



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0257-10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: WattStopper

Manufacturer's Technical Representative: Ariel Gruspe

Mailing Address: 2700 Zanker Road, Suite 168, San Jose, CA 95134

Telephone: (408) 486-7546 Email: Ariel.gruspe@wattstopper.com

Product Information

Product Name: LI & LMCP

Product Type: Lighting Panels

Product Model Number: See Certified Product Table attached

(List all unique product identification numbers and/or part numbers)

General Description: The system consists of wall-mounted lighting control panels containing circuit boards, relays, Communication cards, contactors, and power supplies

Mounting Description: Rigidly wall-mounted

Applicant Information

Applicant Company Name: WattStopper

Contact Person: Ariel Gruspe

Mailing Address: 2700 Zanker Road, Suite 168, San Jose, CA 95134

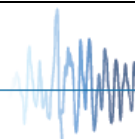
Telephone: (408) 486-7546 Email: Ariel.gruspe@wattstopper.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant:  Date: 1/9/2017

Title: Engineer, QA II Company Name: WattStopper

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: Forell/Elsesser Engineers, Inc.

Name: Marco Scanu, SE

California License Number: S4454

Mailing Address: 160 Pine St., 6th Flr., San Francisco, CA 94111

Telephone: (415) 837-0700

Email: m.scanu@forell.com

Supports and Attachments Preapproval

- ☐ Supports and attachments are preapproved under OPM-
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- ☒ Supports and attachments are not preapproved

Certification Method

☒ Testing in accordance with: ☒ ICC-ES AC156

☐ Other (Please Specify): _____

Testing Laboratory

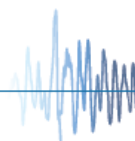
Company Name: National Technical Systems

Contact Name: Deepa Shetty

Mailing Address: 38995 Cherry Street, Newark, CA 94560

Telephone: (510) 578-3500

Email: Deepa.shetty@nts.com





OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: ☒ Yes ☐ No

Design Basis of Equipment or Components (F_p/W_p) = 1.88

S_{DS} (Design spectral response acceleration at short period, g) = 2.50

a_p (In-structure equipment or component amplification factor) = 2.5

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See attachment, UUT Summary Sheets

Overall dimensions and weight (or range thereof) = See attachment, Certified Products Table

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ☒ No

Design Basis of Equipment or Components (V/W) = _____

S_{DS} (Design spectral response acceleration at short period, g) = _____

S_{D1} (Design spectral response acceleration at 1 second period, g) = _____

R (Response modification coefficient) = _____

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = _____

I_p (Importance factor) = 1.5

Height to Center of Gravity above base = _____

Equipment or Component Natural Frequencies (Hz) = _____

Overall dimensions and weight (or range thereof) = _____

Tank(s) designed in accordance with ASME BPVC, 2015: ☐ Yes ☒ No

List of Attachments Supporting Special Seismic Certification

☒ Test Report(s) ☐ Drawings ☒ Calculations ☒ Manufacturer's Catalog

☒ Other(s) (Please Specify): Certified Products Table, Certified Subcomponents Table, UUT Summary Sheets

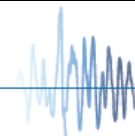
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature:  Date: 2/6/2017

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.5 z/h = 1.0

Condition of Approval (if applicable): _____



WattStopper - Lighting Control Panels
I. Certified Product Table

LI, LP, & LMCP Lighting Control Panels ²	Width	Depth	Height	Maximum Weight ¹	Testing Status
LI-8 ³	17.0 in	5.00 in	16.00 in	25.0 lbs	PR052767.01 - EUT-1
	17.0 in	5.00 in	16.00 in	27.0 lbs	R86371 - LI-8
LMCP-8 ³	17.0 in	5.00 in	16.00 in	25.0 lbs	PR052767.01 - EUT-2
	17.0 in	5.00 in	16.00 in	25.0 lbs	R94679 - LMCP-8
LI-24 ⁴ LMCP-24 ⁴	24.0 in	5.00 in	32.00 in	49.0 lbs	PR052767.01 - EUT-4
	24.0 in	5.00 in	32.00 in	66.0 lbs	R86371 - LI-24
	24.0 in	5.00 in	32.00 in	50.0 lbs	PR052767.01 - EUT-5
	24.0 in	5.00 in	32.00 in	60.0 lbs	R94679 - LMCP-24
LI-48 ⁵	24.0 in	5.00 in	45.00 in	72.0 lbs	PR052767.01 - EUT-3
	24.0 in	5.00 in	45.00 in	82.0 lbs	R86371 - LI-48
LMCP-48 ⁵	24.0 in	5.00 in	45.00 in	89.0 lbs	R94679 - LMCP-48
	24.0 in	5.00 in	45.00 in	97.0 lbs	PR052767.01 - EUT-6

