

1.0 Reference and Address			
Report Number	190500057HZH-001	Original Issued: 28-Jun-2019	Revised: 17-Oct-2019
Standard(s)	Luminaires [UL 1598:2018 Ed.4] Luminaires [CSA C22.2#250.0:2018 Ed.4]		
Applicant	<u>ZHONGSHAN WOSEN LIGHTING TECHNOLOGY CO.,LTD.</u>	Manufacturer	<u>ZHONGSHAN WOSEN LIGHTING TECHNOLOGY CO.,LTD.</u>
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2.0 Product Description							
Product	Fixed luminaire						
Brand name	WOSEN						
Description	The product covered by this report is fixed luminaire suitable for wet location use and it is intended to be mounted over the outlet box.						
Models	WOSEN-WP-15W-120V-P, WOSEN-WP-25W-120V-P, WOSEN-WP-45W-120-347V, WOSEN-WP-70W-120-347V, WOSEN-WP-90W-120-347V, WOSEN-CP-45W-120-347V, WOSEN-CP-70W-120-347V, WOSEN-WP-70W-120-347V-D, WOSEN-CP-70W-120-347V-D.						
Model Similarity	<p>Models WOSEN-WP-15W-120V-P, WOSEN-WP-25W-120V-P are similar in mechanical and electrical construction. Differences among them are wattage.</p> <p>Models WOSEN-WP-45W-120-347V,WOSEN-WP-70W-120-347V,WOSEN-WP-90W-120-347V are similar in mechanical and electrical construction. Differences among them are wattage .</p> <p>Models WOSEN-CP-45W-120-347V,WOSEN-CP-70W-120-347V are similar in mechanical and electrical construction. Differences among them are wattage .</p> <p>Model WOSEN-WP-70W-120-347V-D,WOSEN-WP-70W-120-347V are similar in mechanical and electrical construction. Except WOSEN-WP-70W-120-347V-D are dimmering and WOSEN-WP-70W-120-347V are non-dimmering.</p> <p>Model WOSEN-CP-70W-120-347V-D, WOSEN-CP-70W-120-347V are similar in mechanical and electrical construction. Except WOSEN-CP-70W-120-347V-D are dimmering,WOSEN-WP-70W-120-347V are non-dimmering.</p>						
Rating	120VAC, 60Hz for Models WOSEN-WP-15W-120V-P, 120-277VAC, 60Hz for WOSEN-WP-25W-120V-P, 120V-347VAC, 60Hz for other models.						
	Model	Wattage	LED quantity (pcs)	Mounting mean	Dimension (LxWxH/cm)	Location use	Weight (kg)
	WOSEN-WP-15W-120V-P	15W	40	Wall	21*14*9	Wet	2.9
	WOSEN-WP-25W-120V-P	25W	60	Wall	21*14*9	Wet	4
	WOSEN-WP-45W-120-347V	45W	60	Wall	36*23*19	Wet	2.2
	WOSEN-WP-70W-120-347V	70W	90	Wall	36*23*19	Wet	4
	WOSEN-WP-90W-120-347V	90W	120	Wall	45*25*22	Wet	2.6
	WOSEN-CP-45W-120-347V	45W	60	Ceiling	24.2*24.2*8	Wet	1.1
	WOSEN-CP-70W-120-347V	70W	90	Ceiling	24.2*24.2*8	Wet	1.3
	WOSEN-WP-70W-120-347V-D	70W	90	Wall	36*23*19	Wet	4
WOSEN-CP-70W-120-347V-D	70W	90	Ceiling	24.2*24.2*8	Wet	1.3	
Other Ratings	NA						

3.0 Product Photographs

Photo 1 - External View of model WOSEN-WP-25W-120V-P ,also represents model WOSEN-WP-15W-120V-P

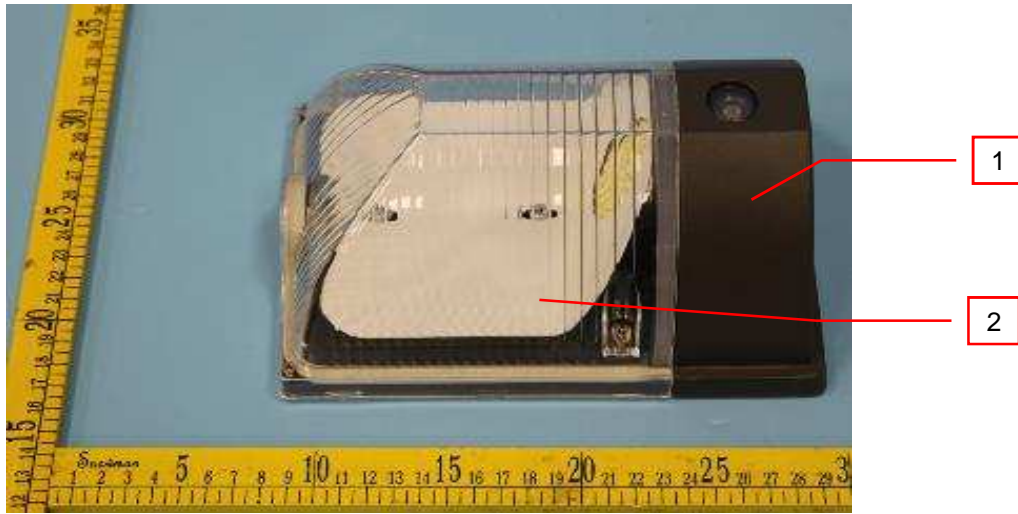
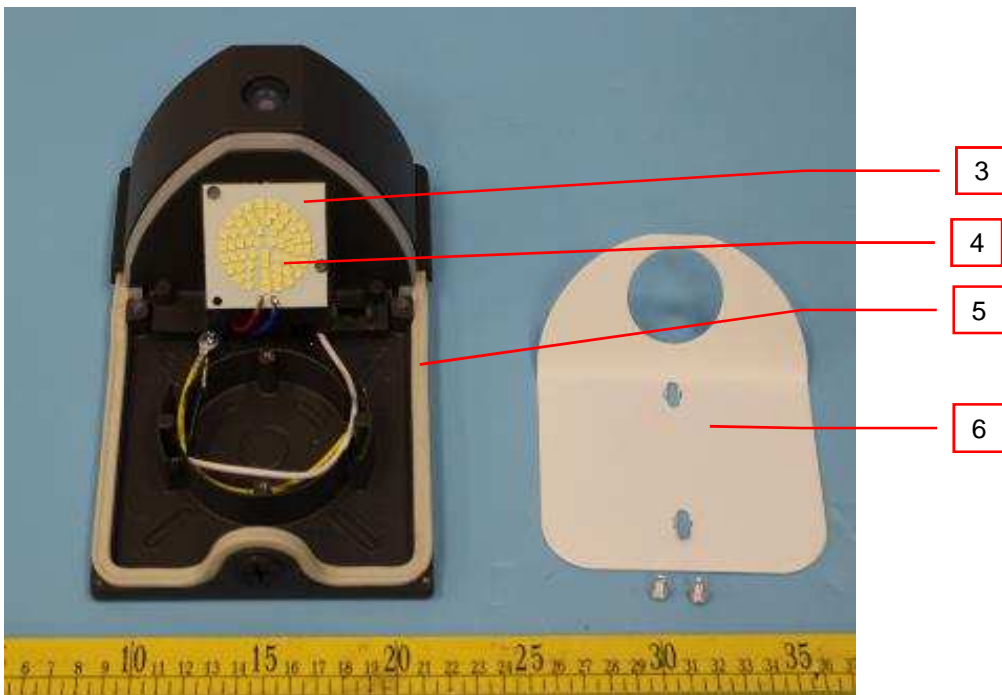


Photo 2 -Internal view of model WOSEN-WP-25W-120V-P,also represents model WOSEN-WP-15W-120V-P



3.0 Product Photographs

Photo 3 -Internal view of model WOSEN-WP-25W-120V-P,also represents model WOSEN-WP-15W-120V-P

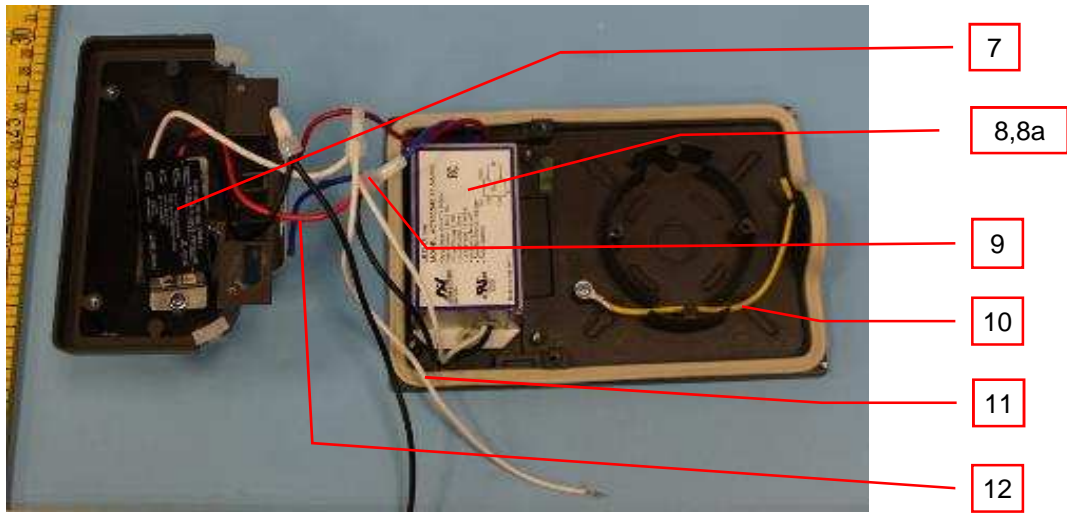
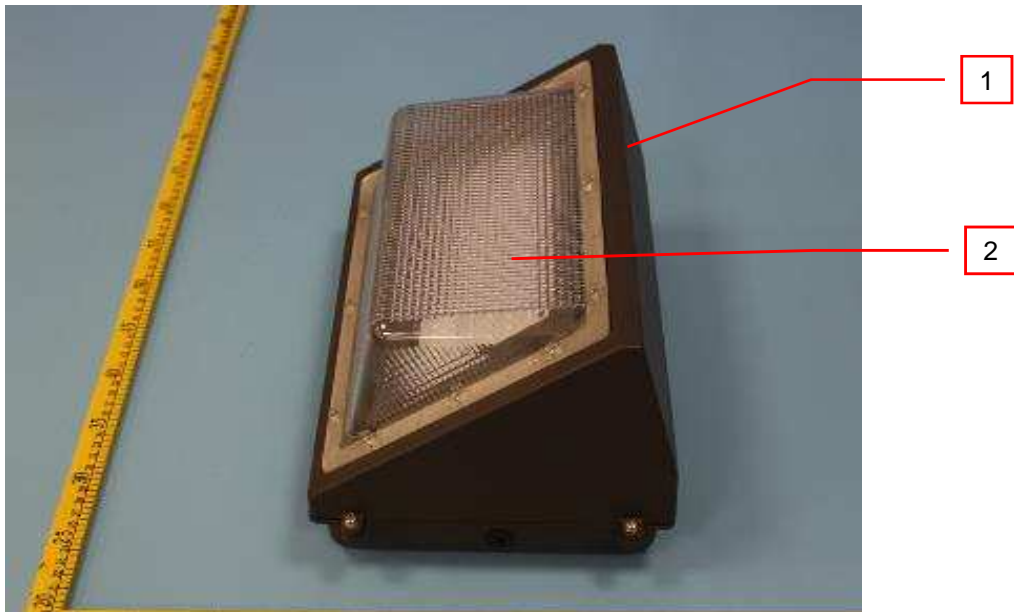


