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中国 广东省 珠海市

南屏科技园屏东二路8号

旭源电子（珠海）有限公司

JEFFREY QIU



JEFFREY QIU  
ENERGY RECOVERY PRODUCTS (ZHUHAI) CO L  
NANPING SCIENTIFIC TEC INDUSTRY PARK  
NO 8 PINGDONG RD 2  
ZHUHAI  
GUANGDONG 519060 CHINA

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Subject: **Procedure And/Or Report Material**

The following material resulting from the investigation under the above numbers is enclosed.

**Issue**

<u>Date</u>	<u>Vol</u>	<u>Sec</u>	<u>Pages</u>	<u>Revised Date</u>
	1		Revised Index Page(s) 4	2016/04/11
2014/06/24	1	15	Cert of Compliance	
2014/06/24	1	15	New Description Page(s) 5A,11	2016/04/11
2014/06/24	1	15	Revised Description Page(s) 1,3,4,5	2016/04/11
2014/06/24	1	15	New Test Record 4	2016/04/11

PO No:-UL Quote#1101152517

(Accept date:18-Mar-2016).

Please file revised pages and illustrations in place of material of like identity. New material should be filed in its proper numerical order.

NOTE: Follow-Up Service Procedure revisions DO NOT include Cover Pages, Test Records and Conclusion Pages. Report revisions DO NOT include Authorization Pages, Indices, Section General Pages and Appendixes.

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BRE File

UL INSPECTION CENTER 316

Models	Section	Report Date
<p>LED Drivers, Series ESM0PPA-XXXX-VV-YYY-ZZZ.</p> <p>Where "PP"- Denotes output power (<math>P_{out}</math>) rating code. If <math>10W &lt; P_{out} \leq 20W</math>, "PP"=20; If <math>20W &lt; P_{out} \leq 30W</math>, "PP"=30; if <math>30W &lt; P_{out} \leq 40W</math>, "PP"=40; if <math>40W &lt; P_{out} &lt; 51W</math>, "PP"=50; if <math>51W &lt; P_{out} \leq 58.8W</math>, "PP"=60.</p> <p>"A" - Denotes input voltage code. If input rated 120Vac, "A"=U; if input rated 120-277Vac, "A"=W; if input rated 277Vac, "A"=V; if input rated 230Vac, "A"=E.</p> <p>"XXXX" - Denotes regulated output current or could be blank. Regulated output current is not greater than max output regulated current within the output voltage range.</p> <p>"VV" - Denotes maximum output voltage. It may be "23", "25", "26", "32", "33", "34", "39", "42", "43", "56", or "58".</p> <p>"YYY" - Denotes customer code for market purpose only, where "Y" represents 0-9, A-Z or blank.</p> <p>"ZZZ" - Denotes customer code for market purpose only, where "Z" represents 0-9, A-Z or blank.</p>	14	2014-06-23
<p>LED Drivers, Series ESP0PPA-XXXX-VV-YYY-ZZZ.</p> <p><b>Models ESP050W-1200-42-CDLV, ESP040W-0700-56-CDLV.</b></p> <p>Where "PP"- Denotes output power (<math>P_{out}</math>) rating code. If <math>20W &lt; P_{out} \leq 30W</math>, "PP"=30; if <math>30W &lt; P_{out} \leq 40W</math>, "PP"=40; if <math>40W &lt; P_{out} &lt; 51W</math>, "PP"=50; if <math>51W &lt; P_{out} \leq 58.8W</math>, "PP"=60.</p> <p>"A" - Denotes input voltage code. If input rated 120Vac, "A"=U; if input rated 120-277Vac, "A"=W; if input rated 277Vac, "A"=V; if input rated 230Vac, "A"=E.</p> <p>"XXXX" - Denotes regulated output current or could be blank. Regulated output current is not greater than max output regulated current within the output voltage range.</p> <p>"VV" - Denotes maximum output voltage. It may be "23", "25", "26", "32", "33", "34", "39", "42", "43", "56", or "58".</p> <p>"YYY" - Denotes customer code for market purpose only, where "Y" represents 0-9, A-Z or blank.</p> <p>"ZZZ" - Denotes customer code for market purpose only, where "Z" represents 0-9, A-Z or blank.</p>	15	2014-06-24

## DESCRIPTION

## PRODUCT COVERED:

USR, CNR- Component LED Driver, Series ESP0PPA-XXXX-VV-YYY-ZZZ.

