficacy standards (e.g. general service fluorescent and incandescent). Results from either calculation can be viewed by selecting “Stipulated wattage” or “Actual wattage.” Incentive calculations and 1-year simple payback cap are always based on stipulated wattage.

To receive an incentive you MUST sign an Incentive Offer before purchasing equipment.

Category	LED	24W - LEDDL-24W 24W - LEDFL-24W 24W - LEDPM-24W 24W - LEDSI-24W 24W - LEDSMC-24W 24W - LEDWP-24W	<input type="button" value="Add Fixture"/> <input type="button" value="Remove Fixture"/> <input type="button" value="Clear Filter"/> <input type="button" value="Build Fixture"/> <input type="button" value="Reset"/>		18W - LEDWP-18W 15W - CUST: TLED LT8-15W - RL 30W - CUST: TLED LT8-15W x 2L - RL 45W - CUST: TLED LT8-15W x 3L - RL 60W - CUST: TLED LT8-15W x 4L - RL 32W - CUST: TLED UT8-16W x 2L - RL 30W - CUST: TLED LT8-15W x 2L - RL 24W - CUST: TLED LT8-12W x 2L - ReL 36W - CUST: TLED LT8-12W x 3L - ReL 48W - CUST: TLED LT8-12W x 4L - ReL 12W - CUST: TLED LT8-12W - ReL	Incentive		<p>Let's turn the answers on.</p> <p>↓ ↓ Project Tracking ↓ ↓</p> <p>Preliminary</p> <p>Pre-Inspection</p> <p>Incentive Offer Needed</p> <p>Contracted</p> <p>Post-Inspection</p> <p>Final Review Needed</p>	<p>64%</p>	<p>\$0.00</p>	<p>\$9,384.70</p>	<p>LT Incentive Type</p>										
Fixture					Savings Information																	
Lamp						Lighting Power Density																
Lamp (W)	24					1.20	Code						27.9%									
Lamp Qty						2.41	Existing						Better Than Code									
Ballast						0.87	Proposed						LPD (w/ft²)									
Factor																						
24W - CUST: TLED LT8-12W x 2L - ReL																						
Custom Fixture																						
Missing/Incorrect Information On Line 18																						
Preliminary																						
UTA.125 Tooele Campus Lighting																						
Line Number	Exterior	Schedule	Space Description	Existing				Proposed				Lighting Power Density	Final Review Needed	↓ ↓ Project Notes ↓ ↓	64%	CTRL \$\$\$	LT \$\$\$	LT Incentive Type				
				Qty	Controls	Fixture Wattage	Space Wattage	Qty	Controls	Fixture Wattage	Space Wattage											
				553	0	43,441	0	553	0	15,570	0											
1	Y		Ext Pole	MH-250W-CWA	13		295	3,835	LEDPM-70W	13		70	910						76%			
2	Y		Ext Wallpack	CMH-70W-ELEC	1		79	79	LEDWP-18W	1		18	18						77%			
3	Y		Ext Wallpack	MH-100W-ELEC	11		112	1,232	LEDWP-18W	11		18	198						84%			
4	Y		Ext vestibule/soffit	FCM-16W-MG	24		16	384	LEDDL-10W	24		10	240						38%			
5	Y		Entrys	FCM-16W-MG	1		16	16	LEDDL-10W	1		10	10						38%			
6	A		Hallways	FLT8-32W x 2L x 4'-2 IS N	61		60	3,660	CUST: TLED LT8-12W x 2L - ReL	61		24	1,464						60%			
7	A		Hallways recessed	FCP-32W-IS N	33		35	1,155	LEDDL-10W	33		10	330						71%			
8	A		Main lobby	FUT8-32W x 2L x 2'-IS N	14		58	812	CUST: TLED LT8-12W x 2L - ReL	14		24	336						59%			
9	C		Lab 101	FLT8-32W x 3L x 4'-IS N	18		85	1,530	CUST: TLED LT8-12W x 3L - ReL	18		36	648						58%			
10	C		office 103	FLT8-32W x 4L x 4'-IS N	4		112	448	CUST: TLED LT8-12W x 3L - ReL	4		36	144						68%			
11	C		office 102	FLT8-32W x 4L x 4'-IS N	1		112	112	CUST: TLED LT8-12W x 3L - ReL	1		36	36						68%			
12	B		105	FLT8-32W x 4L x 4'-IS N	4		112	448	CUST: TLED LT8-12W - ReL	4		12	48						89%			
13	B		104	FLT8-32W x 4L x 4'-IS N	8		112	896	CUST: TLED LT8-12W - ReL	8		12	96						89%			
14	C		Admin	FLT8-32W x 2L x 4'-2 IS N	5		60	300	CUST: TLED LT8-12W x 2L - ReL	5		24	120						60%			
15	C		Admin conference	FLT8-32W x 3L x 4'-IS N	6		85	510	CUST: TLED LT8-12W x 3L - ReL	6		36	216						58%			
16	C		admin offices	FLT8-32W x 3L x 4'-IS N	4		85	340	CUST: TLED LT8-12W x 3L - ReL	4		36	144						58%			
17	B		106	FLT8-32W x 3L x 4'-IS N	6		85	510	CUST: TLED LT8-12W x 3L - ReL	6		36	216						58%			
18	D		Elec/comm	FLT8-32W x 2L x 4'-2 IS N			60	0	CUST: TLED LT8-12W x 2L - ReL			24	0									
19	B		107	FLT8-32W x 2L x 4'-2 IS N	2		60	120	CUST: TLED LT8-12W x 2L - ReL	2		24	48						60%			
20	B		108	FLT8-32W x 3L x 4'-IS N	6		85	510	CUST: TLED LT8-12W x 3L - ReL	6		36	216						58%			
21	B		109 testing	FLT8-32W x 4L x 4'-IS N	3		112	336	CUST: TLED LT8-12W x 3L - ReL	3		36	108						68%			
22	B		Testing room	FLT8-32W x 4L x 4'-IS N	9		112	1,008	CUST: TLED LT8-12W x 3L - ReL	9		36	324						68%			
23	D		Test closet	FLT8-32W x 2L x 4'-2 IS N			60	0	CUST: TLED LT8-12W x 2L - ReL			24	0									
24	B		class 111	FLT8-32W x 4L x 4'-IS N	12		112	1,344	CUST: TLED LT8-12W x 3L - ReL	12		36	432						68%			
25	D		Janitor 151	FLT8-32W x 2L x 4'-2 IS N			60	0	CUST: TLED LT8-12W x 2L - ReL			24	0									
26	B		Rm 155	FLT8-32W x 4L x 4'-IS N	2		112	224	CUST: TLED LT8-12W x 3L - ReL	2		36	72						68%			
27	B		167	FLT8-32W x 3L x 4'-IS N	4		85	340	CUST: TLED LT8-12W x 3L - ReL	4		36	144						58%			
28	B		168	FLT8-32W x 3L x 4'-IS N	4		85	340	CUST: TLED LT8-12W x 3L - ReL	4		36	144						58%			
29	D		168/elec	FLT8-32W x 2L x 4'-2 IS N			60	0	CUST: TLED LT8-12W x 2L - ReL			24	0									
30	B		170, 174-184	FLT8-32W x 3L x 4'-IS N	26		85	2,210	CUST: TLED LT8-12W x 3L - ReL	26		36	936						58%			
31	B		182 computer	FLT8-32W x 3L x 4'-IS N	4		85	340	CUST: TLED LT8-12W x 3L - ReL	4		36	144						58%			
32	B		100 A	FLT8-32W x 4L x 4'-IS N	2		112	224	CUST: TLED LT8-12W x 3L - ReL	2		36	72						68%			
33	B		100 B	FLT8-32W x 4L x 4'-IS N	2		112	224	CUST: TLED LT8-12W x 3L - ReL	2		36	72						68%			
34	B		115	FLT8-32W x 4L x 4'-IS N	4		112	448	CUST: TLED LT8-12W x 3L - ReL	4		36	144						68%			
35	B		114	FLT8-32W x 4L x 4'-IS N	2		112	224	CUST: TLED LT8-12W x 3L - ReL	2		36	72						68%			
36	A		113 A	FLT8-32W x 2L x 4'-2 IS N	3		60	180	CUST: TLED LT8-12W x 2L - ReL	3		24	72						60%			
37	A		113 B	FLT8-32W x 4L x 4'-IS N	9		112	1,008	CUST: TLED LT8-12W x 3L - ReL	9		36	324						68%			
38	D		Janitor	FLT8-32W x 2L x 4'-2 IS N			60	0	CUST: TLED LT8-12W x 2L - ReL			24	0									
39	D		Elec	FLT8-32W x 2L x 4'-2 IS N			60	0	CUST: TLED LT8-12W x 2L - ReL			24	0									
40	B		120	FLT8-32W x 3L x 4'-IS N	8		85	680	CUST: TLED LT8-12W x 3L - ReL	8		36	288						58%			
41	B		121	FLT8-32W x 3L x 4'-IS N	9		85	765	CUST: TLED LT8-12W x 3L - ReL	9		36	324						58%			
42	B		122	FLT8-32W x 3L x 4'-IS N	12		85	1,020	CUST: TLED LT8-12W x 3L - ReL	12		36	432						58%			
43	B		123	FLT8-32W x 3L x 4'-IS N	9		85	765	CUST: TLED LT8-12W x 3L - ReL	9		36	324						58%			
44	B		116	FLT8-32W x 2L x 4'-2 IS N	4		60	240	CUST: TLED LT8-12W x 2L - ReL	4		24	96						60%			
45	B		break room	FUT8-32W x 2L x 2'-IS N	11		58	638	CUST: TLED UT8-16W x 2L - RL	11		32	352						45%			
46	A		116 A/B	FLT8-32W x 4L x 4'-IS N	4		112	448	CUST: TLED LT8-12W x 3L - ReL	4		36	144						68%			
47	A		Mens 135	FLT8-32W x 2L x 4'-2 IS N	7		60	420	CUST: TLED LT8-12W x 2L - ReL	7		24	168						60%			
48	A		Mens 135	FLT8-32W x 4'-IS N	2		30	60	CUST: TLED LT8-12W - ReL	2		12	24						60%			
49	A		Womens rm	FLT8-32W x 2L x 4'-2 IS N	7		60	420	CUST: TLED LT8-12W x 2L - ReL	7		24	168						60%			
50	A		Womens rm	FLT8-32W x 4'-IS N	2		30	60	CUST: TLED LT8-12W - ReL	2		12	24						60%			
51	D		mechanical	FLT8-32W x 2L x 4'-2 IS N			60	0	CUST: TLED LT8-12W x 2L - ReL			24	0									
52	D		janitor	FLT8-32W x 2L x 4'-2 IS N			60	0	CUST: TLED LT8-12W x 2L - ReL			24	0									
53	D		utility	FLT8-32W x 2L x 4'-2 IS N			60	0	CUST: TLED LT8-12W x 2L - ReL			24	0									
54	A		mens 154	FLT8-32W x 2L x 4'-2 IS N	5		60	300	CUST: TLED LT8-12W x 2L - ReL	5		24	120						60%			
55	A		womens 152	FLT8-32W x 2L x 4'-2 IS N	5		60	300	CUST: TLED LT8-12W x 2L - ReL	5		24	120						60%			
56	B		156	FLT8-32W x 3L x 4'-IS N	9		85	765	CUST: TLED LT8-12W x 3L - ReL	9		36	324						58%			
57	A		hallway track light	ICMB-65W	30		65	1,950	LEDSI-14W	30		14	420						78%			