Photo 4 - External View of model WOSEN-WP-70W-120-347V,also represents models WOSEN-WP-45W-120-347V,WOSEN-WP-90W-120-347V



3.0 Product Photographs

Photo 5 - Internal View of model WOSEN-WP-70W-120-347V,also represents models WOSEN-WP-45W-120-347V,WOSEN-WP-90W-120-347V

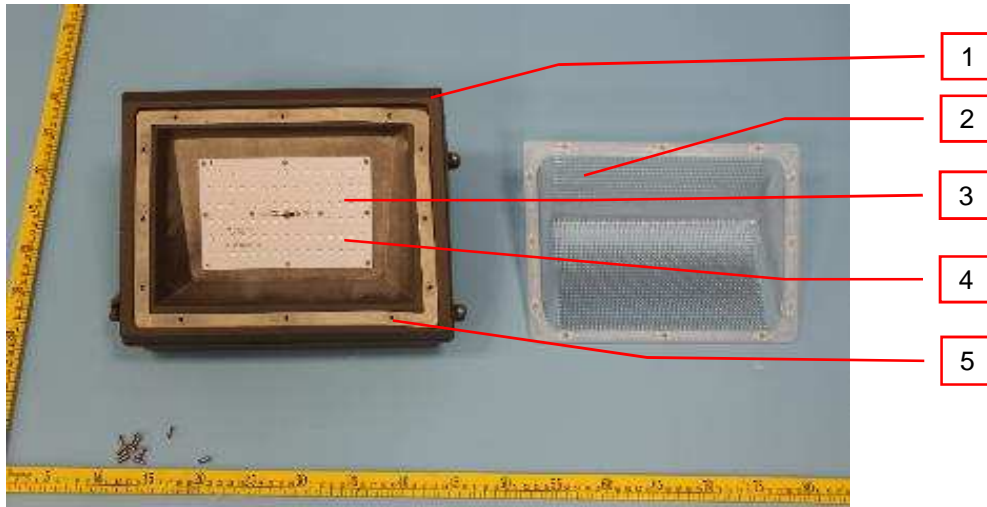
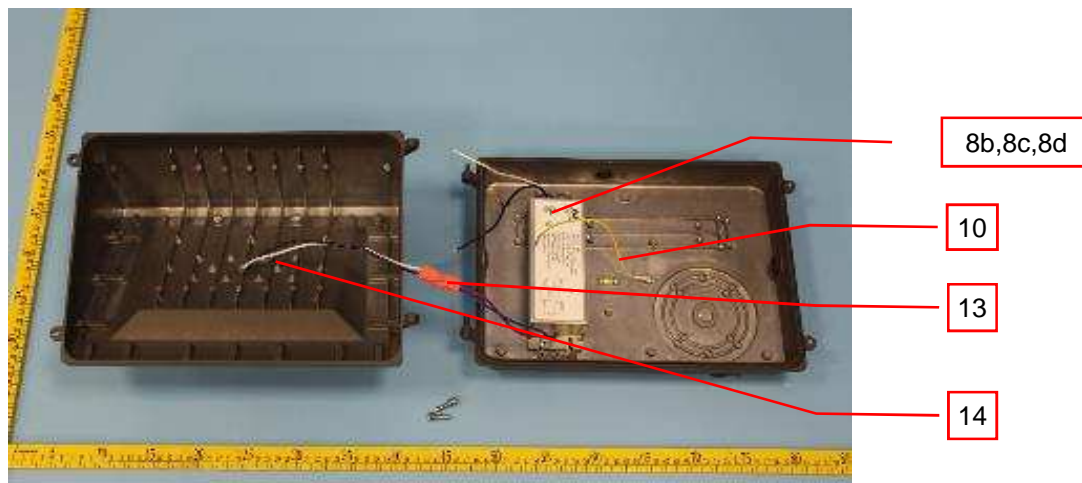


Photo 6 - Internal View of model WOSEN-WP-70W-120-347V,also represents models WOSEN-WP-45W-120-347V,WOSEN-WP-90W-120-347V



3.0 Product Photographs

Photo 7 - External View of model WOSEN-CP-70W-120-347V,also represents model WOSEN-CP-45W-120-347V

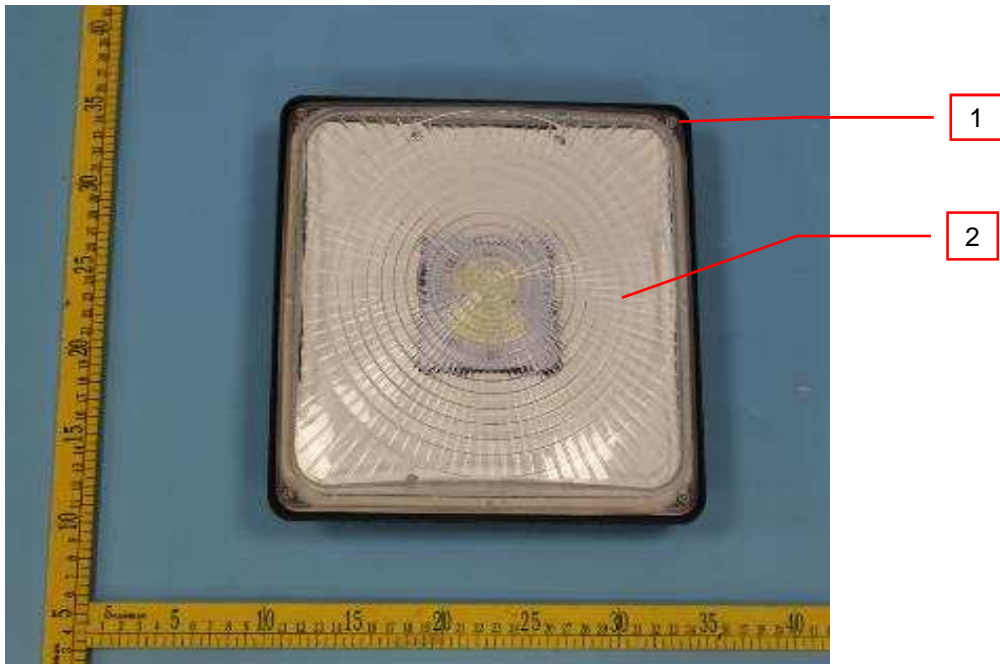
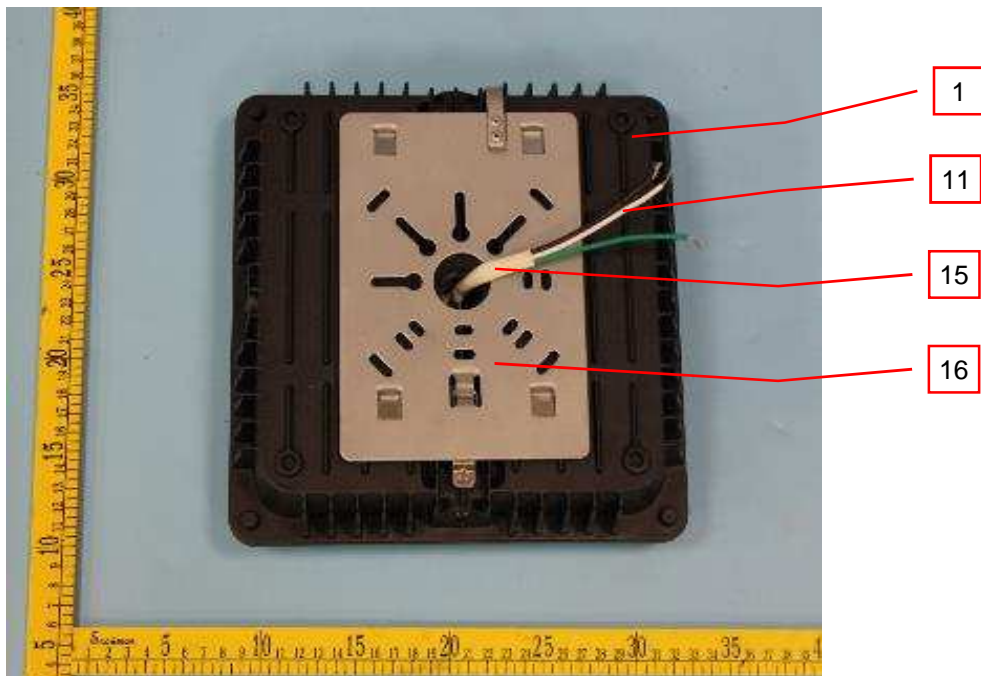


Photo 8 - External View of model WOSEN-CP-70W-120-347V,also represents model WOSEN-CP-45W-120-347V



3.0 Product Photographs

Photo 9 - Internall View of model WOSEN-CP-70W-120-347V,also represents model WOSEN-CP-45W-120-347V

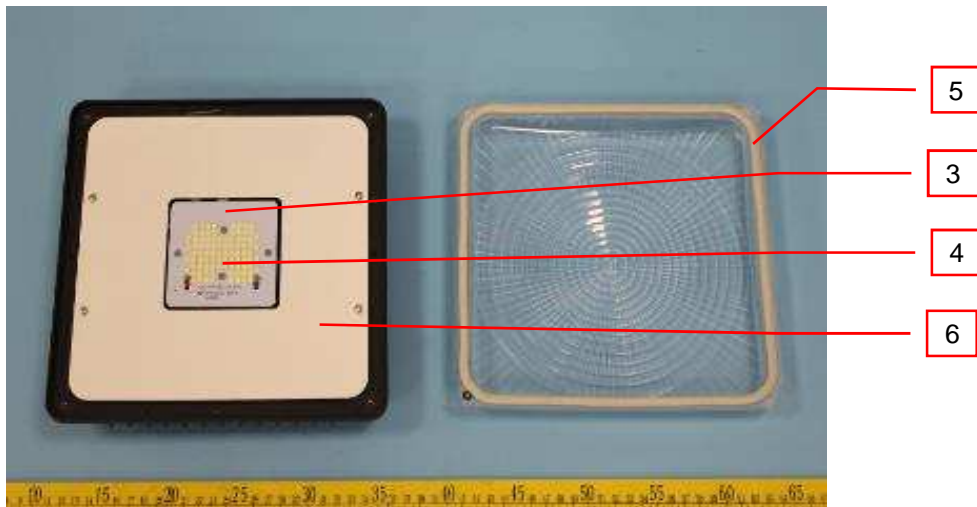


Photo 10 - Internall View of model WOSEN-CP-70W-120-347V,also represents model WOSEN-CP-45W-120-347V