Notes:

1. Weight includes internal components.
2. All control panels are 16 ga carbon Steel NEMA-1 Enclosures with 14 ga carbon steel covers.
3. LI-8 and LMCP-8 are available with a flush mount 18.5" x 17" cover.
4. LI-24 and LMCP-24 are available with a flush mount 26" x 33.5" cover.
5. LI-48 and LMCP-24 are available with a flush mount 26" x 46" cover.

WattStopper - Lighting Control Panels
II. Certified Subcomponents Table

LI & LMCP Lighting Control Panels			
Internal Components	Manufacturer	Part #	Testing Status
Power Supply Module	Ohga Inc.	437D535G06	Test Report R86371 LI-8, 24, 48; Test Report R94679 LMCP-8, 24, 48
		579B373G02	Test Report R86371 LI-8, 24, 48; Test Report R94679 LMCP-8, 24, 48
Power Supply Module	Shanghai Legrand Electric Co.	437D535G06	Test Report PR052797.01 LI-8, 24, 48, LMCP-8, 24, 48
		579B373G02	Test Report PR052797.01 LI-8, 24, 48, LMCP-8, 24, 48
Power Supply Assembly	Ohga Inc.	579B410G01	Test Report R86371 LI-8, 24, 48; Test Report R94679 LMCP-8, 24, 48
Power Supply Assembly	Shanghai Legrand Electric Co.	579B410G01	Test Report PR052797.01 LI-8, 24, 48, LMCP-8, 24, 48
Power Supply (DALI PS) Assembly	Ohga Inc.	579B442G01	Test Report R86371 LI-48, LMCP-48
Power Supply (DALI PS) Assembly	Shanghai Legrand Electric Co.	579B442G01	Test Report PR052797.01 LI-8, 24, 48, LMCP-8, 24, 48
Power Supply (PS) Assembly	Ohga Inc.	579B410G01	Test Report R86371 LI-48, Test Report R94679 LMCP-48
Power Supply (PS) Assembly	Shanghai Legrand Electric Co.	579B410G01	Test Report PR052797.01 LI-8, 24, 48, LMCP-8, 24, 48
115V/277V, 50Hz/60Hz Transformer	Basler	BE31820001	Test Report R86371 LI-8, LMCP-8 Test Report PR052797.01 LI-8, 24, 48, LMCP-8, 24, 48
		BE31820003	Test Report R86371 LI-24, 48; Test Report R94679 LMCP-24, 48; Test Report PR052797.01 LI-8, 24, 48, LMCP-8, 24, 48
28V, 50Hz/60Hz Transformer	MCI Transformer	2-51-0305	Test Report R86371 LI-8, 24, 48; Test Report R94679 LMCP-8, 24, 48; Test Report PR052797.01 LI-8, 24, 48, LMCP-8, 24, 48
User Interface Console (LM-U)	Ohga Inc.	77-0299-132	Test Report R86371 LI-8
User Interface Console (LM-U)	Shanghai Legrand Electric Co.	77-0299-132	Test Report PR052797.01 LI-8
User console interface board (LM-I)	Ohga Inc.	77-0303-102	Test Report R86371 LI-8
User console interface board (LM-I)	Shanghai Legrand Electric Co.	77-0303-102	Test Report PR052797.01 LI-8
Relay Driver Board (RD)	Ohga Inc.	483C417G01	Test Report R86371 LI-8, 24, 48
Relay Driver Board (RD)	Ohga Inc.	483C417G01	Test Report PR052797.01 LI-8, 24, 48
Relays	Gruner	HDR	Test Report R86371 LI-8, 24, 48
Relays	Gruner	HDR-9	Test Report R94679 LMCP-8, 24, 48
Relays	Rocom	HDR-11	Test Report PR052797.01 LI-8, 24, 48, LMCP-8, 24, 48
Main Interface board	Ohga Inc.	437D884G01	Test Report R86371 LI-8
Main Interface board	Shanghai Legrand Electric Co.	437D884G01	Test Report PR052797.01 LI-8
Group Card	Ohga Inc.	437D884G01	Test Report R86371 LI-8
Group Card	Shanghai Legrand Electric Co.	437D884G01	Test Report PR052797.01 LI-8
ELUC-100 Lighting Control	Shanghai Legrand Electric Co.	ELCU-100	Test Report R86371 LI-24, 48 Test Report PR052797.01 LI-24, 48
Contactor	ABB	A16-04-00	Test Report R86371 LI-24, 48 Test Report PR052797.01 LI-24, 48
Interface/Communication Card	Ohga Inc.	579B449G01	Test Report R86371 LI-24
Interface/Communication Card	Shanghai Legrand Electric Co.	579B449G01	Test Report PR052797.01 LI-24