58	B	157	FLT8-32W x 3L x 4'-IS N	8	85	680	CUST: TLED LT8-12W x 3L - ReL	8	36	288	58%		\$144.00	\$6/Lamp LED Tube
59	B	158	FLT8-32W x 3L x 4'-IS N	9	85	765	CUST: TLED LT8-12W x 3L - ReL	9	36	324	58%		\$162.00	\$6/Lamp LED Tube
60	B	159	FLT8-32W x 3L x 4'-IS N	17	85	1,445	CUST: TLED LT8-12W x 3L - ReL	17	36	612	58%		\$306.00	\$6/Lamp LED Tube
61	B	159	FCP-32W-IS N	6	35	210	LEDSI-14W	6	14	84	60%		\$33.40	\$0.10/kWh Saved
62	B	160	FLT8-32W x 3L x 4'-IS N	9	85	765	CUST: TLED LT8-12W x 3L - ReL	9	36	324	58%		\$162.00	\$6/Lamp LED Tube
63	B	161 bio lab	FLT8-32W x 3L x 4'-IS N	12	85	1,020	CUST: TLED LT8-12W x 3L - ReL	12	36	432	58%		\$216.00	\$6/Lamp LED Tube
64	D	161 storage	FLT8-32W x 3L x 4'-IS N		85	0	CUST: TLED LT8-12W x 3L - ReL		36	0				
65	B	162	FLT8-32W x 3L x 4'-IS N	4	85	340	CUST: TLED LT8-12W x 3L - ReL	4	36	144	58%		\$72.00	\$6/Lamp LED Tube
66	B	163	FLT8-32W x 3L x 4'-IS N	4	85	340	CUST: TLED LT8-12W x 3L - ReL	4	36	144	58%		\$72.00	\$6/Lamp LED Tube
67	B	164	FLT8-32W x 3L x 4'-IS N	9	85	765	CUST: TLED LT8-12W x 3L - ReL	9	36	324	58%		\$162.00	\$6/Lamp LED Tube
68	B	165	FLT8-32W x 3L x 4'-IS N	9	85	765	CUST: TLED LT8-12W x 3L - ReL	9	36	324	58%		\$162.00	\$6/Lamp LED Tube
69	A	main office	FLT8-32W x 4L x 4'-IS N	7	112	784	CUST: TLED LT8-12W x 3L - ReL	7	36	252	68%		\$126.00	\$6/Lamp LED Tube
70	C	office break	FLT8-32W x 4L x 4'-IS N	3	112	336	CUST: TLED LT8-12W x 3L - ReL	3	36	108	68%		\$54.00	\$6/Lamp LED Tube
71	C	offices	FLT8-32W x 4L x 4'-IS N	4	112	448	CUST: TLED LT8-12W x 3L - ReL	4	36	144	68%		\$72.00	\$6/Lamp LED Tube
72	A	soffit	FLT8-32W x 4'-IS N	20	30	600	CUST: TLED LT8-12W - ReL	20	12	240	60%		\$120.00	\$6/Lamp LED Tube
73														

Moab Building A (Support Documentation)



**ROCKY MOUNTAIN
POWER**

Let's turn the answers on.

V 031016.2

Utah
wattsmart[®] Business
03/10/16 Effective Date

You Can Now Use The Project Information Tab

Project ID	
Lighting Coordinator	
Tool Prepared by	Nexant
Project Manager	Mike Peterson
Account Manager	

Project Site Information

Project Name	Moab Lighting Bldg A		
Business Name	Utah State University		
Installation Address	125 W. 200 S.		
City, State, Zip	Moab	UT	84532
Contact, Title	Zach Cook	Energy Engineer	
Phone, Email	(435) 232-4107	zac.cook@usu.edu	
Account, Meter, Rate		64007494	23
Participant is:	<input checked="" type="checkbox"/> Acct Holder <input checked="" type="checkbox"/> Elect. User <input checked="" type="checkbox"/> Building Owner		
Business Type	School - University		

Coordinating Contractor Information

Contact		<input type="checkbox"/> wattsmart Business vendor
Business Name		
Address		
City, State, Zip		
Phone, Email		

Payee Information

Incentive Should Be Addressed To:			
Business Name			
Attention			
Check Reference			
Address			
City, State, Zip			

Customer Information (As Shown On Tax Forms)

Business Name			
Address			
City, State, Zip			
Office Use Only			

Processing Information

Construction Type	Retrofit	Stage	Preliminary
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Project Cost

Material	Labor	Other	Total Project Cost
\$8,500.00	\$5,000.00	\$0.00	\$13,500.00

Space Type & Size

Calculation Method	Whole Building	Allowed Wattage	12,000	
1 School/University		FT ² 10,000	1.20	W/FT ²
		FT ²		W/FT ²
		FT ²		W/FT ²
		FT ²		W/FT ²
		FT ²		W/FT ²
School/University		FT ² 10,000	1.20	W/FT ²

Lighting Operation Schedule

# of Holidays Closed?	Day	A	B	C	D	E
10	Mon	14.0	9.0	8.0	4.0	1.0
Op Weeks Per Year	Tue	14.0	9.0	8.0	4.0	1.0
	Wed	14.0	9.0	8.0	4.0	1.0
Add/Edit Seasonal Schedule	Thu	14.0	9.0	8.0	4.0	1.0
	Fri	14.0	9.0	8.0	4.0	1.0
	Sat	4.0	0.0	0.0	0.0	0.0
S is for 0 hrs/year	Sun	0.0	0.0	0.0	0.0	0.0
X is for 8760 hrs/year	Total	3,753	2,282	2,029	1,014	254
Y is for 4380 hrs/year						

Additional Information

Import Existing Project	wattsmart Business Participant Info	Email Coordinator	Lighting Catalog	LED Policy	Report A Problem
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Let's turn the answers on.