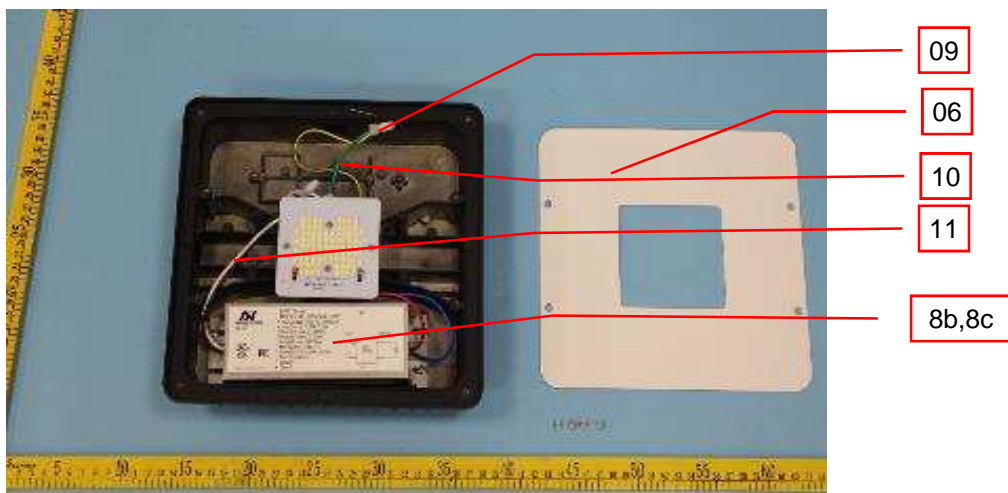
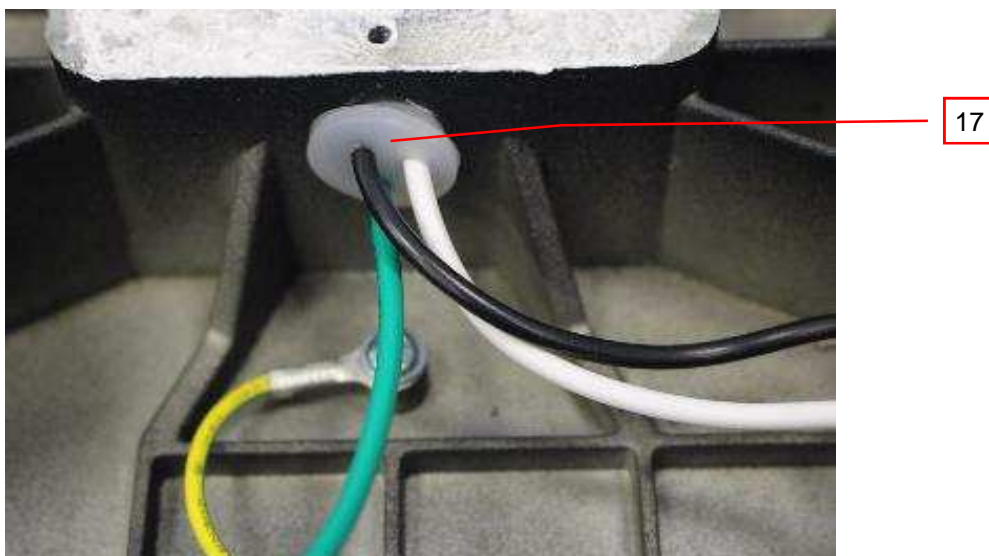


Photo 11 - Internall View of model WOSEN-CP-70W-120-347V,also represents model WOSEN-CP-45W-120-347V



3.0 Product Photographs

Photo 12 - External View of model WOSEN-WP-70W-120-347V-D

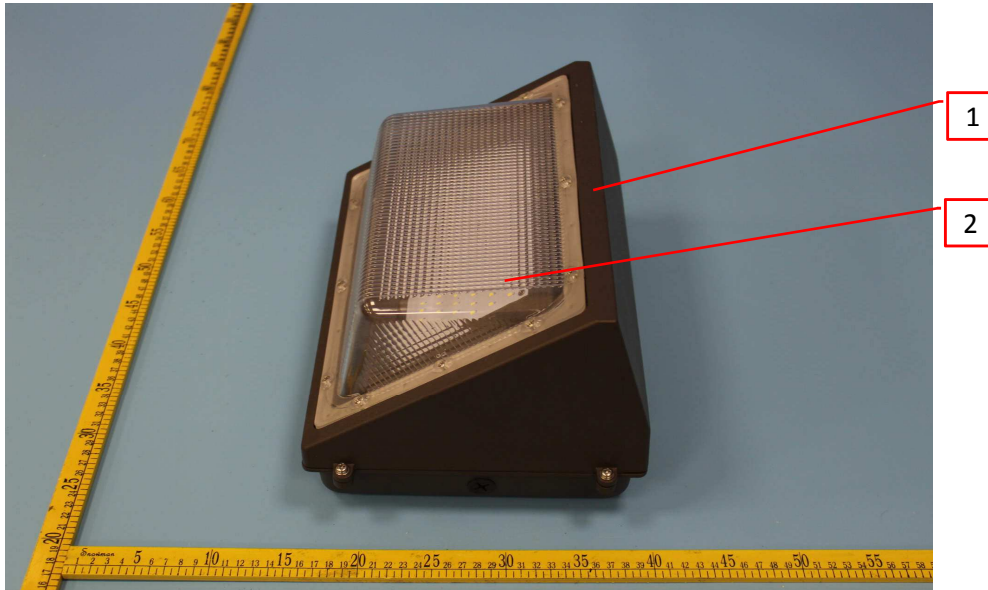


Photo 13 - Interval View of model WOSEN-WP-70W-120-347V-D

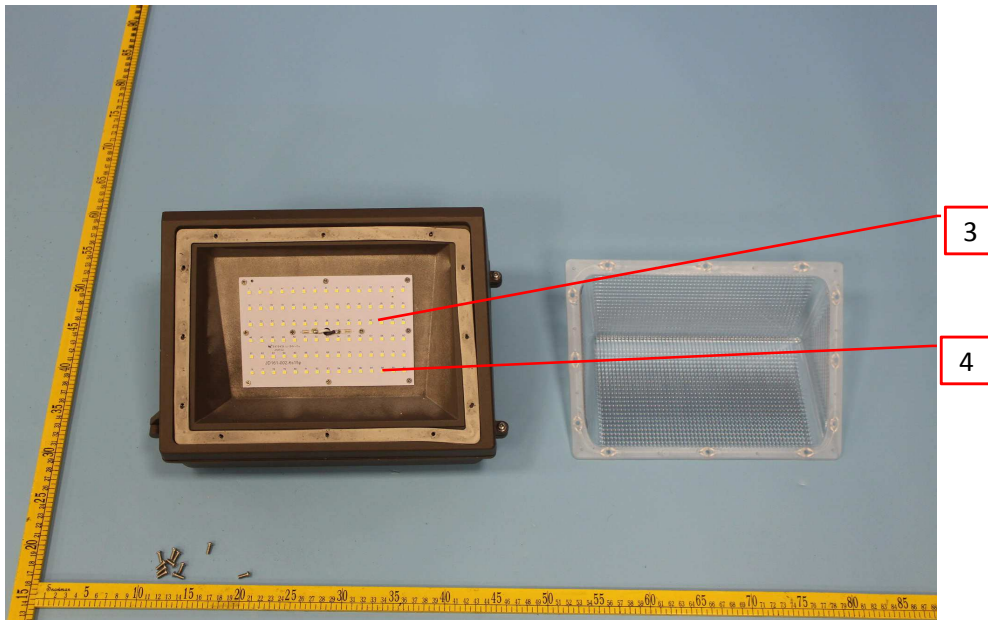
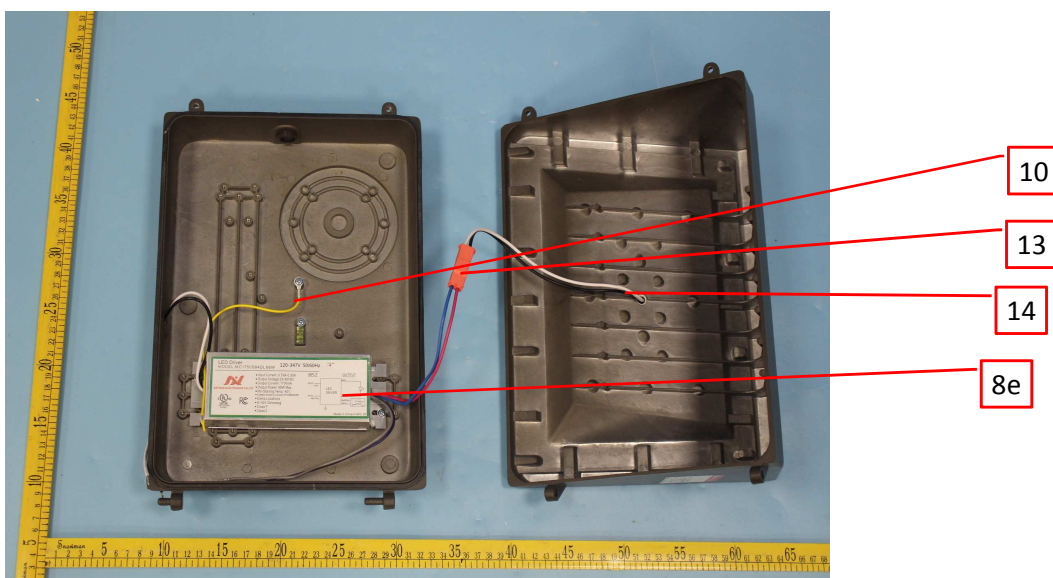