LI & LMCP Lighting Control Panels (cont.)			
Internal Components	Manufacturer	Part #	Testing Status
Communication Card	Ohga Inc.	579B404G01	Test Report R86371 LI-48
		579B404G02	Test Report R86371 LI-48
Communication Card	Shanghai Legrand Electric Co.	579B404G01	Test Report PR052797.01 LI-48
		579B404G02	Test Report PR052797.01 LI-48
Lonworks LW/LC Communication Card	Ohga Inc.	579B404G01	Test Report R86371 LI-24, 48
		579B404G02	Test Report R86371 LI-24, 48
		579B404G03	Test Report R86371 LI-24, 48
Lonworks LW/LC Communication Card	Shanghai Legrand Electric Co.	579B404G01	Test Report PR052797.01 LI-24, 48
		579B404G02	Test Report PR052797.01 LI-24, 48
		579B404G03	Test Report PR052797.01 LI-24, 48
Group Card	Ohga Inc.	437D884G01	Test Report R86371 LI-24
Group Card	Shanghai Legrand Electric Co.	437D884G01	Test Report PR052797.01 LI-24
Programming Module	WattStopper	HCLK8SS	Test Report R86371 LI-24; Test Report PR052797.01 LI-24
LMPI Circuit Board	Shanghai Legrand Electric Co.	16615	Test Report R94679 LMCP-8, 24, 48; Test Report PR052797.01 LMCP-8, 24, 48
LMRD-8 Circuit Board	Shanghai Legrand Electric Co.	16916	Test Report R94679 LMCP-8; Test Report PR052797.01 LMCP-8
LMRD-12 Circuit Board	Shanghai Legrand Electric Co.	16694	Test Report R94679 LMCP-24, 48; Test Report PR052797.01 LMCP-24, 48

OSP APPLICATION
WattStopper - Lighting Control Panels
III. UUT Summary Sheets

Date: 2/6/2017

Test Report R86371

ENV-1 - LI-8 Control Panel (Smallest Unit)

16 ga Carbon Steel NEMA 1 enclosure with 14ga cover

16"H X 17"W X 5"D

Weight: 27 lbs

Wall Mounted with (4) – 3/8" dia bolts



Test Unit is on the Right

Building Code		Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
					A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016		ICC-ES AC 156	2.50	1	4.00	3.00	1.68	0.67
Natural Frequencies			Test Results					
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.					
n/a	n/a	n/a						

Internal Components	Manufacturer	Part #
Power Supply Module	Ohga Inc.	437D535G06
		579B373G02
Power Supply Assembly	Ohga Inc.	579B410G01
Transformer	Basler	BE31820001
	MCI Transformer	2-51-0305
User Interface Console (LM-U)	Ohga Inc.	77-0299-132
User console interface board (LM-I)	Shanghai Legrand Electric Co.	77-0303-102
Relay Driver Board (RD)	Ohga Inc.	483C417G01
Relays	Gruner	HDR
Main Interface board	Ohga Inc.	437D884G01
Group Card	Shanghai Legrand Electric Co.	437D884G01

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WattStopper - Lighting Control Panels
III. UUT Summary Sheets

Date: 2/6/2017

Test Report R86371

ENV-2- LI-24 Control Panel (Intermediate Unit)

16 ga Carbon Steel NEMA 1 enclosure with 14ga cover

32"H X 24"W X 5"D

Weight: 67 lbs

Wall Mounted with (4) – 3/8" dia bolts



Test Unit is on the Left

Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC 156	2.50	1	4.00	3.00	1.68	0.67
Natural Frequencies		Test Results					
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
n/a	n/a	n/a					