V 031016.2

Viewing The Preliminary Stage

Utah
wattsmart[®] Business

03/10/16 Effective Date

Project ID	
Lighting Coordinator	
Lighting Tool Prepared by	Nexant

Customer Information

Project	Moab Lighting Bldg A
Company	Utah State University
Customer Contact	Zach Cook

Total Savings

Stipulated Wattage Actual Wattage

Stipulated Wattage	Lighting	kWh/Year	Avg kW/Month	\$ Savings/Year
		26,048	7.10	\$2,532.82
	Control	0	0.00	\$0.00
	Total	26,048	7.10	\$2,532.82

Project Costs

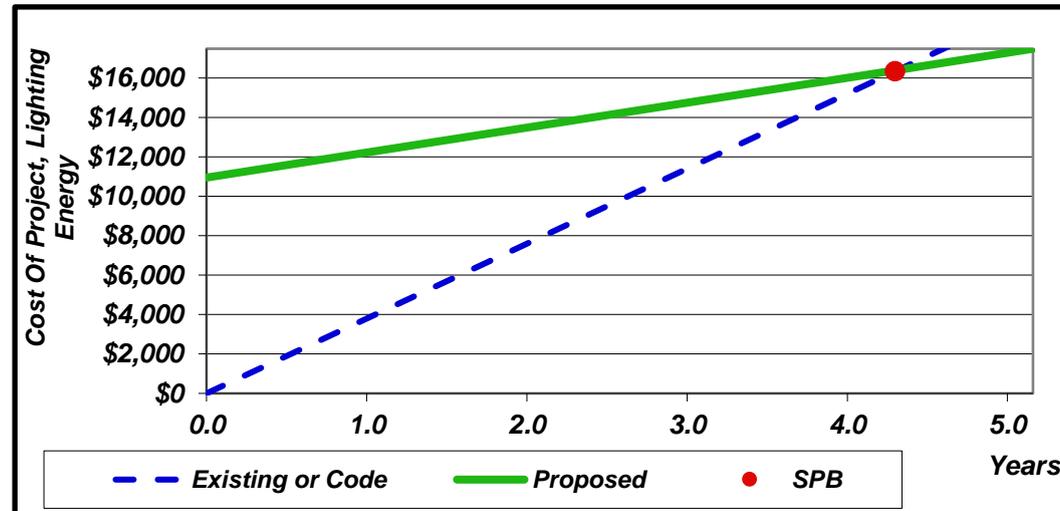
Total Cost	\$13,500.00	Lighting	\$2,552.22
Total Incentive	\$2,552.22	Controls	\$0.00
19% Of Cost Paid By Incentive		Incentive	\$2,552.22
Net Project Cost	\$10,948	Full Incentive	

Project Detail

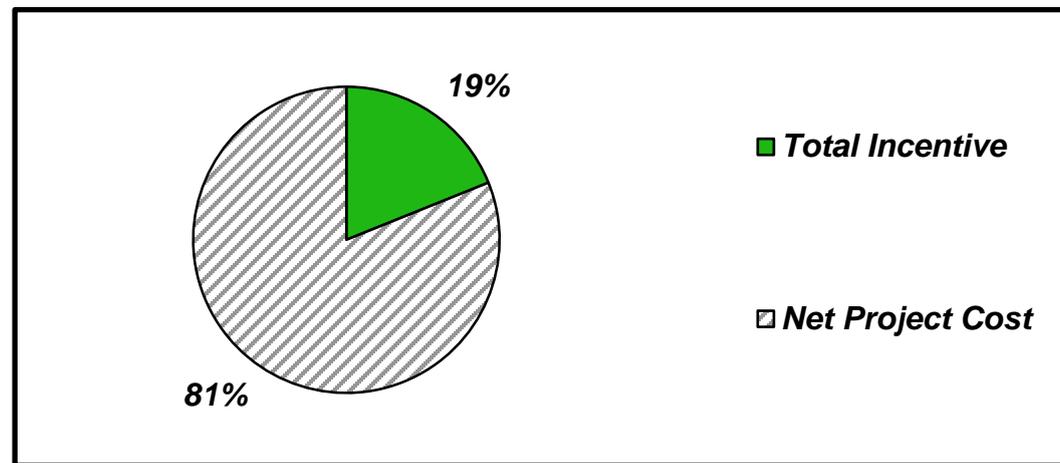
61% Better Than Code LPD (w/ft ²)			57% Better Than Code Operation Cost/Yr		
Existing	Code	Proposed	Existing	Code	Proposed
1.45	1.20	0.47	\$3,800	\$2,974	\$1,267

Simple Payback (Without Incentive)	5.3 Yrs	Simple Rate Of Return (Without Incentive)	19%
Simple Payback (With Incentive)	4.3 Yrs	Simple Rate Of Return (With Incentive)	23%

Cost of Project and Lighting Energy Usage Over Time



Percent of Initial Project Cost



The incentive and energy savings above are estimates only. This tool is designed to calculate savings and incentives for wattsmart Business lighting projects.

For wattsmart Business Lighting projects, lighting incentives are capped at 70% of eligible energy efficiency project costs, and the minimum simple payback (with incentive) for the project is one year. If needed, incentives will be decreased to reflect a one-year payback. The simple payback with incentive is the net project cost divided by the annual electric cost savings (dollar savings). For wattsmart Small Business Lighting projects, lighting retrofit incentives are capped at 80%.

Stipulated vs. Actual wattage – This tool has two calculation methods to distinguish between actual and stipulated wattages. There will only be a difference between actual and stipulated if the existing fixtures are impacted by efficacy standards (e.g. general service fluorescent and incandescent). Results from either calculation can be viewed by selecting “Stipulated wattage” or “Actual wattage.” Incentive calculations and 1-year simple payback cap are always based on stipulated wattage.

To receive an incentive you MUST sign an Incentive Offer before purchasing equipment.