Photo 14 - Interval View of model WOSEN-WP-70W-120-347V-D



3.0 Product Photographs

Photo 15 - External View of model WOSEN-CP-70W-120-347V-D

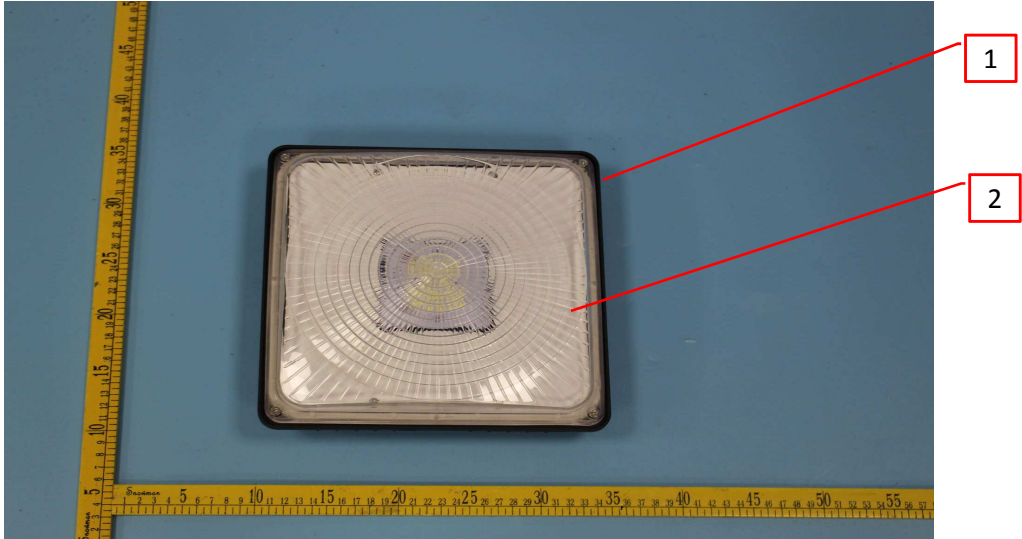


Photo 16 - Interval View of model WOSEN-CP-70W-120-347V-D

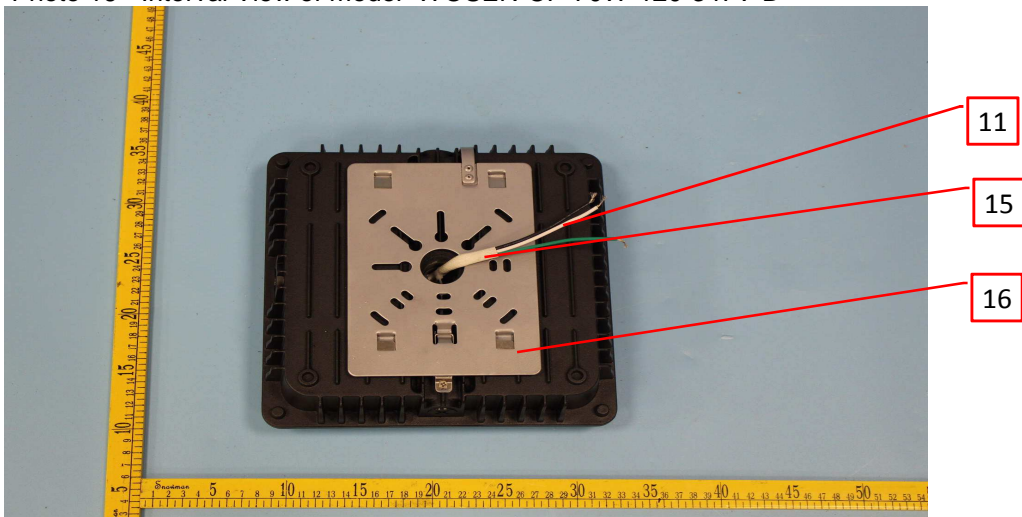
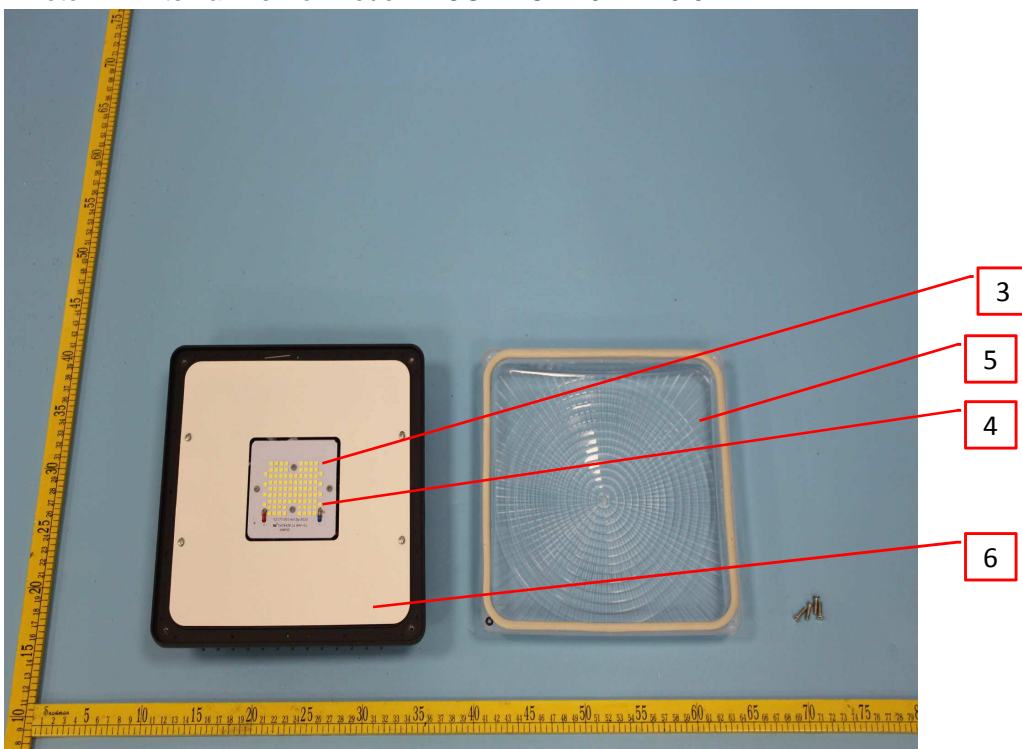


Photo 17 - Interval View of model WOSEN-CP-70W-120-347V-D



3.0 Product Photographs

Photo 18 - Interval View of model WOSEN-CP-70W-120-347V-D

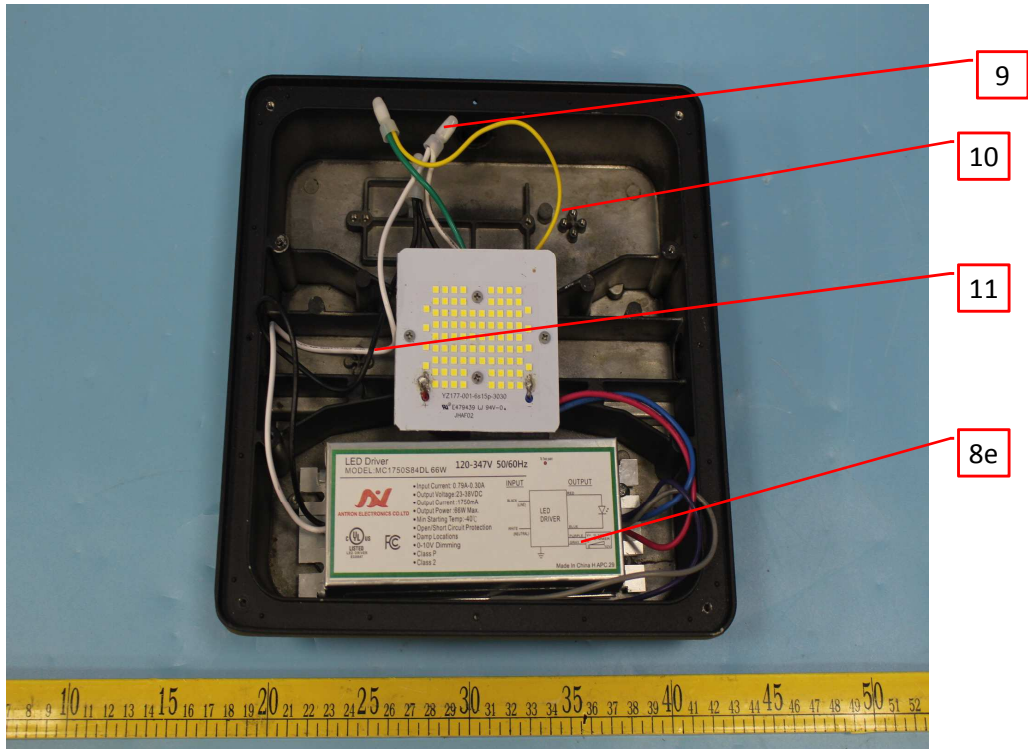
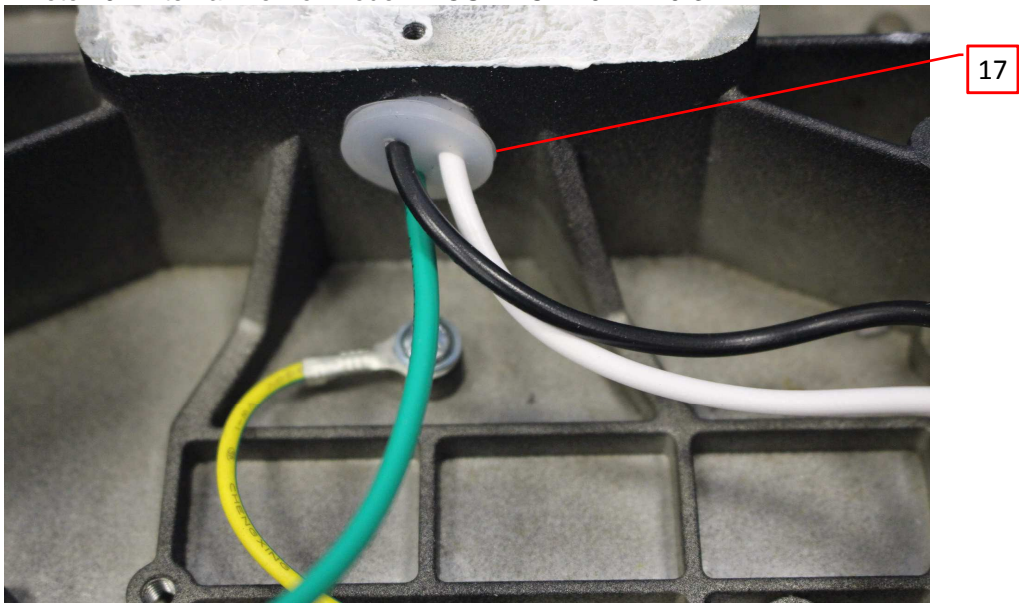


