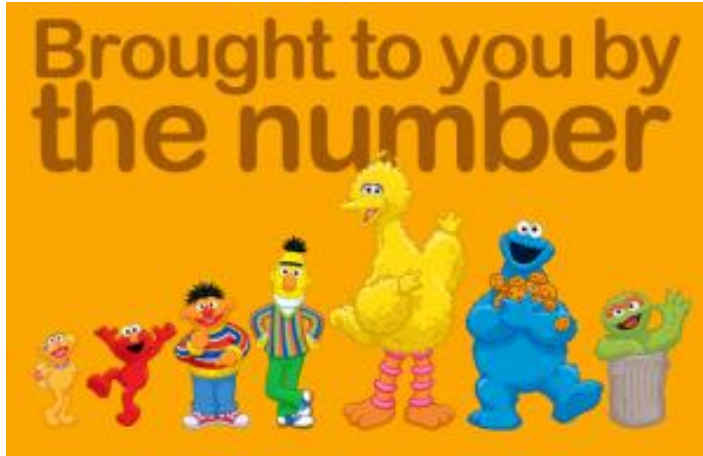


An Hour with John and Ryan





62

Today's Show

- The Lighting Calculator and Excel 2016 / Office 365
- New Construction Lighting Projects
- Lighting Program: Year Over Year
- Small Business Lighting Promo...Keep on Trucking?
- Potential School Promotion. What do you think?
- Helpful Reminders
- Lighting Calculator 3.3
- Lighting Team: Here to help

Excel 2016 / Office 365

- Initially had a few utilities/TAs with 2016 concerns
- John and Ryan channeled their inner Hardy Boys



- Unique set of circumstances
- In summary: Every little thing's gonna be alright

New Construction Lighting Projects

Sample LC 3.3

Enter details for New Construction projects. Lighting Power Allowance and Proposed Lighting Power should be obtained from COMcheck or the Washington Code Compliance Form.

Interior Lighting

Lighting Power Allowance (Watts) x = Code Baseline (kWh)

Proposed Lighting Power (Watts) x = Proposed (kWh)

Primary Heating Type Unadjusted Savings (kWh)

Primary Cooling Type Savings %

Affected Square Footage Adjusted Savings (kWh)

Exterior Lighting

Lighting Power Allowance (Watts) x = Code Baseline (kWh)

Proposed Lighting Power (Watts) x = Proposed (kWh)

Affected Square Footage (if applicable) Unadjusted Savings (kWh)

Savings %

Adjusted Savings (kWh)

New Construction Lighting Projects



COMcheck Software Version 4.3.4

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2012 IECC
 Project Title:
 Project Type: Addition

Construction Site: Owner/Agent: Designer/Contractor:

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft ²)	C Allowed Watts / ft ²	D Allowed Watts
1-Workshop	1728	1.39	2419
Total Allowed Watts =			2419

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
1-Workshop LED: LED Linear 15W:	2	16	30	480
Total Proposed Watts =				480