Category	20W - FCE-5W x 2L-MG 9W - FCE-5W-MG 26W - FCE-6W x 2L-MG 13W - FCE-6W-MG 21W - FCE-7W x 2L-MG 10W - FCE-7W-MG 20W - FCE-9W x 2L-MG 12W - FCE-9W-MG 5W - FLE-2W x 2L-IS N 18W - FLE-6W x 2L-MG 9W - FLE-6W-MG	<input type="button" value="Add Fixture"/> <input type="button" value="Remove Fixture"/> <input type="button" value="Clear Filter"/> <input type="button" value="Build Fixture"/> <input type="button" value="Reset"/>	192W - FLT12-34W x 4L x 4'-2 MG 130W - FLT12-34W x 3L x 4'-MG 190W - MH-150W-CWA 20W - ICE-20W 87W - FLT8-32W x 3L x 4'-IS N 38W - LEDWP-38W 39 W - CUST: LED2X2-39W 48 W - CUST: TLED LT8-12W x 4L - ReL/B 24 W - CUST: TLED LT8-12W x 2L - ReL/B 36 W - CUST: TLED LT8-12W x 3L - ReL/B 4W - LEDE-4W	Incentive	 <p>Let's turn the answers on.</p> <p>↓ ↓ Project Tracking ↓ ↓</p> <p>Preliminary</p> <p>Pre-Inspection</p> <p>Incentive Offer Needed</p> <p>Contracted</p> <p>Post-Inspection</p> <p>Final Review Needed</p> <p>↓ ↓ Project Notes ↓ ↓</p>	kW % Savings	\$0.00	\$2,552.22	LT Incentive Type							
<input type="button" value="Add Fixture"/> <input type="button" value="Remove Fixture"/> <input type="button" value="Clear Filter"/> <input type="button" value="Build Fixture"/> <input type="button" value="Reset"/>	\$2,552.22 \$2,533 Saved Per Year 4.3 Year Simple Payback 26,048 kWh Saved Per Year	Lighting Power Density 1.20 Code 1.45 Existing 0.47 Proposed	60.7% Better Than Code LPD (w/ft²)													
4W - LEDE-4W LED Exit (4W x 1L) Full Incentive (18.9% of Cost Paid By Incentive)		Lighting Power Density 1.20 Code 1.45 Existing 0.47 Proposed		60.7% Better Than Code LPD (w/ft²)												
4W - LEDE-4W LED Exit (4W x 1L) Full Incentive (18.9% of Cost Paid By Incentive)		Lighting Power Density 1.20 Code 1.45 Existing 0.47 Proposed		60.7% Better Than Code LPD (w/ft²)												
Preliminary											Moab Lighting Bldg A					
Line Number	Exterior	Schedule	Space Description	Existing				Proposed				Savings %	CTRL \$\$\$	LT \$\$\$	LT Incentive Type	
				Qty	Controls	Fixture Wattage	Space Wattage	Qty	Controls	Fixture Wattage	Space Wattage					
1	+	Y	Exterior WP	CMH-90W-ELEC H	9		99	891			LEDWP-38W	342	62%			
2	+	Y	Exterior Soffit	ICMB-65W	5		65	325			CUST: LED2X2-39W	195	40%		\$192.40	\$0.08/kWh Saved
3		A	Entry	FLT8-32W x 4L x 4'-IS N	1		112	112			CUST: TLED LT8-12W x 3L - ReL/B	36	68%		\$45.52	\$0.08/kWh Saved
4		A	Lobby	FLT8-32W x 4L x 4'-IS N	9		112	1,008			CUST: TLED LT8-12W x 3L - ReL/B	324	68%		\$28.50	\$0.10/kWh Saved
5		A	Lobby	FLT12-34W x 4L x 4'-2 MG	3		116	348			CUST: TLED LT8-12W x 3L - ReL/B	108	69%		\$256.70	\$0.10/kWh Saved
6		A	Men Restroom	FLT8-32W x 2L x 4'-IS N	2		58	116			CUST: TLED LT8-12W x 2L - ReL/B	48	59%		\$90.10	\$0.10/kWh Saved
7		A	Women Restroom	FLT8-32W x 2L x 4'-IS N	2		58	116			CUST: TLED LT8-12W x 2L - ReL/B	48	59%		\$25.50	\$0.10/kWh Saved
8		B	Lab E	FLT8-32W x 4L x 4'-IS N	8		112	896			CUST: TLED LT8-12W x 3L - ReL/B	288	68%		\$138.70	\$0.10/kWh Saved
9		B	Lab E	FLT12-34W x 4L x 4'-2 MG	2		116	232			CUST: TLED LT8-12W x 3L - ReL/B	72	69%		\$36.50	\$0.10/kWh Saved
10		B	"T" Lab	FLT12-34W x 4L x 4'-2 MG	4		116	464			CUST: TLED LT8-12W x 3L - ReL/B	144	69%		\$73.00	\$0.10/kWh Saved
11		A	Hallway	FLT12-34W x 4L x 4'-2 MG	2		116	232			CUST: TLED LT8-12W x 3L - ReL/B	72	69%		\$60.00	\$0.10/kWh Saved
12		D	Class F	FLT12-34W x 4L x 4'-2 MG	6		116	696			CUST: TLED LT8-12W x 3L - ReL/B	216	69%		\$48.70	\$0.10/kWh Saved
13		D	Lounge 123	FLT12-34W x 2L x 4'-MG	2		58	116			CUST: TLED LT8-12W x 2L - ReL/B	48	59%		\$6.90	\$0.10/kWh Saved
14		D	G Class	FLT12-34W x 4L x 4'-2 MG	6		116	696			CUST: TLED LT8-12W x 3L - ReL/B	216	69%		\$48.70	\$0.10/kWh Saved
15		B	Conference 102A	FLT12-34W x 4L x 4'-2 MG	11		116	1,276			CUST: TLED LT8-12W x 3L - ReL/B	396	69%		\$200.80	\$0.10/kWh Saved
16		A	Hallway	FLT12-34W x 4L x 4'-2 MG	5		116	580			CUST: TLED LT8-12W x 3L - ReL/B	180	69%		\$150.10	\$0.10/kWh Saved
17		D	Rm 104	FLT12-34W x 2L x 4'-MG	4		58	232			CUST: TLED LT8-12W x 2L - ReL/B	96	59%		\$13.80	\$0.10/kWh Saved
18		D	Rm 106	FLT12-34W x 4L x 4'-2 MG	4		116	464			CUST: TLED LT8-12W x 3L - ReL/B	144	69%		\$32.40	\$0.10/kWh Saved
19		E	106A Closet	FLT12-34W x 4L x 4'-2 MG	2		116	232			CUST: TLED LT8-12W x 3L - ReL/B	72	69%		\$4.10	\$0.10/kWh Saved
20		C	106B Office	FLT12-34W x 4L x 4'-2 MG	2		116	232			CUST: TLED LT8-12W x 3L - ReL/B	72	69%		\$32.50	\$0.10/kWh Saved
21		C	107 Office	FLT12-34W x 4L x 4'-2 MG	4		116	464			CUST: TLED LT8-12W x 3L - ReL/B	144	69%		\$64.90	\$0.10/kWh Saved
22		B	107 Lab	FLT12-34W x 4L x 4'-2 MG	4		116	464			CUST: TLED LT8-12W x 3L - ReL/B	144	69%		\$73.00	\$0.10/kWh Saved
23		A	Rehabilitation lobby	FLT8-32W x 3L x 4'-IS N	8		85	680			CUST: TLED LT8-12W x 3L - ReL/B	288	58%		\$147.10	\$0.10/kWh Saved
24		C	108 office	FLT8-32W x 4L x 4'-IS N	2		112	224			CUST: TLED LT8-12W x 3L - ReL/B	72	68%		\$30.80	\$0.10/kWh Saved
25		D	Rm 110	FLT12-34W x 4L x 4'-2 MG	2		116	232			CUST: TLED LT8-12W x 3L - ReL/B	72	69%		\$16.20	\$0.10/kWh Saved
26		D	Reception records	FLT12-34W x 2L x 4'-MG	2		58	116			CUST: TLED LT8-12W x 2L - ReL/B	48	59%		\$6.90	\$0.10/kWh Saved
27		C	Main office	FLT12-34W x 4L x 4'-2 MG	4		116	464			CUST: TLED LT8-12W x 3L - ReL/B	144	69%		\$64.90	\$0.10/kWh Saved
28		B	class 111	FLT12-34W x 4L x 4'-2 MG	8		116	928			CUST: TLED LT8-12W x 3L - ReL/B	288	69%		\$146.00	\$0.10/kWh Saved
29		B	class 109C	FLT12-34W x 4L x 4'-2 MG	8		116	928			CUST: TLED LT8-12W x 3L - ReL/B	288	69%		\$146.00	\$0.10/kWh Saved
30		D	office 103	FLT12-34W x 4L x 4'-2 MG	2		116	232			CUST: TLED LT8-12W x 3L - ReL/B	72	69%		\$16.20	\$0.10/kWh Saved

31	D	office 114	FLT12-34W x 4L x 4'-2 MG	4	116	464	CUST: TLED LT8-12W x 3L - ReL/B	4	36	144	69%		\$32.40	\$0.10/kWh Saved
32	A	hallway	FLT8-32W x 4L x 4'-IS N	3	112	336	CUST: TLED LT8-12W x 3L - ReL/B	3	36	108	68%		\$85.60	\$0.10/kWh Saved
33	D	Breakroom	FLT12-34W x 2L x 4'-MG	2	58	116	CUST: TLED LT8-12W x 2L - ReL/B	2	24	48	59%		\$6.90	\$0.10/kWh Saved
34	B	124 conference	FLT12-34W x 4L x 4'-2 MG	5	116	580	CUST: TLED LT8-12W x 3L - ReL/B	5	36	180	69%		\$91.30	\$0.10/kWh Saved
35	E	124A storage	FLT12-34W x 2L x 4'-MG	2	58	116	CUST: TLED LT8-12W x 2L - ReL/B	2	24	48	59%		\$1.70	\$0.10/kWh Saved
36	D	122 Office	FLT12-34W x 2L x 4'-MG	2	58	116	CUST: TLED LT8-12W x 2L - ReL/B	2	24	48	59%		\$6.90	\$0.10/kWh Saved
37	X	exit signs	ICE-20W	7	20	140	LEDE-4W	7	4	28	80%		\$105.00	\$15/Fixture LED Exit Sign
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Moab Building B (Support Documentation)



**ROCKY MOUNTAIN
POWER**

Let's turn the answers on.