Internal Components	Manufacturer	Part #
Relays	Gruner	HDR
Relay Driver Board (RD)	Ohga Inc.	483C417G01
Power Supply Module	Ohga Inc.	437D535G06
		579B373G02
Power Supply Assembly	Ohga Inc.	579B410G01
Transformer	Basler	BE3182003
	MCI Transformer	2-51-0305
ELUC-100 Lighting Control	Shanghai Legrand Electric Co.	ELCU-100
Contactor	ABB	A16-04-00
Interface/Communication Card	Ohga Inc.	579B449G01
Lonworks LW/LC Communication Card	Ohga Inc.	579B404G01
	Ohga Inc.	579B404G02
	Ohga Inc.	579B404G03
Programming Module	Wattstopper	HCLK8SS
Programming Module Display Circuit Board	Ohga Inc.	HDM64GS12L-L32S
Group Card	Ohga Inc.	437D884G01

OSP APPLICATION
WattStopper - Lighting Control Panels
III. UUT Summary Sheets

Date: 2/6/2017

Test Report R86371

ENV-3 - LI-48 Control Panel (Largest Unit)

16 ga Carbon Steel NEMA 1 enclosure with 14ga cover
45"H X 24"W X 5"D

Weight: 82 lbs

Wall Mounted with (4) – 3/8" dia bolts



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC 156	2.50	1	4.00	3.00	1.68	0.67
Natural Frequencies		Test Results					
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
n/a	n/a	n/a					

Internal Components	Manufacturer	Part #
Relays	Gruner	HDR
Relay Driver Board (RD)	Shanghai Legrand Electric Co.	483C417G01
Power Supply Module	Ohga Inc.	437D535G06
		579B373G02
Power Supply (DALI PS) Assembly	Ohga Inc.	579B442G01
Power Supply (PS) Assembly	Ohga Inc.	579B410G01
Transformer	Basler	BE31820003
	MCI Transformer	2-51-0305
Lonworks LW/LC Communication Card	Shanghai Legrand Electric Co.	579B404G01
	Shanghai Legrand Electric Co.	579B404G02
	Shanghai Legrand Electric Co.	579B404G03
Communication Card	Shanghai Legrand Electric Co.	579B404G01
	Ohga Inc.	579B404G02
ELUC-100 Lighting Control	Shanghai Legrand Electric Co.	ELCU-100
Contactor	ABB	A16-04-00

OSP APPLICATION
WattStopper - Lighting Control Panels
III. UUT Summary Sheets

Date: 2/6/2017

Test Report R94679

LMCP-8 Control Panel (Smallest Unit)
16 ga Carbon Steel NEMA 1 enclosure
w/ 14 ga cover
16"H X 17"W X 5"D
Weight: 26 lbs

Wall Mounted with (4) – 3/8" dia bolts



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC 156	2.93	1	4.69	3.52	1.96	0.78
Natural Frequencies			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
n/a	n/a	n/a					

Internal Components	Manufacturer	Part #
Power Supply Module	Ohga Inc.	437D535G06
		579B373G02
Power Supply (PS) Assembly	Ohga Inc.	579B410G01
Transformer	Basler	BE31820001
	MCI Transformer	2-51-0305
LMPI Circuit Board	Shanghai Legrand Electric Co.	16615
LMRD-8 Circuit Board	Shanghai Legrand Electric Co.	16916
Relays	Gruner	HDR-9

OSP APPLICATION
WattStopper - Lighting Control Panels
III. UUT Summary Sheets

Date: 2/6/2017

Test Report R94679

LMCP-24 Control Panel (Intermediate Unit)

16 ga Carbon Steel NEMA 1 enclosure

w/ 14 ga cover

32"H X 24"W X 5"D

Weight: 60 lbs

Wall Mounted with (4) – 3/8" dia bolts



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC 156	2.93	1	4.69	3.52	1.96	0.78
Natural Frequencies		Test Results					
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
n/a	n/a	n/a					

Internal Components	Manufacturer	Part #
Power Supply Module	Ohga Inc.	437D535G06 579B373G02
Power Supply (PS) Assembly	Ohga Inc.	579B410G01
Transformer	Basler	BE31820003
	MCI Transformer	2-51-0305
LMPI Circuit Board	Shanghai Legrand Electric Co.	16615
LMRD-12 Circuit Board	Shanghai Legrand Electric Co.	16694
Relays	Gruner	HDR-9