Interior Lighting PASSES: Design 80% better than code

Interior Lighting Compliance Statement

New Construction Lighting Projects

1. ComCheck / WA Code Compliance Form
2. Code
3. Common Practice (if 1 & 2 don't apply)

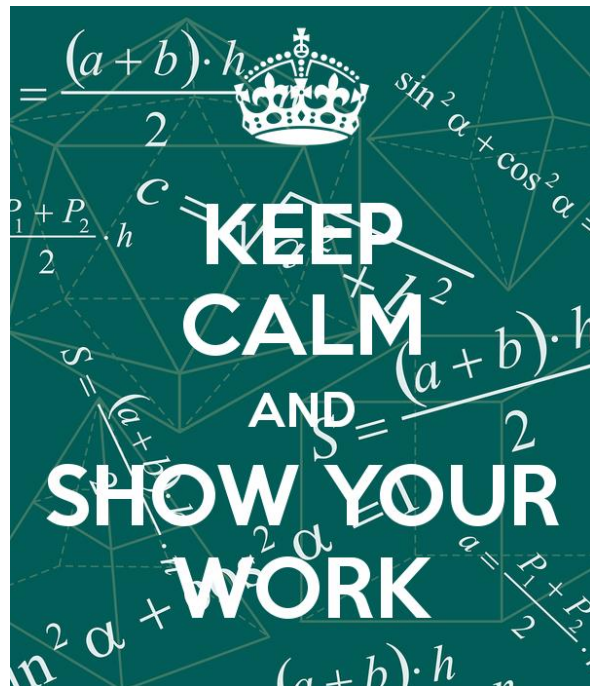
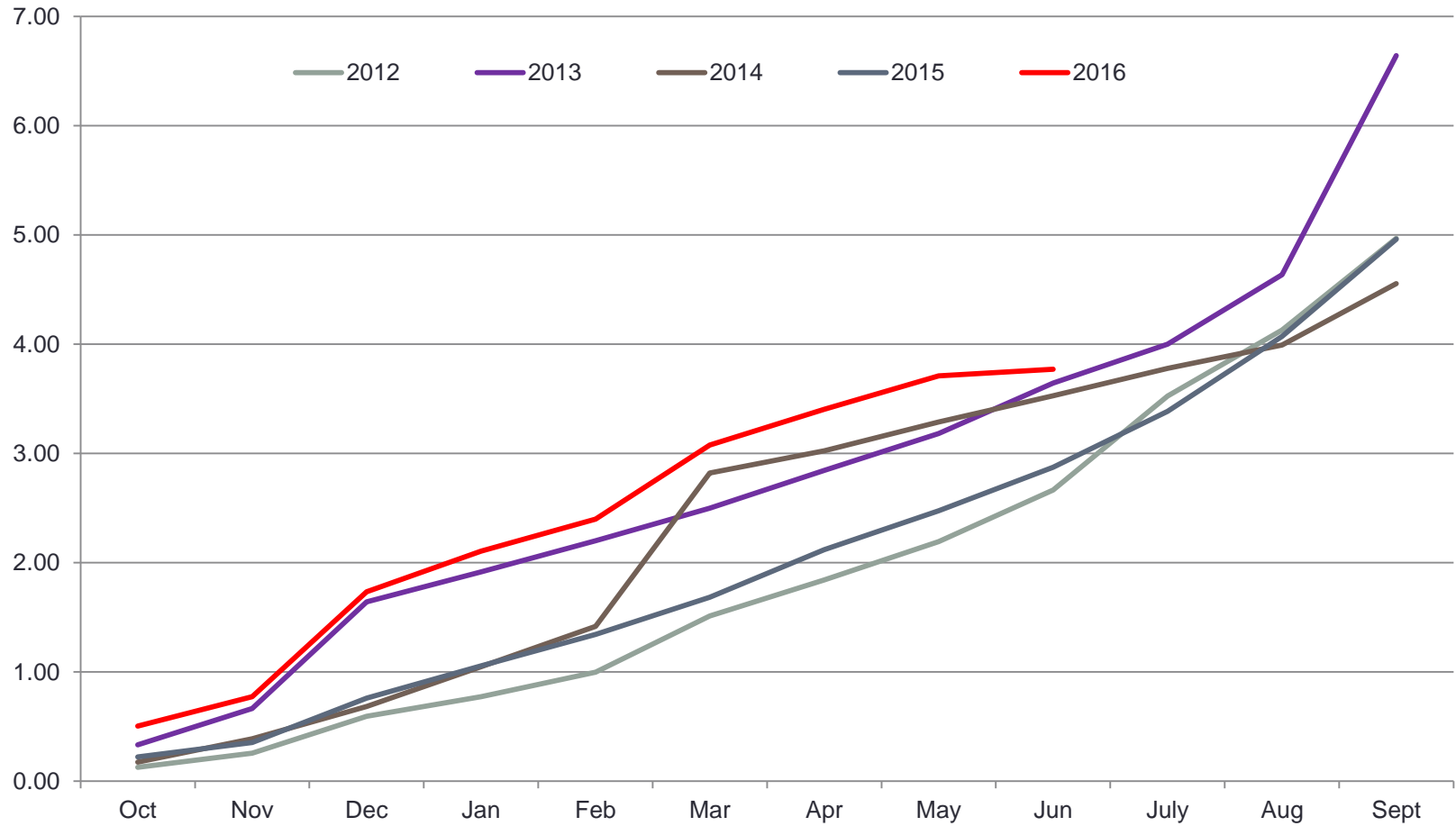