V 031016.2

Utah
wattsmart[®] Business
03/10/16 Effective Date

You Can Now Use The Project Information Tab

Project ID	
Lighting Coordinator	
Tool Prepared by	Nexant
Project Manager	Mike Peterson
Account Manager	

Project Site Information

Project Name	Moab Lighting Bldg B		
Business Name	Utah State University		
Installation Address	125 W. 200 S.		
City, State, Zip	Moab	UT	84532
Contact, Title	Zach Cook	Energy Engineer	
Phone, Email	(435) 232-4107	zac.cook@usu.edu	
Account, Meter, Rate			23
Participant is:	<input checked="" type="checkbox"/> Acct Holder <input checked="" type="checkbox"/> Elect. User <input checked="" type="checkbox"/> Building Owner		
Business Type	School - University		

Coordinating Contractor Information

Contact		<input type="checkbox"/> wattsmart Business vendor
Business Name		
Address		
City, State, Zip		
Phone, Email		

Payee Information

Incentive Should Be Addressed To:	
Business Name	
Attention	
Check Reference	
Address	
City, State, Zip	

Customer Information (As Shown On Tax Forms)

Business Name	
Address	
City, State, Zip	
Office Use Only	

Processing Information

Construction Type	Retrofit	Stage	Preliminary
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Project Cost

Material	Labor	Other	Total Project Cost
\$9,000.00	\$5,000.00	\$0.00	\$14,000.00

Space Type & Size

Calculation Method	Whole Building	Allowed Wattage	12,000	
1 School/University		FT ² 10,000	1.20	W/FT ²
		FT ²		W/FT ²
		FT ²		W/FT ²
		FT ²		W/FT ²
		FT ²		W/FT ²
School/University		FT ² 10,000	1.20	W/FT ²

Lighting Operation Schedule

# of Holidays Closed?	Day	A	B	C	D	E
10	Mon	14.0	9.0	8.0	4.0	1.0
Op Weeks Per Year	Tue	14.0	9.0	8.0	4.0	1.0
	Wed	14.0	9.0	8.0	4.0	1.0
Add/Edit Seasonal Schedule	Thu	14.0	9.0	8.0	4.0	1.0
	Fri	14.0	9.0	8.0	4.0	1.0
	Sat	4.0	0.0	0.0	0.0	0.0
S is for 0 hrs/year	Sun	0.0	0.0	0.0	0.0	0.0
X is for 8760 hrs/year	Total	3,753	2,282	2,029	1,014	254
Y is for 4380 hrs/year						

Additional Information

Import Existing Project	wattsmart Business Participant Info	Email Coordinator	Lighting Catalog	LED Policy	Report A Problem
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Let's turn the answers on.

V 031016.2

Viewing The Preliminary Stage

Utah
wattsmart[®] Business

03/10/16 Effective Date

Project ID	
Lighting Coordinator	
Lighting Tool Prepared by	Nexant

Customer Information

Project	Moab Lighting Bldg B
Company	Utah State University
Customer Contact	Zach Cook

Total Savings

Stipulated Wattage Actual Wattage

	Lighting	kWh/Year	Avg kW/Month	\$ Savings/Year
Stipulated Wattage	Lighting	20,850	5.40	\$1,996.18
	Control	-2,583	0.00	-\$173.58
	Total	18,267	5.40	\$1,822.60

Project Costs

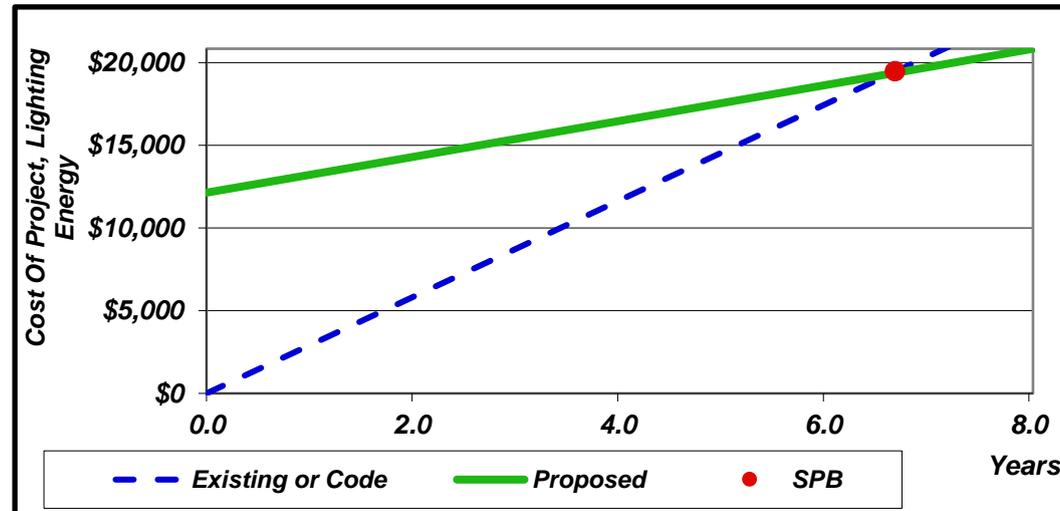
Total Cost	\$14,000.00	Lighting	\$1,861.96
Total Incentive	\$1,861.96	Controls	\$0.00
13% Of Cost Paid By Incentive		Incentive	\$1,861.96
Net Project Cost	\$12,138	Full Incentive	

Project Detail

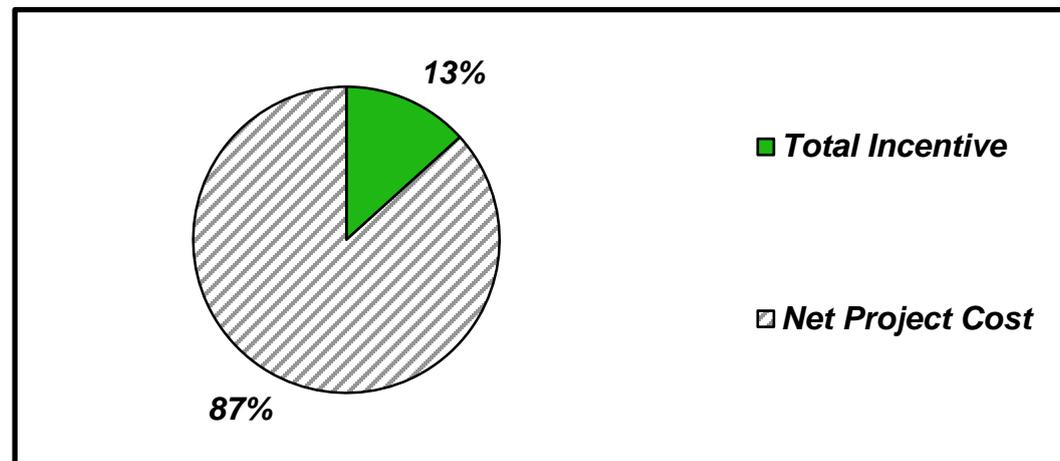
66% Better Than Code LPD (w/ft ²)			63% Better Than Code Operation Cost/Yr		
Existing	Code	Proposed	Existing	Code	Proposed
1.16	1.20	0.41	\$2,905	\$2,905	\$1,082

Simple Payback (Without Incentive)	7.7 Yrs	Simple Rate Of Return (Without Incentive)	13%
Simple Payback (With Incentive)	6.7 Yrs	Simple Rate Of Return (With Incentive)	15%

Cost of Project and Lighting Energy Usage Over Time



Percent of Initial Project Cost



The incentive and energy savings above are estimates only. This tool is designed to calculate savings and incentives for wattsmart Business lighting projects.

For wattsmart Business Lighting projects, lighting incentives are capped at 70% of eligible energy efficiency project costs, and the minimum simple payback (with incentive) for the project is one year. If needed, incentives will be decreased to reflect a one-year payback. The simple payback with incentive is the net project cost divided by the annual electric cost savings (dollar savings). For wattsmart Small Business Lighting projects, lighting retrofit incentives are capped at 80%.

Stipulated vs. Actual wattage – This tool has two calculation methods to distinguish between actual and stipulated wattages. There will only be a difference between actual and stipulated if the existing fixtures are impacted by efficacy standards (e.g. general service fluorescent and incandescent). Results from either calculation can be viewed by selecting “Stipulated wattage” or “Actual wattage.” Incentive calculations and 1-year simple payback cap are always based on stipulated wattage.

To receive an incentive you MUST sign an Incentive Offer before purchasing equipment.