Where "PP"- Denotes output power (Pout) rating code. If  $20W < P_{out} \leq 30W$ , "PP"=30; if  $30W < P_{out} \leq 40W$ , "PP"=40; if  $40W < P_{out} \leq 51W$ , "PP"=50; if  $51W < P_{out} \leq 58.8W$ , "PP"=60.

"A" - Denotes input voltage code. If input rated 120Vac, "A"=U; if input rated 120-277Vac, "A"=W; if input rated 277Vac, "A"=V; if input rated 230Vac, "A"=E.

"XXXX" - Denotes regulated output current or could be blank. Regulated output current is not greater than max output regulated current within the output voltage range.

"VV" - Denotes maximum output voltage. It may be "23", "25", "26", "32", "33", "34", "39", "42", "43", "56", or "58".

"YYY" - Denotes customer code for market purpose only, where "Y" represents 0-9, A-Z or blank.

"ZZZ" - Denotes customer code for market purpose only, where "Z" represents 0-9, A-Z or blank.

## ELECTRICAL RATINGS:

Model No.	Input				Output		
	Voltage (Vac)	Frequency (Hz)	Current (A)	Power Factor (PF)	Max. Voltage (Vdc)	Max. Current (mA)	Max. Power (W)
ESP0PPA-XXXX-VV-YYY-ZZZ	120, 120-277, 277, 230	50/60	0.7	>0.9	58	2000	50
ESP0PPA-XXXX-42-YYY-ZZZ	120, 120-277, 277, 230	50/60	0.7	>0.9	42	1400	58.8
<b>ESP050W-1200-42-CDLV</b>	<b>120, 120-277, 277, 230</b>	<b>50/60</b>	<b>0.7</b>	<b>&gt;0.9</b>	<b>42</b>	<b>1200</b>	<b>50.4</b>
<b>ESP040W-0700-56-CDLV</b>	<b>120, 120-277, 277, 230</b>	<b>50/60</b>	<b>0.7</b>	<b>&gt;0.9</b>	<b>56</b>	<b>700</b>	<b>39.2</b>

These products been evaluated for the following characteristics.

Model No. [x] applies to all models			Product is rated	Type HL	Type TL
ESP0PPA-XXXX-VV- YYY-ZZZ  When VV = '23', '25', '26', '32', '33', or '34'	Input type-  [x] Branch Circuit (Mains)	Output type- [x] CC  Output is [x] Isolated [x] Class 2 (a)	Dry or Damp	No	No
ESP0PPA-XXXX-VV- YYY-ZZZ  When VV = '39', '42', '43', '56', or '58'  <b>ESP050W-1200-42- CDLV,</b> <b>ESP040W-0700-56- CDLV</b>		Output type- [x] CC  Output is [x] Isolated [x] LED Class 2 (b)			

a- As defined in UL 8750, Clause 7.12.1 and CAN/CSA-C22.2 No. 250.13, Clause 8.12

b- As defined in UL 8750, Clause 7.12.1 and CAN/CSA-C22.2 No. 250.13, Annex A

#### Conditions of Acceptability:

Use - For use only in (or with) complete equipment where the acceptability of the combination is determined by UL LLC.

1. Rated output loading for these products was achieved using resistive loads or electronic loads.
2. The products have been tested in a still oven required the case temperature (Tc) achieve 90°C with rated load. Tc location as shown in ILL. 8. And the oven ambient listed in the table accordingly for information. Acceptable operation at a higher temperature should be determined in end products.

Model	Case temperature (Tc) / °C	
	Test	Corrected to Tc
ESP0PPA-XXXX-25-YYY-ZZZ	87.4	90
ESP0PPA-XXXX-42-YYY-ZZZ	92.9	90
ESP0PPW-XXXX-58-YYY-ZZZ	84.6	90

3. These products utilize a UL Recognized OBJ2 Class B (130) electrical insulation system.

4. These products are intended for building in. Acceptability of the LED driver- with respect to mounting, spacing, casualty, temperature and segregation- is to be determined as part of the end device evaluation.

\*

5. These products are provided with 18 AWG, stranded leads, rated 105°C, 300 V minimum for input and output connections. Acceptability of the leads relative to strain relief and secureness, is to be determined as part of the end device evaluation.