Photo 19 - Interval View of model WOSEN-CP-70W-120-347V-D



4.0 Critical Components						
Photo #	Item no. ¹	Name	Manufacturer / trademark	Type / model	Technical data and securement means	Mark(s) of conformity
1,4,5,7,8,12,15	1	Metal enclosure	Various	Various	Painted Aluminium, min.thickness: 2.0mm	NR
1,4,5,7,12,15	2	Diffuser	mitsubishi engineering-plastics corp	1521A+(f1)	PA, V-0, RTI(Imp):105°C, Min. thickness:1.5mm	cURus
2,5,9,13,17	3	PCB of LED board	CHANGZHOU CHUNLIN ELECTRONIC CO.,LTD.	LJ	Aluminium Base, V-0, 130°C, Min.thickness: 0.8mm	UR
2,5,9,13,17	4	LED	Various	Various	SMD,6V,120mA, for all models	NR
2,5,9,17	5	Waterproof rubber ring	Various	Various	Silicone rubber, HB,105°C, Min. thickness:1.5mm	cURus
2,9,10,17	6	Metal plate	Various	Various	Painted steel, Measured 1.5mm thick	NR
3	7	Sensor	SHANGHAI LONG-JOIN INTELLIGENT TECHNOLOGY INC	JL-403C	Outdoor photoelectric switches Load charge: 120-277VAC,50/60Hz; Line ligne:850VA ballast; 5A E-ballast (For models WOSEN-WP-15W-120V-P, WOSEN-WP-25W-120V-P)	cULus
3	8	LED driver 1	ANTRON ELECTRONICS CO LTD	AC450S40	Input:120-277VAC,50/60HZ, 0.40-0.147A, Output:37-62VDC,450mA, 28WMax,Class 2 output (For model WOSEN-WP-25W-120V-P only)	cULus
3	8a	LED driver 2	ANTRON ELECTRONICS CO LTD	AC350S40	Input:120-277VAC,50/60HZ, 0.40-0.147A, Output:37-62VDC,250mA, 15.5WMax,Class 2 output (For model WOSEN-WP-15W-120V-P only)	cULus

4.0 Critical Components						
Photo #	Item no. ¹	Name	Manufacturer / trademark	Type / model	Technical data and securement means	Mark(s) of conformity
6,10	8b	LED driver 3	ANTRON ELECTRONICS CO LTD	MC1750S84L	Input:120-347VAC,50/60HZ, 0.790-0.30A, Output:23-38VDC,1750mA, 66WMax,Class 2&Class P output (For models WOSEN-WP-70W-120-347V, WOSEN-CP-70W-120-347V)	cULus
6,10	8c	LED driver 4	ANTRON ELECTRONICS CO LTD	MC1500S60DL	Input:120-347VAC,50/60HZ, 0.60-0.20A, Output:22-36VDC,1250mA, 45WMax,0-10V dimming; Class 2&Class P output (For models WOSEN-WP-45W-120-347V ,WOSEN-CP-45W-120-347V)	cULus
6	8d	LED driver 5	ANTRON ELECTRONICS CO LTD	MC2300S98DZL	Input:120-347VAC,50/60HZ, 0.90-0.32A, Output:25-42VDC,2300mA, 98WMax,0-10V dimming; Class 2&Class P output (For model WOSEN-WP-90W-120-347V only)	cULus
14, 18	8e	LED driver 6	ANTRON ELECTRONICS CO LTD	MC1750S84DL	Input :120-347VAC, 50/60Hz,0.79-0.3A, Output: 40VDC,1750mA, 84WMax,0-10V dimming; Class 2 and Class P output (For models WOSEN-WP-70W-120-347V-D, WOSEN-CP-70W-120-347V-D)	cULus
3,10, 18	9	Closed-end connector	Various	CE2	300V, 105°C. Suitable for 14-22 AWG wire.	UR
3,6,10,14, 18	10	Grounding wire	Various	Various	AWM, 18AWG, min. 600V, min. 105°C, VW-1.	cURus
3,8,10,16, 18	11	Supply wire	Various	Various	AWM, 18AWG, 600V, min. 105°C, VW-1. At least 150mm long to extended into outlet box.	cURus
3	12	Lead wire to sensor	Various	Various	AWM, 18AWG, 600V, min. 105°C, VW-1.	cURus
6,14	13	Quick connector	YUYAO YUNHUAN RUIXIN	BMI200	PC,V-0, Min.300V,80°C	cURus
6,14	14	Lead wire to LED board	Various	Various	AWM, 18AWG, 600V, min. 105°C, VW-1.	cURus
8,16	15	Fiber glass sleeving	Various	Various	Min. 0.25mm thick. Cover internal wires.	UR
8,16	16	Mounting bar	Various	Various	Sheet steel metal, min. 1.5mm thickness.	NR
11,19	17	Rubber band	Various	Various	Rubber,thickness:1.2mm,protective wire	NR

4.0 Critical Components						
Photo #	Item no. ¹	Name	Manufacturer / trademark	Type / model	Technical data and securement means	Mark(s) of conformity
1,4,7	18	Marking label (Not shown)	Various	Various	Rated min 100°C. Suitable for steel surface. Comply with UL969.	UR
NOTES: 1) Not all item numbers are indicated (called out) in the photos, as their location is obvious. 2) "Various" means any type, from any manufacturer that complies with the "Technical data and securement means" and meets the "Mark(s) of conformity" can be used. 3) Indicates specific marks to be verified, which assures the agreed level of surveillance for the component. "NR" - indicates Unlisted and only visual examination is necessary. "See 5.0" indicates Unlisted components or assemblies to be evaluated periodically refer to section 5.0 for details.						

5.0 Critical Unlisted CEC Components

No Unlisted CEC components are used in this report.

6.0 Critical Features	
<u>Recognized Component</u>	- A component part, which has been previously evaluated by an accredited body with restrictions and must be evaluated as part of the basic product considering the restrictions as specified by the Conditions of Acceptability.
<u>Listed Component</u>	- A component part, which has been previously Listed or Certified by an accredited Certification Organization with no restrictions and is used in the intended application within its ratings.
<u>Unlisted Component</u>	- A part that has not been previously evaluated to the appropriate designated component standard. It may also be a Listed or Recognized component that is being used outside of its evaluated Listing or component recognition.
<u>Critical Features/Components</u>	- An essential part, material, subassembly, system, software, or accessory of a product that has a direct bearing on the product's conformance to applicable requirements of the product standard.
<u>Construction Details</u>	- For specific construction details, reference should be made to the photographs and descriptions. All dimensions are approximate unless specified as exact or within a tolerance. In addition to the specific construction details described in this Report, the following general requirements also apply.
1.	<u>Spacing</u> -In primary circuits, 9.5 mm minimum spacing are maintained through air ,9.5 mm minimum spacing are maintained over surfaces of insulating material between current-carrying parts of opposite polarity and between such current-carrying parts and dead-metal parts.
2.	<u>Mechanical Assembly</u> - Components such as switches, fuseholders, connectors, wiring terminals and display lamps are mounted and prevented from shifting or rotating by the use of lockwashers, starwashers, or other mounting format that prevents turning of the component.
3.	<u>Corrosion Protection</u> - All ferrous metal parts are protected against corrosion by painting, plating or the equivalent.
4.	<u>Accessibility of Live Parts</u> - All uninsulated live parts in primary circuitry are housed within a metal enclosure constructed with no openings other than those specifically described in Sections 4 and 5.
5.	<u>Grounding</u> - All exposed dead-metal parts and all dead-metal parts within the enclosure that are exposed are connected to the grounding lead or the equipment grounding terminal.
6.	<u>Polarized Connection</u> - This product is provided with a polarized power supply connection. All single pole switches and fuses are connected only to the ungrounded supply circuit conductor.
7.	<u>Internal Wiring</u> -Internal wiring is routed away from sharp or moving parts. Internal wiring leads terminating in soldered connections are made mechanically secure prior to soldering. Recognized Component separable (quick disconnect) connectors of the positive detent type, closed loop connectors, or other types specifically described in the text of this report are also acceptable as internal wiring terminals. At points where internal wiring passes through metal walls or partitions, the wiring insulation is protected against abrasion or damage by plastic bushings or grommets. All wiring is minimum 18 AWG, with a minimum rating of 600V, 105°C.
8	<u>Schematics</u> - Refer to Illustration 3~9 - schematics requiring verification during Field Representative Inspection Audits.
9.	<u>Markings</u> - The product is marked on as labeling system as described in item 18 of Section 4.0 and Illustration.1&1a as follows: manufacturer's name, brand name, model number, date of manufacturer, electrical ratings. For Canada should be both in English and French.
10	<u>Cautionary Markings</u> - The following are required: refer to Illustration 1a including any required French text.
11	<u>Installation, Operating and Safety Instructions</u> - Installation, Operating and Safety Instructions - Instructions for installation and use of this product are provided by the manufacturer in both English and French. The instruction manual shall contained the following information: 1. "INSTALLATION OR ASSEMBLY INSTRUCTIONS" & "INSTALLATION OU INSTRUCTIONS DE MONTAGE" (S16-L5) Wiring instructions that specify the proper method of connecting the grounding means and maintaining polarity shall be included with the luminaire in a manner that will require the installer to handle the instructions during installation. 2. "The luminiare shall be installed by qualified licensed electrician" or equivalent. Refer to Illustration 2 for details.

7.0 Illustrations

Illustration 1 - Format Designation of Markings and Instructions

The table of the format minimum size designation (S__) for marking height and typeface is at below:

Size designation	Letter height		Font size (points)	Font typeface, upper case
	mm	(in)		
S16	1.6	(0.062)	6	Not specified
S24	2.4	(0.094)	10	Univers bold Arial bold Helvetica bold Zurich BT Bold
S32	3.2	(0.125)	12	Not specified
S48	4.8	(0.188)	19	Univers bold Arial bold Helvetica bold Zurich BT Bold

The table of the format location designation (L__) for marking is at below:


Location designation	Description	Label exposed to a dry/damp environment	Label exposed to a wet environment
L1	Visible during relamping, and after installation	Type P	Type P
L2	Visible during installation	Type N	Type P
L3	Visible during installation and inspection of wire connections, located near the supply connections	Type N	Type P
L4	On the smallest unit package or carton	Type T	Type T
L5	On an instruction sheet or tag	Type T	Type T
L6	Visible during component replacement	Type P	Type P

Type P designates a permanent label or nameplate that is intended to remain in the applied position for the lifetime of the luminaire under conditions of normal use. It provides information required for user maintenance over the expected life of the product. It is made of metal, plastic, or other material that complies with Clause 20.1.7.

Type N designates a non-permanent label or nameplate that is intended to remain in place only for the purpose of installation. It shows the certification mark, manufacturer's identification, and product identification. It is made of paper with an adhesive backing.

Type T designates a temporary label, instruction sheet, or tag that is not required after installation. It provides installation instructions, and information not required after installation. It is made of printed matter with or without adhesive and/or attachment, and is intended to be included with, or attached to, the product.

Illustration 1a - Label (Sample)

 <p>5014881</p>	CONFORMS TO UL STD.1598 CERTIFIED TO CSA STD.C22.2 NO.250.0 Model: WOSEN-WP-15W-120V-P 120VAC, 60HZ, 15W Date code:MMYY
	ZHONGSHAN WOSEN LIGHTING TECHNOLOGY CO.,LTD.