32	D	office 106	FLT8-32W x 4L x 4'-IS N	2		112	224	CUST: TLED LT8-12W x 3L - ReL/B	2		36	72		68%		\$15.40	\$0.10/kWh Saved
33	E	Elec 105	FLT12-34W x 2L x 4'-MG	1		58	58	CUST: TLED LT8-12W x 2L - ReL/B	1		24	24		59%		\$0.90	\$0.10/kWh Saved
34	D	office 108	FLT8-32W x 4L x 4'-IS N	2		112	224	CUST: TLED LT8-12W x 3L - ReL/B	2		36	72		68%		\$15.40	\$0.10/kWh Saved
35	D	office 110	FLT8-32W x 4L x 4'-IS N	2		112	224	CUST: TLED LT8-12W x 3L - ReL/B	2		36	72		68%		\$15.40	\$0.10/kWh Saved
36	D	office 112	FLT8-32W x 4L x 4'-IS N	4		112	448	CUST: TLED LT8-12W x 3L - ReL/B	4		36	144		68%		\$30.80	\$0.10/kWh Saved
37	B	class 113	FLT8-32W x 2L x 4'-IS N	4	Ceiling Occupancy	58	232	CUST: TLED LT8-12W x 2L - ReL/B	4		24	96		59%		\$31.00	\$0.10/kWh Saved
38	C	breakroom 114	FLT12-34W x 3L x 4'-MG	3		85	255	CUST: TLED LT8-12W x 2L - ReL/B	3		24	72		72%		\$37.10	\$0.10/kWh Saved
39	E	storage 111	FLT12-34W x 2L x 4'-MG	1		58	58	CUST: TLED LT8-12W x 2L - ReL/B	1		24	24		59%		\$0.90	\$0.10/kWh Saved
40	C	office 115	FLT12-34W x 2L x 4'-MG	4		58	232	CUST: TLED LT8-12W x 2L - ReL/B	4		24	96		59%		\$27.60	\$0.10/kWh Saved
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EQUINE CENTER (Support Documentation)



**ROCKY MOUNTAIN
POWER**

Let's turn the answers on.

V 031016.2

Utah
wattsmart[®] Business
03/10/16 Effective Date

You Can Now Use The Project Information Tab

Project ID	UTA.114
Lighting Coordinator	
Tool Prepared by	Nexant
Project Manager	Mike Peterson
Account Manager	

Project Site Information

Project Name	USU Equine Center Lighting		
Business Name	Utah State University		
Installation Address	3610 US-89		
City, State, Zip	Wellsville	UT	84339
Contact, Title	Zachary Cook	Energy Engineer	
Phone, Email	435-797-7048	zac.cook@usu.edu	
Account, Meter, Rate		36260392	6
Participant is:	<input checked="" type="checkbox"/> Acct Holder <input checked="" type="checkbox"/> Elect. User <input checked="" type="checkbox"/> Building Owner		
Business Type	School		

Coordinating Contractor Information

Contact		<input type="checkbox"/> wattsmart Business vendor
Business Name		
Address		
City, State, Zip		
Phone, Email		

Payee Information

Incentive Should Be Addressed To:			
Business Name			
Attention			
Check Reference			
Address			
City, State, Zip			

Customer Information (As Shown On Tax Forms)

Business Name			
Address			
City, State, Zip			
Office Use Only			

Processing Information

Construction Type	Retrofit	Stage	Preliminary
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Project Cost

Material	Labor	Other	Total Project Cost
\$49,712.00	\$10,050.00	\$0.00	\$59,762.00

Space Type & Size

Calculation Method	Whole Building	Allowed Wattage	72,000
1 School/University		FT ² 60,000	1.20 W/FT ²
		FT ²	W/FT ²
		FT ²	W/FT ²
		FT ²	W/FT ²
		FT ²	W/FT ²
School/University		FT ² 60,000	1.20 W/FT ²

Lighting Operation Schedule

# of Holidays Closed?	Day	A	B	C	D	E
8	Mon	14.0				
Op Weeks Per Year	Tue	14.0				
	Wed	14.0				
Add/Edit Seasonal Schedule	Thu	14.0				
	Fri	14.0				
	Sat	0.0				
S is for 0 hrs/year	Sun	0.0				
X is for 8760 hrs/year	Total	3,570				
Y is for 4380 hrs/year						

Additional Information

Import Existing Project	wattsmart Business Participant Info	Email Coordinator	Lighting Catalog	LED Policy	Report A Problem
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Let's turn the answers on.

V 031016.2

Viewing The Preliminary Stage

Utah
wattsmart[®] Business

03/10/16 Effective Date

Project ID	UTA.114
Lighting Coordinator	
Lighting Tool Prepared by	Nexant

Customer Information

Project	USU Equine Center Lighting
Company	Utah State University
Customer Contact	Zachary Cook

Total Savings

Stipulated Wattage Actual Wattage

Stipulated Wattage	Lighting	kWh/Year	Avg kW/Month	\$ Savings/Year
		Lighting	145,597	22.50
	Control	0	0.00	\$0.00
	Total	145,597	22.50	\$9,348.85

Project Costs

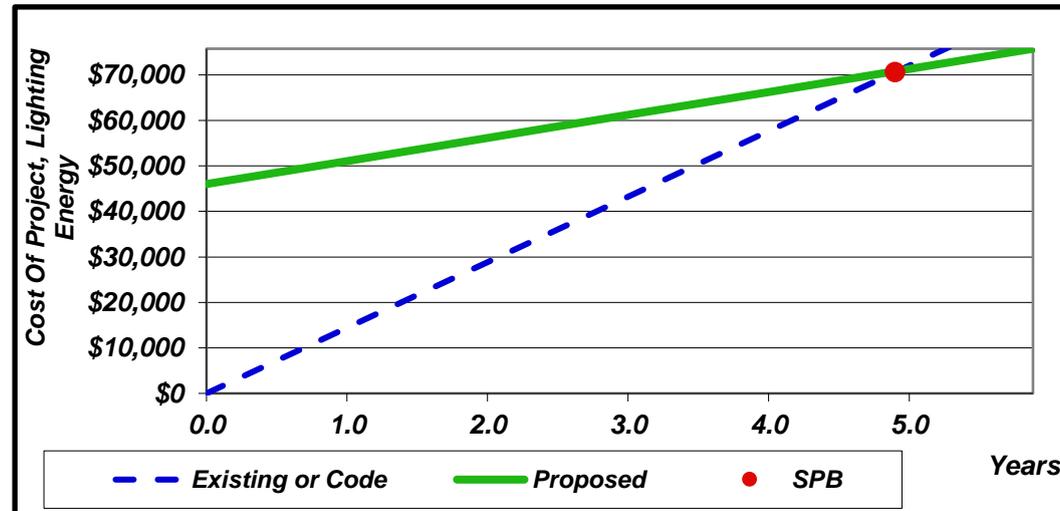
Total Cost	\$59,762.00	Lighting	\$13,742.38
Total Incentive	\$13,742.38	Controls	\$0.00
23% Of Cost Paid By Incentive		Incentive	\$13,742.38
Net Project Cost	\$46,020	Full Incentive	

Project Detail

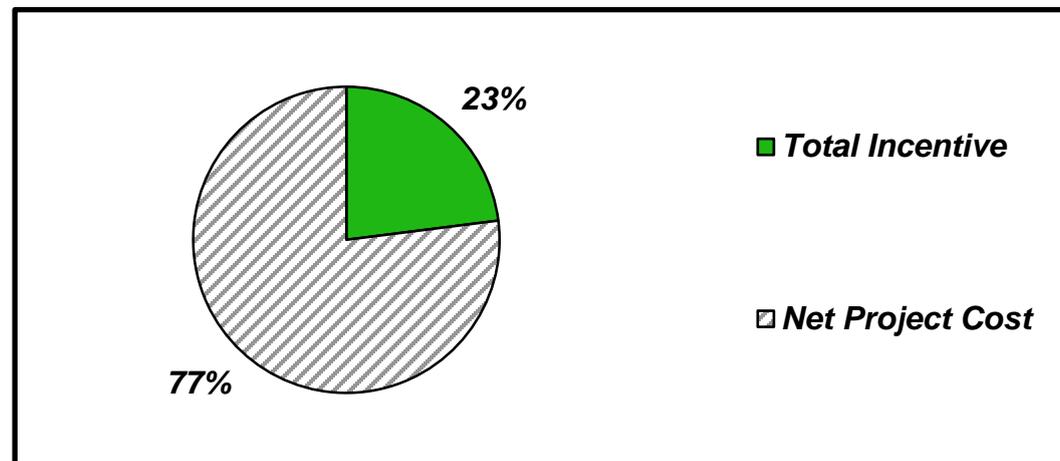
74% Better Than Code LPD (w/ft ²)			73% Better Than Code Operation Cost/Yr		
Existing	Code	Proposed	Existing	Code	Proposed
0.84	1.20	0.31	\$14,406	\$18,610	\$5,057

Simple Payback (Without Incentive)	6.4 Yrs	Simple Rate Of Return (Without Incentive)	16%
Simple Payback (With Incentive)	4.9 Yrs	Simple Rate Of Return (With Incentive)	20%

Cost of Project and Lighting Energy Usage Over Time



Percent of Initial Project Cost



The incentive and energy savings above are estimates only. This tool is designed to calculate savings and incentives for wattsmart Business lighting projects.