6. These products are dimmable using a low voltage 0-10 V proprietary interface. This interface is a source, since the product provides the source of supply. The interface circuits (Purple-grey output wires) of the LED drivers have been evaluated for isolation from primary circuit. The need for evaluating the combination of the drivers and the dimming circuits shall be considered in the end product evaluation.

7. These products are intended for use in dry or damp locations. Acceptable use of location should be determined in end products.

8. Models listed below have an output open voltage greater than 42.4 Vdc. The output complies with the definition of Class 2 per the Canadian Electrical Code. These outputs shall not be accessible and shall be determined in the end-use application.

Model No.	Maximum Output voltage, V dc
ESP0PPW-XXXX-42-YYY-ZZZ, <b>ESP050W-1200-42-CDLV</b>	46.6
ESP0PPW-XXXX-43-YYY-ZZZ, ESP0PPW-XXXX-56-YYY-ZZZ, <b>ESP040W-0700-56-CDLV</b>	>46.6
ESP0PPW-XXXX-58-YYY-ZZZ	59.2

9. The housings having flammability of V-0, except for 5VA for Models **ESP050W-1200-42-CDLV** and **ESP040W-0700-56-CDLV**, have not been evaluated as enclosures. Acceptability is to be determined as part of the end device evaluation.

10. These products are intended to be operated in a maximum 20 A branch circuit

11. Double insulation only apply on primary and secondary circuit. Further evaluation shall be determined in end-use application.

12. The housings for Models **ESP050W-1200-42-CDLV** and **ESP040W-0700-56-CDLV** have been conducted Impact and Mold Stress Relief tests..

## CONSTRUCTION DETAILS:

Corrosion Protection - Ferrous metal parts are protected against corrosion by plating or painting.

Soldered Connections - All soldered connections are mechanically secured before soldering.

Printed Wiring Boards - Suitable for the solder time and temperature used by the manufacturer.

"CN" indicates the component has been evaluated to Canadian requirements and the component shall have a Canadian UL certification Mark (C-UL) or UL certification Mark and CSA certification Mark when the Applicant's basic product bearing C-UL certification Mark.

## Product markings-

1. Recognized company name or File number
2. Model designation
3. Factory ID, when more than one factory
4. Optional - Date Code
5. Optional - Electrical Ratings- see electrical ratings table
6. Optional - Output Type- see product characteristics table
7. Optional - "Suitable for dry or damp Locations".
8. Optional - Polarity of the Input and Output Connections
9. Optional - Temperature Measurement Point (Tc): 90°C.
10. Optional - "Dimmable".
11. Optional - "DOUBLE INSULATION", "DOUBLE INSULATED" or symbol:



## MODEL DIFFERENCES:

All products covered in this report utilize the same PWB design, circuit diagram, transformer, enclosure constructions and input/ output connection scheme (via supply leads) except model designation, input and output ratings and component ratings. See ILL. 7 for different component ratings.

**Model ESP050W-1200-42-CDLV is identical with model ESP050W-1200-42 except the housing material.**

**Model ESP040W-0700-56-CDLV is identical with model ESP040W-0700-56 except the housing material.**

Illustrations - The following illustrations are included in this Report.

ILL. No.	Description
ILL. 1	Dimension drawings of Housing
ILL. 2	PWB Layout
ILL. 3	Line Filter (L5) Specification
ILL. 4	Inductance (L1, L2) Specification
ILL. 5	Line Filter (L6) Specification
ILL. 6	Transformer (T1) Specification
ILL. 7	Different component ratings among models
ILL. 8	Drawing for Tc location



Models ESP050W-1200-42-CDLV, ESP040W-0700-56-CDLV

General - Models ESP050W-1200-42-CDLV, ESP040W-0700-56-CDLV are similar to Model ESP0PPA-XXXX-25-YYY-ZZZ described in Fig. 1 to 6 except indicated below.

No.	Item	CCN	Manufacturer (File Number)	Part/Model Number	Description / Technical Data	(F) IG (I) LL
1	Housing	QMFZ2	SABIC INNOVATIVE PLASTICS US L L C (E121562)	NH7010	Made by PPHOX, 2.0 mm thick min., rated 5VA, 105°C. Two-part construction, secured together by snap-fit. See ILL. 1 for detailed dimension.	ILL.1

# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20160412-E343741  
**Report Reference** E343741-20140624  
**Issue Date** 2016-APRIL-12

**Issued to:** ENERGY RECOVERY PRODUCTS (ZHUHAI) CO LTD  
NANPING SCIENTIFIC TEC INDUSTRY PARK  
NO 8 PINGDONG RD 2  
ZHUHAI  
GUANGDONG 519060 CHINA

**This is to certify that  
representative samples of** COMPONENT - DRIVERS FOR LIGHT-EMITTING-DIODE  
ARRAYS, MODULES AND CONTROLLERS  
See Addendum

Have been investigated by UL in accordance with the  
Standard(s) indicated on this Certificate.