Label A

SUITABLE FOR WET LOCATIONS
 CONVIENT AUX EMPLACEMENTS MOUILLÉS
 MOUNTING ORIENTATION – (Such as this end up)
 SENS DE MONTAGE [par exemple, cette extrémité vers le haut]

Label B

Note:

- 1.For Label A, date code in form of MMY Y, where YY is year and MM is month. Manufacturer' identification, model number and date code shall be in upper case with letter height 1.6mm min. Input rating in volts(V), hertz(HZ), and watts(W) shall be 2.4mm min. in upper case. Font typeface shall be Univers bold, Arial bold Helvetica bold or Zurich BT bold.
2. Label B is attached on the product visible during/after installation, all letters shall be at least 2.4mm high.
3. Other models (ref. Sec 2.0, 9.0) have similar labels except model name and electrical specification.

7.0 Illustrations

Illustration 2 - Instruction

The instruction shall include the following information:

Proper installation method.

Wiring instructions that specify the proper method of connecting the grounding means and maintaining polarity shall be included with the luminaire in a manner that will require the installer to handle the instructions during installation.

Proper normal maintenance and use method.

Proper mounting environment.

Other warning that will not lead to misuse.

Both English and French instruction should be provided.

7.0 Illustrations

Illustration 3 - Circuit Diagram and layout of LED PCB for WOSEN-WP-15W-120V-P

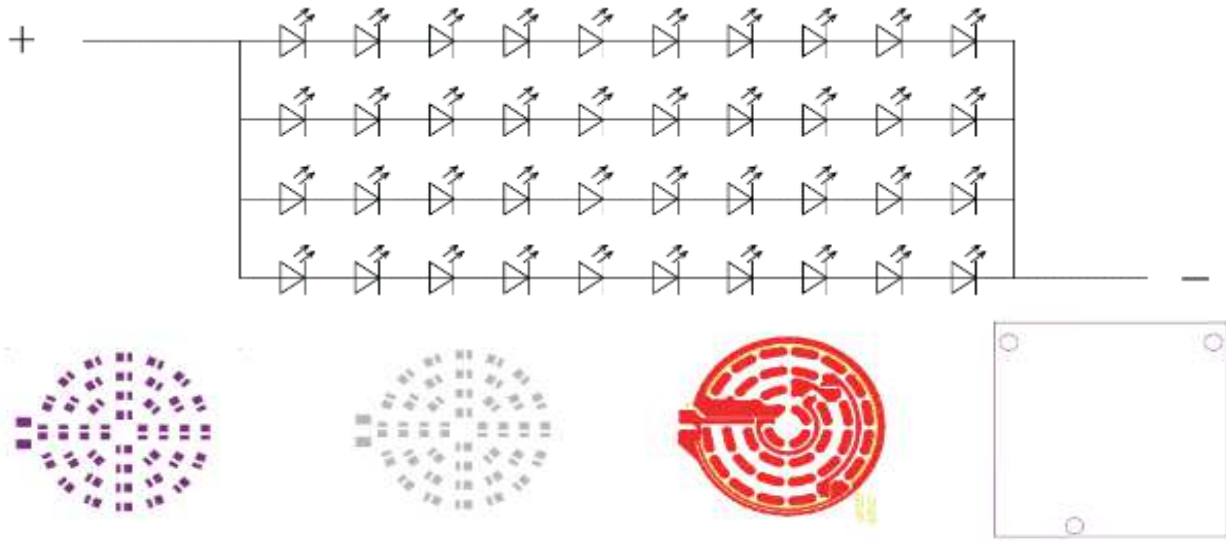
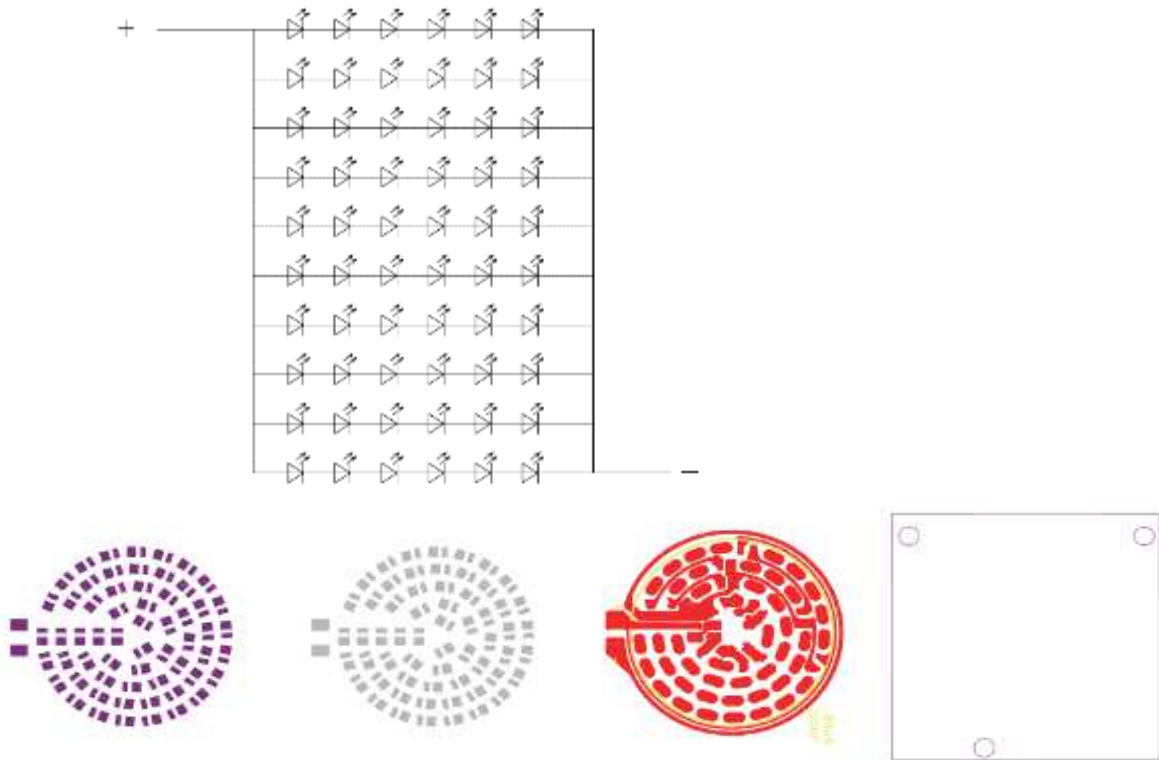


Illustration 4 - Circuit Diagram and layout of LED PCB for WOSEN-WP-25W-120V-P



7.0 Illustrations

Illustration 5 - Circuit Diagram and layout of LED PCB for WOSEN-WP-45W-120-347V

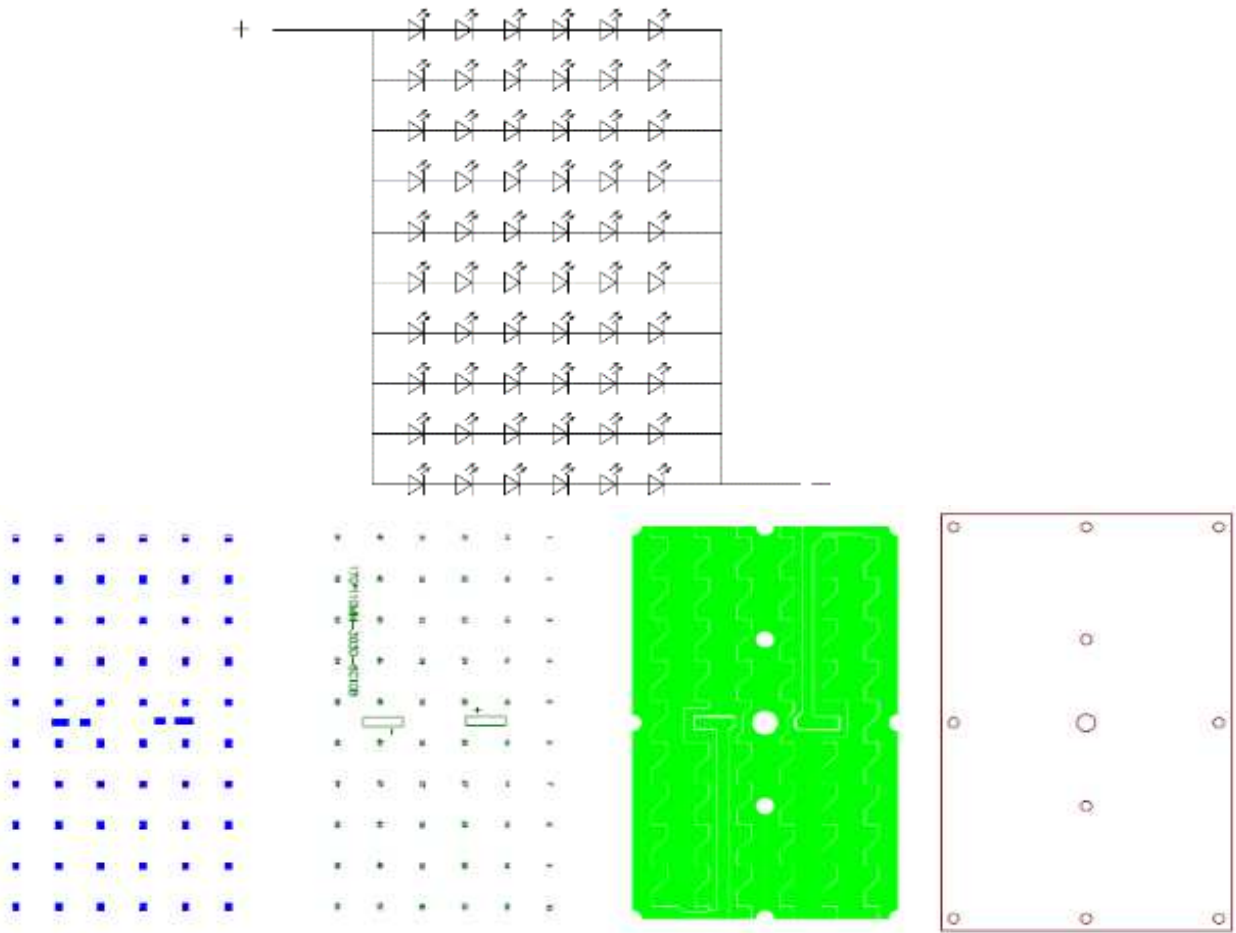
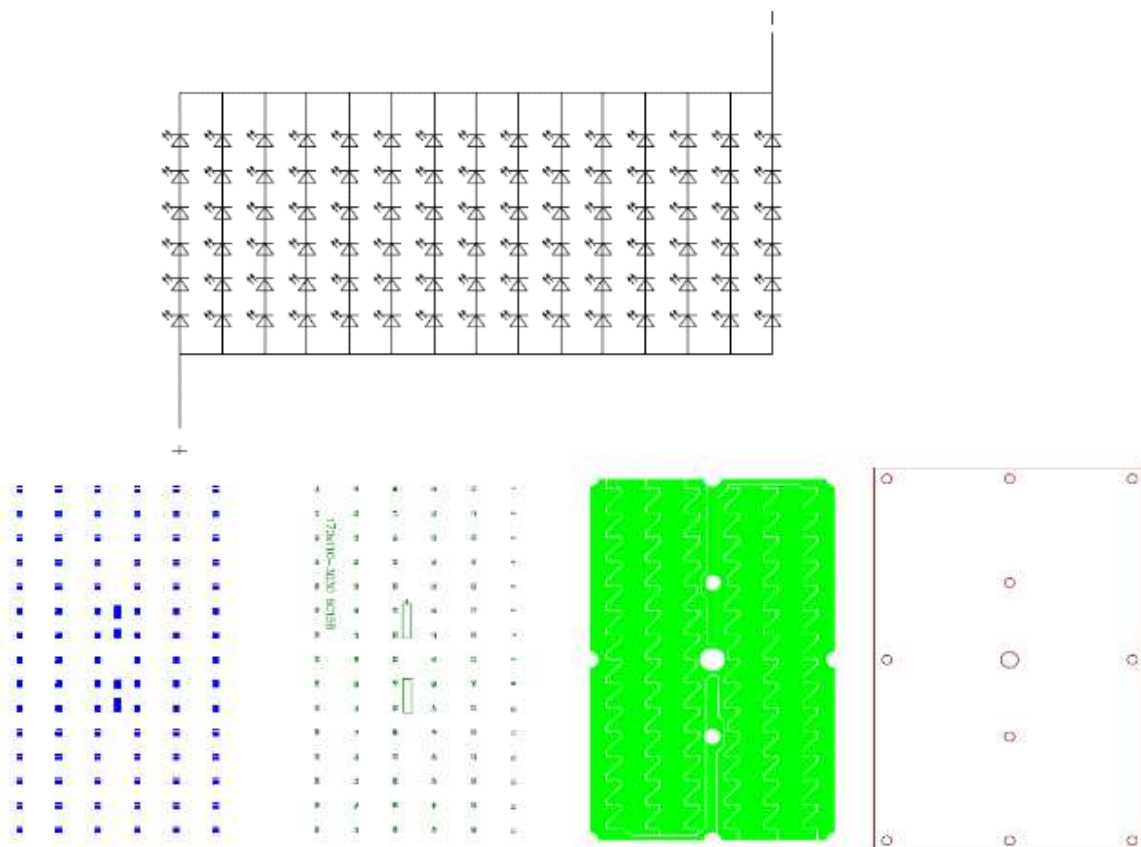