OSP APPLICATION
WattStopper - Lighting Control Panels
III. UUT Summary Sheets

Date: 2/6/2017

Test Report R94679

LMCP-48 Control Panel (Largest Unit)

16 ga Carbon Steel NEMA 1 enclosure

w/ 14 ga cover

45"H X 24"W X 5"D

Weight: 89 lbs

Wall Mounted with (4) – 3/8" dia bolts



Building Code		Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
					A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016		ICC-ES AC 156	2.93	1	4.69	3.52	1.96	0.78
Natural Frequencies			Test Results					
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.					
n/a	n/a	n/a						

Internal Components	Manufacturer	Part #
Power Supply Module	Ohga Inc.	437D535G06
		579B373G02
Power Supply (DALI PS) Assembly	Ohga Inc.	579B442G01
Power Supply (PS) Assembly	Ohga Inc.	579B410G01
Transformer	Basler	BE31820003
	MCI Transformer	2-51-0305
LMPI Circuit Board	Ohga Inc.	16615
LMRD-12 Circuit Board	Ohga Inc.	16694
Relays	Gruner	HDR-9

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WattStopper - Lighting Control Panels
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Date: 2/6/2017

Test Report PR052797.01

EUT-1 - LI-8 Control Panel

16 ga Carbon Steel NEMA 1 enclosure with 14ga cover

16"H X 17"W X 5"D

Weight: 25 lbs

Wall Mounted with (4) – 3/8" dia bolts



Building Code		Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
					A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016		ICC-ES AC 156	2.79	1	4.46	3.35	1.87	0.74
Natural Frequencies			Test Results					
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.					
n/a	n/a	n/a						

Internal Components	Manufacturer	Part #
Power Supply Module	Shanghai Legrand Electric Co.	437D535G06
		579B373G02
Power Supply Assembly	Shanghai Legrand Electric Co.	579B410G01
Transformer	Basler	BE31820001
	MCI Transformer	2-51-0305
User Interface Console (LM-U)	Shanghai Legrand Electric Co.	77-0299-132
User console interface board (LM-I)	Shanghai Legrand Electric Co.	77-0303-102
Relay Driver Board (RD)	Shanghai Legrand Electric Co.	483C417G01
Relays	Rocom	HDR-11
Main Interface board	Shanghai Legrand Electric Co.	437D884G01
Group Card	Shanghai Legrand Electric Co.	437D884G01

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WattStopper - Lighting Control Panels
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Date: 2/6/2017

Test Report PR052797.01

EUT-2 – LMCP - 8 Control Panel

16 ga Carbon Steel NEMA 1 enclosure with 14ga cover

16"H X 17"W X 5"D

Weight: 27 lbs

Wall Mounted with (4) – 3/8" dia bolts



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC 156	2.79	1	4.46	3.35	1.87	0.74
Natural Frequencies		Test Results					
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
n/a	n/a	n/a					

Internal Components	Manufacturer	Part #
Power Supply Module	Shanghai Legrand Electric Co.	437D535G06 579B373G02
Power Supply (PS) Assembly	Shanghai Legrand Electric Co.	579B410G01
Transformer	Basler	BE31820001
	MCI Transformer	2-51-0305
LMPI Circuit Board	Shanghai Legrand Electric Co.	16615
LMRD-8 Circuit Board	Shanghai Legrand Electric Co.	16916
Relays	Rocom	HDR-11

OSP APPLICATION
WattStopper - Lighting Control Panels
III. UUT Summary Sheets

Date: 2/6/2017

Test Report PR052797.01

EUT-3 – LI-48 Control Panel

16 ga Carbon Steel NEMA 1 enclosure with 14ga cover

45"H X 24"W X 5"D

Weight: 72 lbs

Wall Mounted with (4) – 3/8" dia bolts



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC 156	2.79	1	4.46	3.35	1.87	0.74
Natural Frequencies			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
n/a	n/a	n/a					