**Standard(s) for Safety:** UL 8750, Light Emitting Diode (LED) Equipment For Use In  
Lighting Products  
CAN/CSA C22.2 No. 250.13-14, Light emitting Diode (LED)  
Equipment for Lighting Applications

**Additional Information:** See the UL Online Certifications Directory at  
[www.ul.com/database](http://www.ul.com/database) for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's  
Certification and Follow-Up Service.

Recognized components are incomplete in certain constructional features or restricted in performance  
capabilities and are intended for use as components of complete equipment submitted for investigation rather  
than for direct separate installation in the field. The final acceptance of the component is dependent upon its  
installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Assistant Chief Engineer, Global Inspection and Field Services

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# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20160412-E343741  
**Report Reference** E343741-20140624  
**Issue Date** 2016-APRIL-12

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Series ESP0PPA-XXXX-VV-YYY-ZZZ.

Models ESP050W-1200-42-CDLV, ESP040W-0700-56-CDLV.

Where "PP" – Denotes output power (Pout) rating code. If  $20W < P_{out} \leq 30W$ , "PP"=30; if  $30W < P_{out} \leq 40W$ , "PP"=40; if  $40W < P_{out} \leq 51W$ , "PP"=50; if  $51W < P_{out} \leq 58.8W$ , "PP"=60.

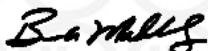
"A" - Denotes input voltage code. If input rated 120Vac, "A"=U; if input rated 120-277Vac, "A"=W; if input rated 277Vac, "A"=V; if input rated 230Vac, "A"=E.

"XXXX" - Denotes regulated output current or could be blank. Regulated output current is not greater than max output regulated current within the output voltage range.

"VV" - Denotes maximum output voltage. It may be "23", "25", "26", "32", "33", "34", "39", "42", "43", "56", or "58".

"YYY" - Denotes customer code for market purpose only, where "Y" represents 0-9, A-Z or blank.

"ZZZ" - Denotes customer code for market purpose only, where "Z" represents 0-9, A-Z or blank.



Bruce Mahrenholz, Assistant Chief Engineer, Global Inspection and Field Services

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## DESCRIPTION

## PRODUCT COVERED:

USR, CNR- Component LED Driver, Series ESP0PPA-XXXX-VV-YYY-ZZZ.

Where "PP"- Denotes output power (Pout) rating code. If  $20W < P_{out} \leq 30W$ , "PP"=30; if  $30W < P_{out} \leq 40W$ , "PP"=40; if  $40W < P_{out} \leq 51W$ , "PP"=50; if  $51W < P_{out} \leq 58.8W$ , "PP"=60.

"A" - Denotes input voltage code. If input rated 120Vac, "A"=U; if input rated 120-277Vac, "A"=W; if input rated 277Vac, "A"=V; if input rated 230Vac, "A"=E.

"XXXX" - Denotes regulated output current or could be blank. Regulated output current is not greater than max output regulated current within the output voltage range.

"VV" - Denotes maximum output voltage. It may be "23", "25", "26", "32", "33", "34", "39", "42", "43", "56", or "58".

"YYY" - Denotes customer code for market purpose only, where "Y" represents 0-9, A-Z or blank.

"ZZZ" - Denotes customer code for market purpose only, where "Z" represents 0-9, A-Z or blank.

## ELECTRICAL RATINGS:

Model No.	Input				Output		
	Voltage (Vac)	Frequency (Hz)	Current (A)	Power Factor (PF)	Max. Voltage (Vdc)	Max. Current (mA)	Max. Power (W)
ESP0PPA-XXXX-VV-YYY-ZZZ	120, 120-277, 277, 230	50/60	0.7	>0.9	58	2000	50
ESP0PPA-XXXX-42-YYY-ZZZ	120, 120-277, 277, 230	50/60	0.7	>0.9	42	1400	58.8
<b>ESP050W-1200-42-CDLV</b>	<b>120, 120-277, 277, 230</b>	<b>50/60</b>	<b>0.7</b>	<b>&gt;0.9</b>	<b>42</b>	<b>1200</b>	<b>50.4</b>
<b>ESP040W-0700-56-CDLV</b>	<b>120, 120-277, 277, 230</b>	<b>50/60</b>	<b>0.7</b>	<b>&gt;0.9</b>	<b>56</b>	<b>700</b>	<b>39.2</b>

These products been evaluated for the following characteristics.