TABLE 505.5.2(a)
INTERIOR LIGHTING POWER ALLOWANCES

LIGHTING POWER DENSITY	
Building Area Type	(W/ft ²)
Automotive Facility	0.79
Convention Center	1.08
Court House	1.05
Dining: Bar Lounge/Leisure	0.99
Dining: Cafeteria/Fast Food	0.90
Dining: Family	0.89
Dormitory	1.0
Exercise Center	0.88
Gymnasium	1.00
Healthcare—clinic	0.89
Hospital	1.08
Hotel	1.0
Library	1.17
Manufacturing Facility/Data Center	1.24
Motel	1.0
Motion Picture Theater	0.83
Multifamily	0.58
Museum	1.04
Office	0.91
Parking Garage	0.25
Penitentiary	1.0
Performing Arts Theater	1.39
Police	0.89
Fire Station	0.74
Post Office	0.98
Religious Building	1.05
Retail	1.32
School/University	1.01
Sports Arena	0.78
Town Hall	0.94
Transportation	0.77
Warehouse	0.66
Workshop	1.2

Non-Residential Lighting: Year over Year

Option 1 Lighting Reporting (no ESG)



Small Business Lighting Promotion

- How is it going?
- Set to end March 31, 2017. Should it be extended?

Possible New Promotion: Schools?



- What do you think?
- What should qualify as a school?

Potential Incentive Structure

Measure Series G LED Tubes & Troffers



Measure	Description	Watt Baseline	Required Wattage Reduction	Incentive per Installed Fixture	School Promo Incentive per Installed Fixture
G1-40%	LED Tubes & Troffers	≤100	≥40%	\$20	\$30
G1-50%	LED Tubes & Troffers	≤100	≥50%	\$30	\$40
G1-60%	LED Tubes & Troffers	≤100	≥60%	\$40	\$50
G1-70%	LED Tubes & Troffers	≤100	≥70%	\$50	\$60
G2-40%	LED Tubes & Troffers	101-200	≥40%	\$40	\$60
G2-50%	LED Tubes & Troffers	101-200	≥50%	\$60	\$80
G2-60%	LED Tubes & Troffers	101-200	≥60%	\$80	\$100
G2-70%	LED Tubes & Troffers	101-200	≥70%	\$100	\$120
G3-40%	LED Tubes & Troffers	≥201	≥40%	\$70	\$100
G3-50%	LED Tubes & Troffers	≥201	≥50%	\$100	\$130
G3-60%	LED Tubes & Troffers	≥201	≥60%	\$120	\$150
G3-70%	LED Tubes & Troffers	≥201	≥70%	\$140	\$170

Potential Incentive Structure

Measure Series H LED Exterior General Area



Measure	Description	Watt Baseline	Required Wattage Reduction	Incentive per Installed Fixture	School Promo Incentive per Installed Fixture
H1-40%	LED Exterior General Area	50-99	≥40%	\$30	\$40
H1-60%	LED Exterior General Area	50-99	≥60%	\$40	\$50
H1-70%	LED Exterior General Area	50-99	≥70%	\$50	\$60
H2-40%	LED Exterior General Area	100-199	≥40%	\$60	\$80
H2-60%	LED Exterior General Area	100-199	≥60%	\$80	\$100
H2-70%	LED Exterior General Area	100-199	≥70%	\$100	\$120
H3-40%	LED Exterior General Area	200-299	≥40%	\$80	\$110
H3-60%	LED Exterior General Area	200-299	≥60%	\$120	\$150
H3-70%	LED Exterior General Area	200-299	≥70%	\$140	\$170
H4-40%	LED Exterior General Area	300-399	≥40%	\$100	\$140
H4-60%	LED Exterior General Area	300-399	≥60%	\$180	\$220
H4-70%	LED Exterior General Area	300-399	≥70%	\$250	\$290
H5-40%	LED Exterior General Area	400-499	≥40%	\$120	\$170
H5-60%	LED Exterior General Area	400-499	≥60%	\$220	\$270
H5-70%	LED Exterior General Area	400-499	≥70%	\$300	\$350
H6-40%	LED Exterior General Area	≥500	≥40%	\$250	\$325
H6-60%	LED Exterior General Area	≥500	≥60%	\$400	\$475
H6-70%	LED Exterior General Area	≥500	≥70%	\$500	\$575

Potential Incentive Structure

Measure Series I: LED High-Bay



Measure	Description	Watt Baseline	Required Wattage Reduction	Standard Incentive per Installed Fixture	School Promo Incentive per Installed Fixture
I1-40%	LED High-Bay	200-299	≥40%	\$80	\$110
I1-60%	LED High-Bay	200-299	≥60%	\$140	\$170
I1-70%	LED High-Bay	200-299	≥70%	\$200	\$230
I2-40%	LED High-Bay	300-399	≥40%	\$100	\$140
I2-60%	LED High-Bay	300-399	≥60%	\$180	\$220
I2-70%	LED High-Bay	300-399	≥70%	\$300	\$340
I3-40%	LED High-Bay	400-499	≥40%	\$140	\$190
I3-60%	LED High-Bay	400-499	≥60%	\$240	\$290
I3-70%	LED High-Bay	400-499	≥70%	\$360	\$410
I4-40%	LED High-Bay	≥500	≥40%	\$250	\$325
I4-60%	LED High-Bay	≥500	≥60%	\$400	\$475
I4-70%	LED High-Bay	≥500	≥70%	\$500	\$575

Helpful Tips

Non-Standard Measures: Why?