Internal Components	Manufacturer	Part #
Relays	Rocom	HDR-11
Relay Driver Board (RD)	Shanghai Legrand Electric Co.	483C417G01
Power Supply Module	Shanghai Legrand Electric Co.	437D535G06
		579B373G02
Power Supply (DALI PS) Assembly	Shanghai Legrand Electric Co.	579B442G01
Power Supply (PS) Assembly	Shanghai Legrand Electric Co.	579B410G01
Transformer	Basler	BE31820003
	MCI Transformer	2-51-0305
Lonworks LW/LC Communication Card	Shanghai Legrand Electric Co.	579B404G01
	Shanghai Legrand Electric Co.	579B404G02
	Shanghai Legrand Electric Co.	579B404G03
Communication Card	Shanghai Legrand Electric Co.	579B404G01
	Shanghai Legrand Electric Co.	579B404G02
ELUC-100 Lighting Control	Shanghai Legrand Electric Co.	ELCU-100
Contactor	ABB	A16-04-00

OSP APPLICATION
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EUT-4 – LI-24 Control Panel

16 ga Carbon Steel NEMA 1 enclosure

w/ 14 ga cover

32"H X 24"W X 5"D

Weight: 49 lbs

Wall Mounted with (4) – 3/8" dia bolts



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				AFLX-H (g)	ARIG-H (g)	AFLX-V (g)	ARIG-V (g)
CBC 2016	ICC-ES AC 156	2.73	1	4.37	3.28	1.83	0.79
Natural Frequencies			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
n/a	n/a	n/a					

Internal Components	Manufacturer	Part #
Relays	Rocom	HDR-11
Relay Driver Board (RD)	Shanghai Legrand Electric Co.	483C417G01
Power Supply Module	Shanghai Legrand Electric Co.	437D535G06
		579B373G02
Power Supply Assembly	Shanghai Legrand Electric Co.	579B410G01
Transformer	Basler	BE3182003
	MCI Transformer	2-51-0305
ELUC-100 Lighting Control	Shanghai Legrand Electric Co.	ELCU-100
Contactor	ABB	A16-04-00
Interface/Communication Card	Shanghai Legrand Electric Co.	579B449G01
Lonworks LW/LC Communication Card	Shanghai Legrand Electric Co.	579B404G01
	Shanghai Legrand Electric Co.	579B404G02
	Shanghai Legrand Electric Co.	579B404G03
Programming Module	Wattstopper	HCLK8SS
Programming Module Display Circuit Board	Shanghai Legrand Electric Co.	HDM64GS12L-L32S
Group Card	Shanghai Legrand Electric Co.	437D884G01

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EUT-5 – LMCP-24 Control Panel

16 ga Carbon Steel NEMA 1 enclosure

w/ 14 ga cover

32"H X 24"W X 5"D

Weight: 50 lbs

Wall Mounted with (4) – 3/8" dia bolts



Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
				A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC 156	2.73	1	4.37	3.28	1.83	0.79
Natural Frequencies			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
n/a	n/a	n/a					

Internal Components	Manufacturer	Part #
Power Supply Module	Shanghai Legrand Electric Co.	437D535G06
		579B373G02
Power Supply (PS) Assembly	Shanghai Legrand Electric Co.	579B410G01
Transformer	Basler	BE31820003
	MCI Transformer	2-51-0305
LMPI Circuit Board	Shanghai Legrand Electric Co.	16615
LMRD-12 Circuit Board	Shanghai Legrand Electric Co.	16694
Relays	Rocom	HDR-11

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Date: 2/6/2017

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EUT-6 - LMCP-48 Control Panel

16 ga Carbon Steel NEMA 1 enclosure

w/ 14 ga cover

45"H X 24"W X 5"D

Weight: 97 lbs

Wall Mounted with (4) – 3/8" dia bolts



Building Code		Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
					A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016		ICC-ES AC 156	2.73	1	4.37	3.28	1.83	0.79
Natural Frequencies			Test Results					
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.					
n/a	n/a	n/a						

Internal Components	Manufacturer	Part #
Power Supply Module	Shanghai Legrand Electric Co.	437D535G06 579B373G02
Power Supply (DALI PS) Assembly	Shanghai Legrand Electric Co.	579B442G01
Power Supply (PS) Assembly	Shanghai Legrand Electric Co.	579B410G01
Transformer	Basler	BE31820003
	MCI Transformer	2-51-0305
LMPI Circuit Board	Shanghai Legrand Electric Co.	16615
LMRD-12 Circuit Board	Shanghai Legrand Electric Co.	16694
Relays	Rocom	HDR-11