Model No. [x] applies to all models			Product is rated	Type HL	Type TL
ESP0PPA-XXXX-VV- YYY-ZZZ  When VV = '23', '25', '26', '32', '33', or '34'	Input type-  [x] Branch Circuit (Mains)	Output type- [x] CC  Output is [x] Isolated [x] Class 2 (a)	Dry or Damp	No	No
ESP0PPA-XXXX-VV- YYY-ZZZ  When VV = '39', '42', '43', '56', or '58'  <b>ESP050W-1200-42- CDLV,</b> <b>ESP040W-0700-56- CDLV</b>		Output type- [x] CC  Output is [x] Isolated [x] LED Class 2 (b)			

a- As defined in UL 8750, Clause 7.12.1 and CAN/CSA-C22.2 No. 250.13, Clause 8.12

b- As defined in UL 8750, Clause 7.12.1 and CAN/CSA-C22.2 No. 250.13, Annex A

#### Conditions of Acceptability:

Use - For use only in (or with) complete equipment where the acceptability of the combination is determined by UL LLC.

1. Rated output loading for these products was achieved using resistive loads or electronic loads.
2. The products have been tested in a still oven required the case temperature (Tc) achieve 90°C with rated load. Tc location as shown in ILL. 8. And the oven ambient listed in the table accordingly for information. Acceptable operation at a higher temperature should be determined in end products.

Model	Case temperature (Tc) / °C	
	Test	Corrected to Tc
ESP0PPA-XXXX-25-YYY-ZZZ	87.4	90
ESP0PPA-XXXX-42-YYY-ZZZ	92.9	90
ESP0PPW-XXXX-58-YYY-ZZZ	84.6	90

3. These products utilize a UL Recognized OBJ2 Class B (130) electrical insulation system.

4. These products are intended for building in. Acceptability of the LED driver- with respect to mounting, spacing, casualty, temperature and segregation- is to be determined as part of the end device evaluation.

\*

5. These products are provided with 18 AWG, stranded leads, rated 105°C, 300 V minimum for input and output connections. Acceptability of the leads relative to strain relief and secureness, is to be determined as part of the end device evaluation.

6. These products are dimmable using a low voltage 0-10 V proprietary interface. This interface is a source, since the product provides the source of supply. The interface circuits (Purple-grey output wires) of the LED drivers have been evaluated for isolation from primary circuit. The need for evaluating the combination of the drivers and the dimming circuits shall be considered in the end product evaluation.

7. These products are intended for use in dry or damp locations. Acceptable use of location should be determined in end products.

8. Models listed below have an output open voltage greater than 42.4 Vdc. The output complies with the definition of Class 2 per the Canadian Electrical Code. These outputs shall not be accessible and shall be determined in the end-use application.

Model No.	Maximum Output voltage, V dc
ESP0PPW-XXXX-42-YYY-ZZZ, <b>ESP050W-1200-42-CDLV</b>	46.6
ESP0PPW-XXXX-43-YYY-ZZZ, ESP0PPW-XXXX-56-YYY-ZZZ, <b>ESP040W-0700-56-CDLV</b>	>46.6
ESP0PPW-XXXX-58-YYY-ZZZ	59.2

9. The housings having flammability of V-0, except for 5VA for Models **ESP050W-1200-42-CDLV** and **ESP040W-0700-56-CDLV**, have not been evaluated as enclosures. Acceptability is to be determined as part of the end device evaluation.

10. These products are intended to be operated in a maximum 20 A branch circuit

11. Double insulation only apply on primary and secondary circuit. Further evaluation shall be determined in end-use application.

12. The housings for Models **ESP050W-1200-42-CDLV** and **ESP040W-0700-56-CDLV** have been conducted Impact and Mold Stress Relief tests..

## CONSTRUCTION DETAILS:

Corrosion Protection - Ferrous metal parts are protected against corrosion by plating or painting.

Soldered Connections - All soldered connections are mechanically secured before soldering.

Printed Wiring Boards - Suitable for the solder time and temperature used by the manufacturer.