For wattsmart Business Lighting projects, lighting incentives are capped at 70% of eligible energy efficiency project costs, and the minimum simple payback (with incentive) for the project is one year. If needed, incentives will be decreased to reflect a one-year payback. The simple payback with incentive is the net project cost divided by the annual electric cost savings (dollar savings). For wattsmart Small Business Lighting projects, lighting retrofit incentives are capped at 80%.

Stipulated vs. Actual wattage – This tool has two calculation methods to distinguish between actual and stipulated wattages. There will only be a difference between actual and stipulated if the existing fixtures are impacted by efficacy standards (e.g. general service fluorescent and incandescent). Results from either calculation can be viewed by selecting “Stipulated wattage” or “Actual wattage.” Incentive calculations and 1-year simple payback cap are always based on stipulated wattage.

To receive an incentive you MUST sign an Incentive Offer before purchasing equipment.

Category	20W - FCE-5W x 2L-MG 9W - FCE-5W-MG 26W - FCE-6W x 2L-MG 13W - FCE-6W-MG 21W - FCE-7W x 2L-MG 10W - FCE-7W-MG 20W - FCE-9W x 2L-MG 12W - FCE-9W-MG 5W - FLE-2W x 2L-IS N 18W - FLE-6W x 2L-MG 9W - FLE-6W-MG	Add Fixture	15 W - CUST: LEDT-15W 458W - MH-400W-CWA 215W - MH-175W-CWA 54W - FLT8-32W x 2L x 4'-RS/PRS R 42W - FCM-42W-IS N 45 W - CUST: LEDWP-45W 18W - LEDSI-18W 160W - LEDHB-160W 120W - LEDPM-120W	Incentive		 <p>Let's turn the answers on.</p> <p>↓ ↓ Project Tracking ↓ ↓</p> <p>Preliminary</p> <p>Pre-Inspection</p> <p>Incentive Offer Needed</p> <p>Contracted</p> <p>Post-Inspection</p> <p>Final Review Needed</p> <p>↓ ↓ Project Notes ↓ ↓</p>	kW % Savings	\$0.00	\$13,742.38	LT Incentive Type					
Fixture		Remove Fixture	Savings Information												
Lamp		Clear Filter	\$13,742.38 \$9,349 Saved Per Year 4.9 Year Simple Payback 145,597 kWh Saved Per Year												
Lamp (W)		Build Fixture	Lighting Power Density												
Lamp Qty		Reset	1.20 Code 0.84 Existing 0.31 Proposed		74.4% Better Than Code LPD (w/ft²)										
Ballast			49W - FLT8-32W x 2L x 4'-RS/PRS R Fluorescent Linear T8 (32W x 2L x 4') 1 Rapid/Program Start Ballast (0.75 < BF < 0.85) Full Incentive (23.0% of Cost Paid By Incentive)												
Factor			Stipulated Wattage												
Preliminary UTA.114 USU Equine Center Lighting															
Line Number	Exterior	Schedule	Space Description	Existing				Proposed							
8 Out Of 73 Lines Used				212	0	Interior	50,181	281	0	Interior	18,426				
				Exterior		9,357			Exterior	2,055					
				Fixture	Qty	Controls	Fixture Wattage	Space Wattage	Fixture	Qty	Controls	Fixture Wattage	Space Wattage	↓ ↓ Project Notes ↓ ↓	66%
1	A	Barn	FLT8-32W x 2L x 4'-RS/PRS R	40			49	1,960	CUST: LEDT-15W	80		15	1,200		39%
2	+ Y	Barn Ext.	MH-175W-CWA	8			215	1,720	CUST: LEDWP-45W	8		45	360		79%
3	A	Arena Highbays	MH-400W-CWA	102			458	46,716	LEDHB-160W	102		160	16,320		65%
4	A	Arena Rooms	FLT8-32W x 2L x 4'-RS/PRS R	8			49	392	CUST: LEDT-15W	16		15	240		39%
5	+ Y	Arena Ext.	MH-175W-CWA	27			215	5,805	CUST: LEDWP-45W	27		45	1,215		79%
6	A	Arena Bathrooms	FLT8-32W x 2L x 4'-RS/PRS R	21			49	1,029	CUST: LEDT-15W	42		15	630		39%
7	X	Arena Vestibule	FCM-42W-IS N	2			42	84	LEDSI-18W	2		18	36		57%
8	+ Y	Parking Lot	MH-400W-CWA	4			458	1,832	LEDPM-120W	4		120	480		74%
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Merrill Library (Support Documentation)
Logan City Light and Power

You Can Now Use The Project Information Tab

Project ID	
Lighting Coordinator	
Tool Prepared by	USU
Project Manager	Zac Cook
Account Manager	

V 031016.2

Project Site Information

Project Name	Merrill Library Lighting		
Business Name	USU		
Installation Address	USU Logan Campus		
City, State, Zip	Logan	UT	84322
Contact, Title	Zachary Cook	Energy Manager	
Phone, Email			
Account, Meter, Rate			6
Participant is:	Acct Holder <input type="checkbox"/>	Elect. User <input type="checkbox"/>	Building Owner <input type="checkbox"/>
Business Type	School - University		

Coordinating Contractor Information

Contact	wattsmart Business vendor		
Business Name			
Address			
City, State, Zip			
Phone, Email			

Payee Information

Incentive Should Be Addressed To:			
Business Name			
Attention			
Check Reference			
Address			
City, State, Zip			

Customer Information (As Shown On Tax Forms)

Business Name			
Address			
City, State, Zip			

Processing Information

Construction Type	Retrofit	Stage	Preliminary
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Project Cost

Material	Labor	Other	Total Project Cost
\$43,600.00	\$45,000.00	\$0.00	\$88,600.00

Space Type & Size

Calculation Method	Multiple Spaces	Allowed Wattage	120,000	
1 School/University		FT ² 100,000	1.20	W/FT ²
		FT ²		W/FT ²
		FT ²		W/FT ²
		FT ²		W/FT ²
		FT ²		W/FT ²
School/University		FT ² 100,000	1.20	W/FT ²

Lighting Operation Schedule

# of Holidays Closed?	Day	A	B	C	D	E
8	Mon	18.0	10.0	8.0	2.0	
Op Weeks Per Year	Tue	18.0	10.0	8.0	2.0	
	Wed	18.0	10.0	8.0	2.0	
S is for 0 hrs/year X is for 8760 hrs/year Y is for 4380 hrs/year	Thu	18.0	10.0	8.0	2.0	
	Fri	18.0	8.0	6.0	2.0	
	Sat	10.0	4.0	2.0	1.0	
	Sun	10.0	0.0	0.0	0.0	
	Total	5,610	2,652	2,040	561	

Additional Information

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Viewing The Preliminary Stage

Project ID	
Lighting Coordinator	
Lighting Tool Prepared by	USU

Customer Information

Project	Merrill Library Lighting
Company	USU
Customer Contact	Zachary Cook

Total Savings Stipulated Wattage Actual Wattage

Actual Wattage			kWh/Year	Avg kW/Month	\$ Savings/Year
	Lighting		266,559	44.10	\$16,163.00
	Control		0	0.00	\$0.00
	Total		266,559	44.10	\$16,163.00

Project Costs

Total Cost	\$88,600.00		Lighting	n/a
Total Incentive	n/a		Controls	n/a
% Of Cost Paid By Incentive			Incentive	n/a
Net Project Cost	\$88,600		Full Incentive	

Project Detail

73% Better Than Code LPD (w/ft ²)			73% Better Than Code Operation Cost/Yr		
Existing	Code	Proposed	Existing	Code	Proposed
0.80	1.20	0.33	\$26,785	\$40,169	\$10,886

Simple Payback (Without Incentive)	5.6 Yrs	Simple Rate Of Return (Without Incentive)	18%
Simple Payback (With Incentive)	n/a	Simple Rate Of Return (With Incentive)	n/a

**Uintah Basin Education Center
(Support Documentation)**

Moon Lake Electric

You Can Now Use The Project Information Tab

Project ID	
Lighting Coordinator	
Tool Prepared by	USU
Project Manager	Zachary Cook
Account Manager	

V 031016.2

Project Site Information

Project Name	USU Uintah Basin Education Center		
Business Name	Utah State University		
Installation Address	987 E Lagoon St		
City, State, Zip	Roosevelt	UT	84078
Contact, Title	John Chase	Campus Manager	
Phone, Email	(435) 797-3126	john.chase@usu.edu	
Account, Meter, Rate			
Participant is:	<input checked="" type="checkbox"/> Acct Holder <input type="checkbox"/> lect. User <input type="checkbox"/> Building Owner		
Business Type	School - University		

Coordinating Contractor Information

Contact	wattsmart Business vendor		
Business Name			
Address			
City, State, Zip			
Phone, Email			