Illustration 6 - Circuit Diagram and layout of LED PCB for WOSEN-WP-70W-120-347V



7.0 Illustrations

Illustration 7- Circuit Diagram and layout of LED PCB for WOSEN-WP-90W-120-347V

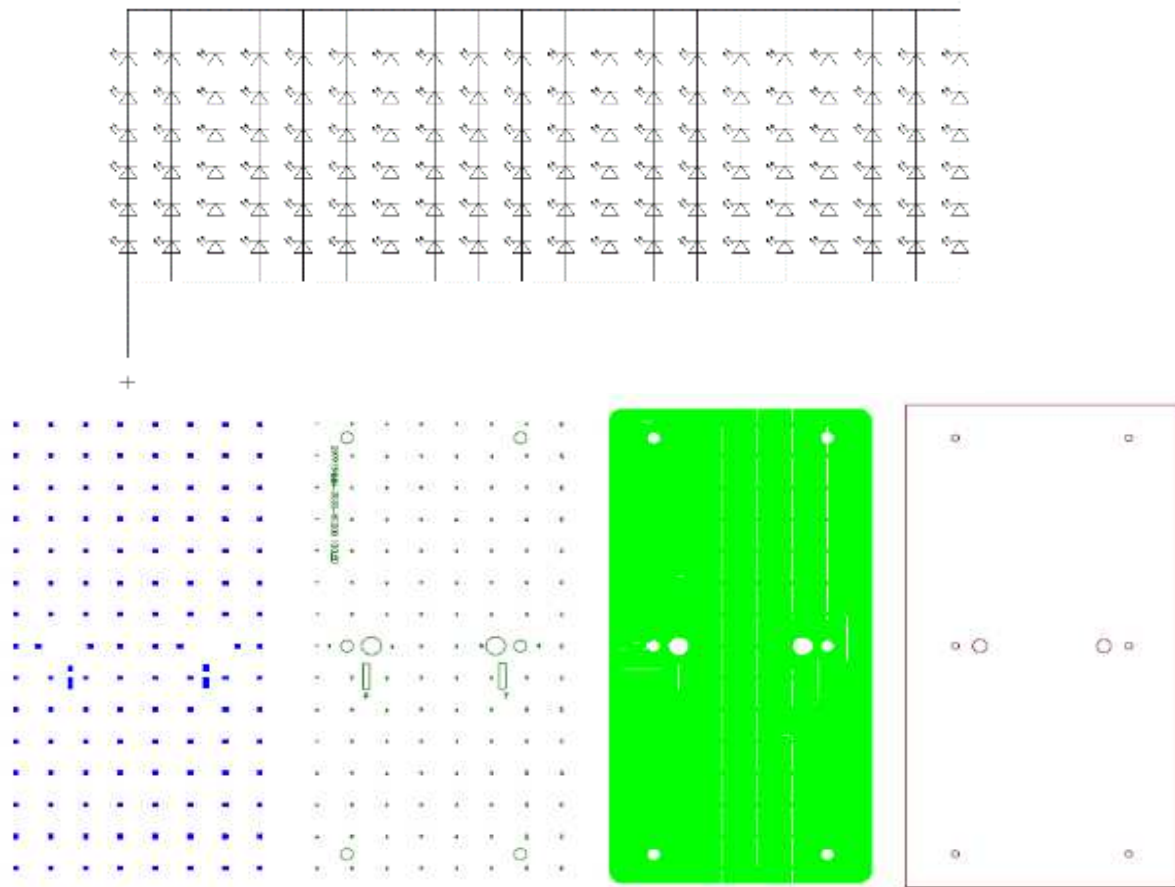
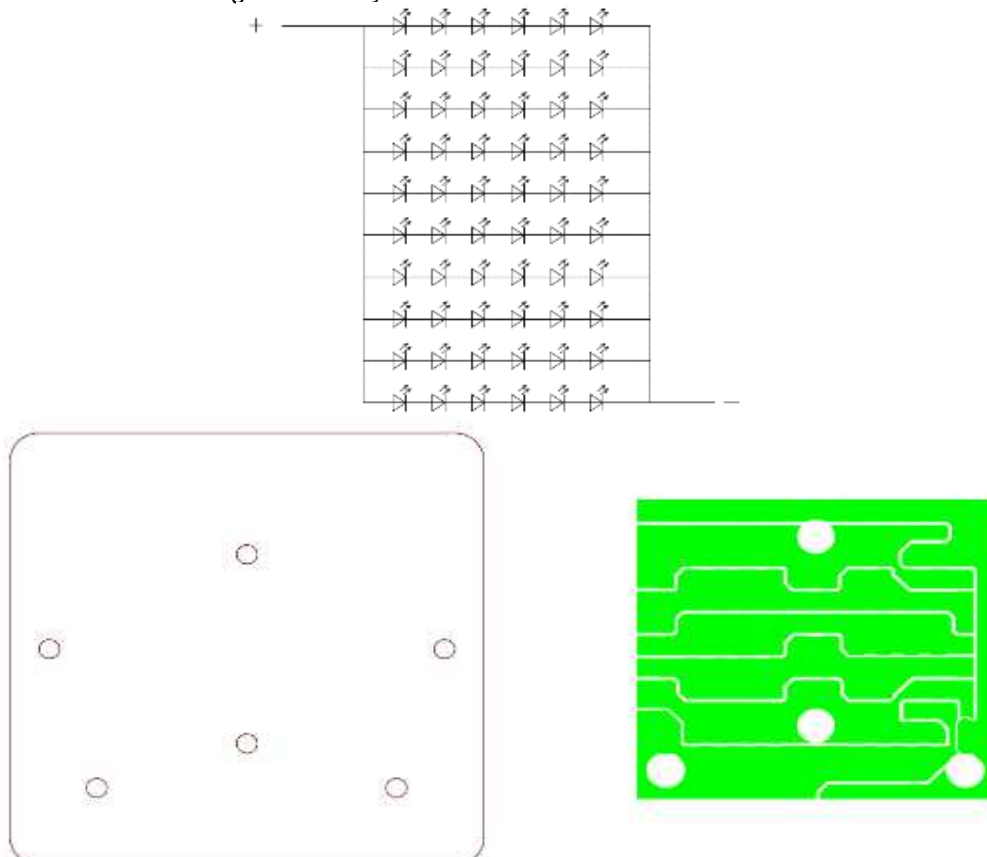