"CN" indicates the component has been evaluated to Canadian requirements and the component shall have a Canadian UL certification Mark (C-UL) or UL certification Mark and CSA certification Mark when the Applicant's basic product bearing C-UL certification Mark.

## Product markings-

1. Recognized company name or File number
2. Model designation
3. Factory ID, when more than one factory
4. Optional - Date Code
5. Optional - Electrical Ratings- see electrical ratings table
6. Optional - Output Type- see product characteristics table
7. Optional - "Suitable for dry or damp Locations".
8. Optional - Polarity of the Input and Output Connections
9. Optional - Temperature Measurement Point (Tc): 90°C.
10. Optional - "Dimmable".
11. Optional - "DOUBLE INSULATION", "DOUBLE INSULATED" or symbol:



## MODEL DIFFERENCES:

All products covered in this report utilize the same PWB design, circuit diagram, transformer, enclosure constructions and input/ output connection scheme (via supply leads) except model designation, input and output ratings and component ratings. See ILL. 7 for different component ratings.

**Model ESP050W-1200-42-CDLV is identical with model ESP050W-1200-42 except the housing material.**

**Model ESP040W-0700-56-CDLV is identical with model ESP040W-0700-56 except the housing material.**

Illustrations - The following illustrations are included in this Report.

ILL. No.	Description
ILL. 1	Dimension drawings of Housing
ILL. 2	PWB Layout
ILL. 3	Line Filter (L5) Specification
ILL. 4	Inductance (L1, L2) Specification
ILL. 5	Line Filter (L6) Specification
ILL. 6	Transformer (T1) Specification
ILL. 7	Different component ratings among models
ILL. 8	Drawing for Tc location



Models ESP050W-1200-42-CDLV, ESP040W-0700-56-CDLV

General - Models ESP050W-1200-42-CDLV, ESP040W-0700-56-CDLV are similar to Model ESP0PPA-XXXX-25-YYY-ZZZ described in Fig. 1 to 6 except indicated below.

No.	Item	CCN	Manufacturer (File Number)	Part/Model Number	Description / Technical Data	(F) IG (I) LL
1	Housing	QMFZ2	SABIC INNOVATIVE PLASTICS US L L C (E121562)	NH7010	Made by PPHOX, 2.0 mm thick min., rated 5VA, 105°C. Two-part construction, secured together by snap-fit. See ILL. 1 for detailed dimension.	ILL.1

TEST RECORD NO. 4

SAMPLES:

Samples of LED Driver, models ESP050W-1200-42-CDLV, ESP040W-0700-56-CDLV constructed as described herein, were submitted by the manufacturer for examination and test.

GENERAL:

The results only relate to the items tested.

Only limited tests were considered necessary for the new models due to the similarity to the corresponding recognized LED driver, models ESP0PPA-XXXX-42-YYY-ZZZ and ESP0PPW-XXXX-58-YYY-ZZZ. See Test Record No. 1-3 for further details. Rationale: Similar construction except for housing material.

The following tests conducted in accordance with UL 8750 (2nd edition), were considered representative of the same tests required by CAN/CSA C22.2 NO. 250.13 (2nd edition).

Test Name	Standard (CSA Test Name)/ Paragraph
RESISTANCE TO IMPACT (POLYMERIC ENCLOSURES)	UL 8750- 6.3.2 UL 746C- 56
MOLD STRESS (POLYMERIC ENCLOSURES)	UL 8750- 6.3.2 UL 746C- 29, 31, 61
DIELECTRIC VOLTAGE WITHSTAND	UL 8750- 8.6 CSA 250.13- 9.4

## TEST RECORD SUMMARY:

The results of this investigation, including construction review and testing, indicate that the product evaluated comply with the applicable requirements in the standards noted below and, therefore, such product is judged eligible to bear UL's Mark as described on the Conclusion Page of this Report. Any information and documentation involving UL Mark services are provided on behalf of UL LLC or any authorized licensee of UL.

Standard	Title	Edition or Publication Date	Latest Revision Date
CAN/CSA C22.2 No. 250.13-14	Light emitting diode (LED) equipment for lighting applications	2nd	2014-07-01
UL 8750	Light Emitting Diode (LED) Equipment For Use In Lighting Products	2nd	2015-09-15

Test Record by:

KWANY LAM  
Engineer

Review by:

NICK OUYANG  
Engineering Associate Lead