Payee Information

Incentive Should Be Addressed To:			
Business Name			
Attention			
Check Reference			
Address			
City, State, Zip			

Customer Information (As Shown On Tax Forms)

Business Name			
Address			
City, State, Zip			

Processing Information

Construction Type	Retrofit	Stage	Preliminary
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Project Cost

Material	Labor	Other	Total Project Cost
\$6,500.00	\$7,120.00	\$0.00	\$13,620.00

Space Type & Size

Calculation Method	Whole Building	Allowed Wattage	26,293	
1 School/University		FT ² 21,911	1.20	W/FT ²
		FT ²		W/FT ²
		FT ²		W/FT ²
		FT ²		W/FT ²
		FT ²		W/FT ²
School/University		FT ² 21,911	1.20	W/FT ²

Lighting Operation Schedule

# of Mondays Closed?	Day	A	B	C	D	E
8	Mon	16.0	12.0	9.0	4.0	2.0
Op Weeks Per Year	Tue	16.0	12.0	9.0	4.0	2.0
	Wed	16.0	12.0	9.0	4.0	2.0
52	Thu	16.0	12.0	9.0	4.0	2.0
	Fri	16.0	12.0	9.0	4.0	2.0
	Sat	6.0	6.0	4.0	2.0	1.0
S is for 0 hrs/year	Sun	0.0	0.0	0.0	0.0	0.0
X is for 8760 hrs/year	Total	4,386	3,366	2,499	1,122	561
Y is for 4380 hrs/year						

Additional Information

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V 031016.2

Viewing The Preliminary Stage

Project ID	
Lighting Coordinator	
Lighting Tool Prepared by	USU

Customer Information

Project	USU Uintah Basin Education Center
Company	Utah State University
Customer Contact	John Chase

Total Savings		Stipulated Wattage	● Actual Wattage
		kWh/Year	g kW/Mor
Actual Wattage	Lighting	81,503	11.10
	Control	0	0.00
	Total	81,503	11.10
		\$ Savings/Year	
			\$3,613.00
			\$0.00
			\$3,613.00

Project Costs

Total Cost	\$13,620.00	Lighting	n/a
Total Incentive	N/A	Controls	n/a
% Of Cost Paid By Incentive		Incentive	n/a
Net Project Cost	\$13,620	Full Incentive	

Project Detail

79% Better Than Code LPD (w/ft ²)			79% Better Than Code Operation Cost/Yr		
Existing	Code	Proposed	Existing	Code	Proposed
1.60	1.20	0.93	\$6,405	\$6,784	\$1,414

Simple Payback (Without Incentive)	3.8 yrs	Simple Rate Of Return	25%
Simple Payback (With Incentive)	n/a	Simple Rate Of Return	n/a

Preliminary														USU Uintah Basin Education Center			kW % Savings	Ineligible	CTRL \$\$\$	LT \$\$\$	LT Incentive Type
Line Number	39 Out Of 113 Lines Used			Existing				Proposed				↓ ↓ Project Notes ↓ ↓	76%								
	Exterior	Schedule	Space Description	Fixture	Qty	Controls	Fixture Wattage	Space Wattage	Fixture	Qty	Controls			Fixture Wattage	Space Wattage						
				Interior 20,320				Interior 4,796				Project Tracking ↓									
				Exterior 0				Exterior 0				Preliminary									
												Pre-Inspection									
												Incentive Offer Needed									
												Contracted									
												Post-Inspection									
												Final Review Needed									
0																					
1		Y	Hallways	FLT12-40W x 2L x 4'-MG	38		96	3,648	CUST: LEDT-12.5W	76		12.5	950	57%							
2		A	124 Classroom	FLT12-40W x 2L x 4'-MG	4		96	384	CUST: LEDT-12.5W	8		12.5	100	57%							
3		A	123 Classroom	FLT12-40W x 2L x 4'-MG	5		96	480	CUST: LEDT-12.5W	10		12.5	125	57%							
4		A	119 Classroom	FLT12-40W x 2L x 4'-MG	8		96	768	CUST: LEDT-12.5W	16		12.5	200	57%							
5																					
6		A	116 Classroom	FLT12-40W x 2L x 4'-MG	4		96	384	CUST: LEDT-12.5W	8		12.5	100	57%							
7		A	115 Kitchen	FLT12-40W x 2L x 4'-MG	5		96	480	CUST: LEDT-12.5W	10		12.5	125	57%							
8		C	114J Office	FLT12-40W x 2L x 4'-MG	2		96	192	CUST: LEDT-12.5W	4		12.5	50	57%							
9		C	114H Office	FLT12-40W x 2L x 4'-MG	3		96	288	CUST: LEDT-12.5W	6		12.5	75	57%							
10		C	114K Office	FLT12-40W x 2L x 4'-MG	2		96	192	CUST: LEDT-12.5W	4		12.5	50	57%							
11		C	114G Office	FLT12-40W x 2L x 4'-MG	2		96	192	CUST: LEDT-12.5W	4		12.5	50	57%							
12		C	114F Office	FLT12-40W x 2L x 4'-MG	2		96	192	CUST: LEDT-12.5W	4		12.5	50	57%							
13		C	114L Office	FLT12-40W x 2L x 4'-MG	2		96	192	CUST: LEDT-12.5W	4		12.5	50	57%							
14		C	114M Office	FLT12-40W x 2L x 4'-MG	2		96	192	CUST: LEDT-12.5W	4		12.5	50	57%							
15		C	114E Office	FLT12-40W x 2L x 4'-MG	2		96	192	CUST: LEDT-12.5W	4		12.5	50	57%							
16		C	114D Office	FLT12-40W x 2L x 4'-MG	2		96	192	CUST: LEDT-12.5W	4		12.5	50	57%							
17		C	114B Office	FLT12-40W x 2L x 4'-MG	3		96	288	CUST: LEDT-12.5W	6		12.5	75	57%							
18		C	114A Office	FLT12-40W x 2L x 4'-MG	2		96	192	CUST: LEDT-12.5W	4		12.5	50	57%							
19		C	114C Office	FLT12-40W x 2L x 4'-MG	2		96	192	CUST: LEDT-12.5W	4		12.5	50	57%							
20		A	102 Reception	FLT12-40W x 2L x 4'-MG	5		96	480	CUST: LEDT-12.5W	10		12.5	125	57%							
21		C	102A Mailroom	FLT12-40W x 2L x 4'-MG	1		96	96	CUST: LEDT-12.5W	2		12.5	25	57%							
22		B	103 Satellite	FLT12-40W x 2L x 4'-MG	4		96	384	CUST: LEDT-12.5W	8		12.5	100	57%							
23		A	105 Classroom	FLT12-40W x 2L x 4'-MG	8		96	768	CUST: LEDT-12.5W	16		12.5	200	57%							
24		A	107 Lab	FLT12-40W x 2L x 4'-MG	4		96	384	CUST: LEDT-12.5W	8		12.5	100	57%							
25		A	109 Lab	FLT12-40W x 2L x 4'-MG	9		96	864	CUST: LEDT-12.5W	18		12.5	225	57%							
26		A	112 ClassRoom	FLT12-40W x 2L x 4'-MG	4		96	384	CUST: LEDT-12.5W	8		12.5	100	57%							
27																					
28																					
29		A	102B Testing Room	FLT12-40W x 2L x 4'-MG	1		96	96	CUST: LEDT-12.5W	2		12.5	25	57%							
30																					
31																					
32		C	100K	FLT12-40W x 2L x 4'-MG	2		96	192	CUST: LEDT-12.5W	4		12.5	50	57%							
33		Y	104	FLT12-40W x 2L x 4'-MG	1		96	96	CUST: LEDT-12.5W	2		12.5	25	57%							
34									CUST: LEDT-12.5W	4		12.5	50								
35																					
36		A	101	FLT12-40W x 2L x 4'-MG	3		96	288	CUST: LEDT-12.5W	6		12.5	75	57%							
37		A	101	FLT12-20W x 2L x 2'-MG	1		50	50	CUST: LEDT-12.5W	2		12.5	25	50%							
38		A	111	FLT12-40W x 2L x 4'-MG	4		96	384	CUST: LEDT-12.5W	8		12.5	100	57%							
39																					
40		A	111B	FLT12-40W x 2L x 4'-MG	1		96	96	CUST: LEDT-12.5W	2		12.5	25	57%							
41		A	113	FLT12-40W x 2L x 4'-MG	10		96	960	CUST: LEDT-12.5W	20		12.5	250	57%							
42		X	100J Hallway	FLT12-20W x 2L x 2'-MG	7		50	350	CUST: LEDT-12.5W	14		12.5	175	50%							