- Actually do change NS to deemed
- Saves time when projects are submitted for invoicing

What about non-standard measures with LEDs?

- Include a cut sheet or model number.
- If you know it's DLC-listed, just let us know.

Yeah....but why?

Helpful Tips



DEG-250400

Efficacy	Between	<input type="text" value="31"/>	and	<input type="text" value="165.5"/>	lm/W
Wattage	Between	<input type="text" value="0.9"/>	and	<input type="text" value="1378.1"/>	W
CRI	Between	<input type="text" value="53.8"/>	and	<input type="text" value="97.7"/>	
CCT	Between	<input type="text" value="2586"/>	and	<input type="text" value="6927"/>	K
Power Factor	Between	<input type="text" value="0.4513"/>	and	<input type="text" value="1"/>	
Total Harmonic Distortion	Between	<input type="text" value="0.0334"/>	and	<input type="text" value="28.56"/>	%
Technical Requirements Version Number	Between	<input type="text" value="1"/>	and	<input type="text" value="3.1"/>	
Classification					
Categories					
Rated Criteria					
Dimming Criteria					
Integral Controls					

<input type="checkbox"/> Indoor Retrofit Kit	<input type="checkbox"/> Display Case Luminaires
<input type="checkbox"/> Troffer	<input type="checkbox"/> Horizontal Refrigerated Case Luminaires
<input type="checkbox"/> Linear Ambient	<input type="checkbox"/> Vertical Refrigerated Case Luminaires
<input type="checkbox"/> High-Bay	<input type="checkbox"/> 2x2 Luminaires for Ambient Lighting of Interior Commercial Spaces
<input type="checkbox"/> Exclude Luminaire Specific Retrofit Kits	<input type="checkbox"/> 1x4 Luminaires for Ambient Lighting of Interior Commercial Spaces
<input type="checkbox"/> Linear Replacement Lamp	<input type="checkbox"/> 2x4 Luminaires for Ambient Lighting of Interior Commercial Spaces
<input type="checkbox"/> Four-Foot	<input type="checkbox"/> High-Bay Luminaires for Commercial and Industrial Buildings
<input type="checkbox"/> Two-Foot	<input type="checkbox"/> Low-Bay Luminaires for Commercial and Industrial Buildings
<input checked="" type="checkbox"/> Mogul (E39) Screw-Base Replacements for HID Lamps	<input type="checkbox"/> High-Bay Aisle Luminaires
<input checked="" type="checkbox"/> Low Output	<input type="checkbox"/> Retrofit Kits for Outdoor Pole/Arm-Mounted Area and Roadway Luminaires
<input checked="" type="checkbox"/> Mid Output	
<input checked="" type="checkbox"/> High Output	
<input checked="" type="checkbox"/> High-Bay	



Helpful Tips





- Retrofit Lighting projects: Invoice






Welcome to Lighting Calculator 3.3

BPA Lighting Calculator 3.3

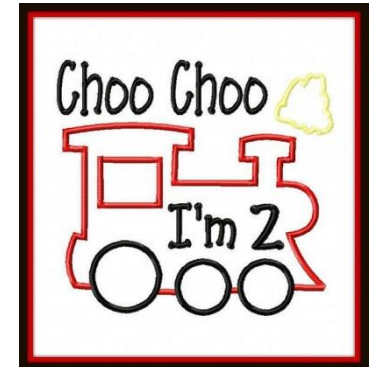
 <p>Project Input Enter project details for retrofit or new construction lighting projects</p>	 <p>Program Offerings Review utility program offerings</p>	 <p>Program Requirements Review program requirements for non-residential lighting</p>	 <p>Utility Review Review projects entered and customize the lighting calculator</p>
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BONNEVILLE POWER ADMINISTRATION



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Lighting Calculator 3.3



- Long-lasting because it was built on utility input
- Can accommodate any LED
- Pull information to provide customized reports
- Base LC with flexibility to customize for promotions
 - Gas Station Canopy
 - Small Business
 - Schools?

Lighting Team: Here to Help