Illustration 8 - Circuit Diagram and layout of LED PCB for WOSEN-CP-45W-120-347V



7.0 Illustrations

Illustration 9 - Circuit Diagram and layout of LED PCB for WOSEN-CP-70W-120-347V

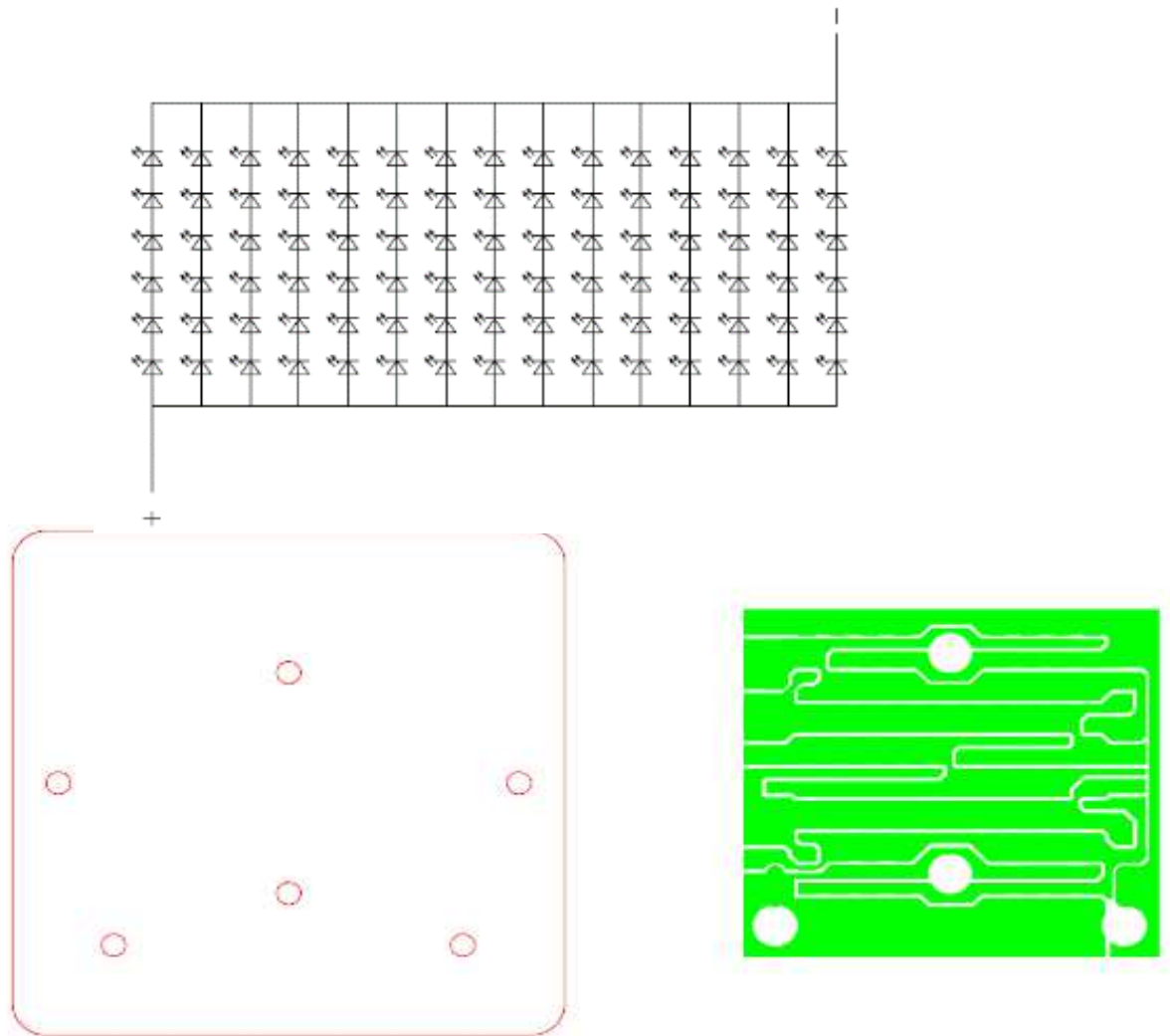
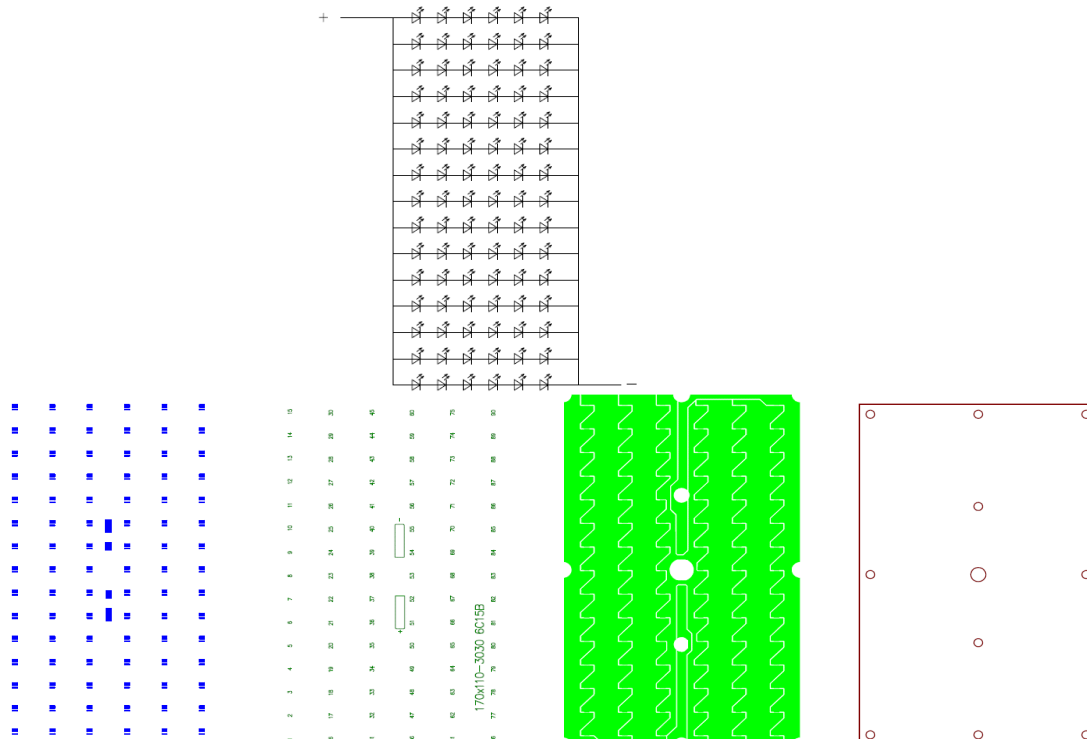
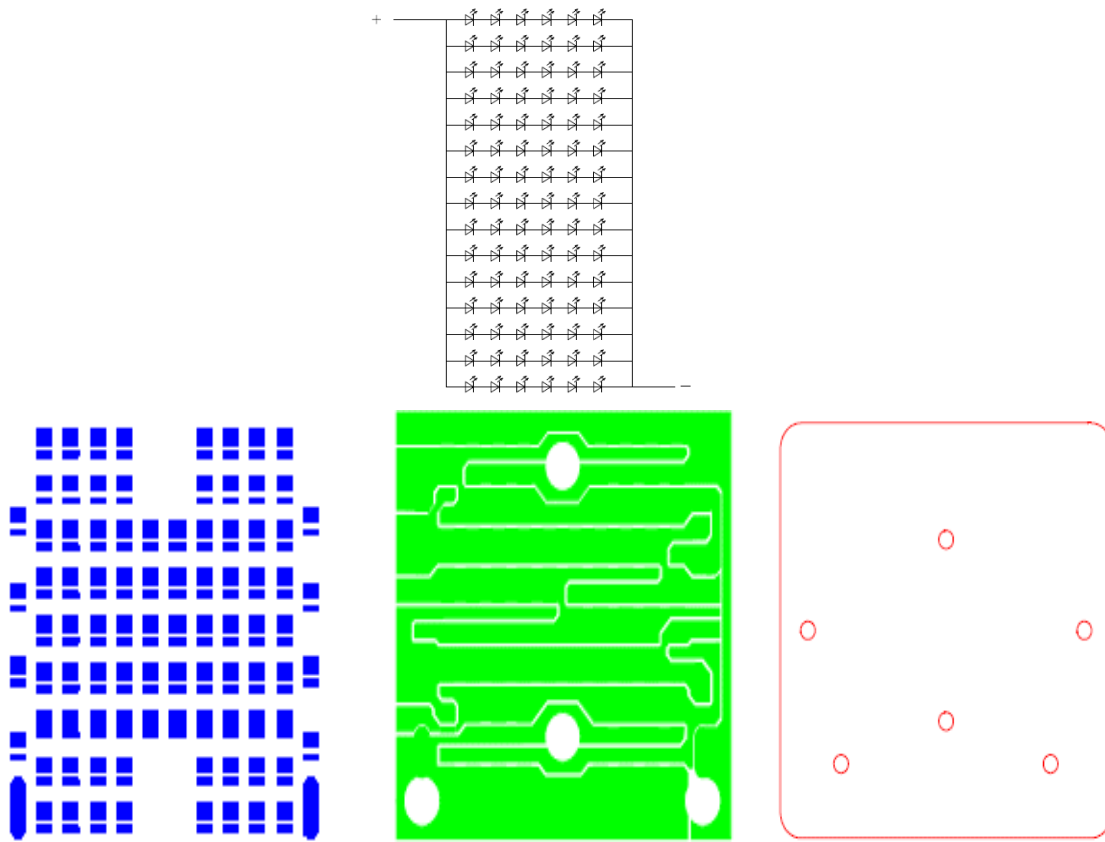


Illustration 10 - Circuit Diagram and layout of LED PCB for WOSEN-WP-70W-120-347V-D



7.0 Illustrations

Illustration 11 - Circuit Diagram and layout of LED PCB for WOSEN-CP-70W-120-347V-D



8.0 Test Summary			
Evaluation Period	6-May-2019 ~ 28-June-2019		Project No. 190500057HZH
Sample Rec. Date	6-May-2019	Condition Prototype	Sample ID. 1190506-04-***
Test Location	Intertek Testing Services Hangzhou		
Test Procedure	Testing Lab		

Determination of the result includes consideration of measurement uncertainty from the test equipment and methods. The product was tested as indicated below with results in conformance to the relevant test criteria.

The following tests were performed:

Test Description	UL 1598:2018 Ed.4	CSA C22.2#250.0:2018 Ed.4
Normal temperature test	15	15
Mold stress relief	17.4	17.4
Wet locations	17.5	17.5
Loading	17.15	17.15
Strain relief	17.21	17.21
Ground-screw assembly strength	17.39	17.39
Polymeric impact	17.41	17.41
Dielectric voltage-withstand	18.1	18.1
Bonding circuit impedance	18.2	18.2

Test Description	UL 8750:2015 Ed.2+R:22Aug2018	CSA C22.2#250.13:2017 Ed.3
Input test	8.2	9.2
Temperature test	8.3	9.3
Dielectric voltage withstand test	8.6	9.4
Abnormal test	8.7	9.5
Environmental tests	8.14	9.12


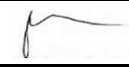
Evaluation Period	27-Sep-2019 ~ 17-Oct-2019		Project No. 190900562HZH
Sample Rec. Date	27-Sep-2019	Condition Prototype	Sample ID. 1190927-13-***
Test Location	Intertek Testing Services Hangzhou		
Test Procedure	Testing Lab		

Determination of the result includes consideration of measurement uncertainty from the test equipment and methods. The product was tested as indicated below with results in conformance to the relevant test criteria.

The following tests were performed:

Test Description	UL 1598:2018 Ed.4	CSA C22.2#250.0:2018 Ed.4
Electrical spacings	6.11	6.11
Normal temperature test	15	15
Mold stress relief	17.4	17.4
Rain test	17.5.2	17.5.2
Loading	17.15	17.15
Strain relief	17.21	17.21
Ground-screw assembly strength	17.39	17.39
Polymeric impact	17.41	17.41
Dielectric voltage-withstand	18.1	18.1
Bonding circuit impedance	18.2	18.2

Test Description	UL 8750:2015	CSA C22.2#250.13:2017 Ed.3
Input test	8.2	9.2
Temperature test	8.3	9.3
Dielectric voltage withstand test	8.6	9.4
Abnormal test	8.7	9.5
Leakage current measurement test	8.9	9.7
Environmental tests	8.14	9.12

8.0 Test Summary			
8.1 Signatures			
A representative sample of the product covered by this report has been evaluated and found to comply with the applicable requirements of the standards indicated in Section 1.0.			
Completed by:	Hotch Yang	Reviewed by:	Patrick Chen
Title:	Engineer	Title:	Reviewer
Signature:		Signature:	

9.0 Correlation Page For Multiple Listings

The following products, which are identical to those identified in this report except for model number and Listee name, are authorized to bear the ETL label under provisions of the Intertek Multiple Listing Program.

BASIC LISTEE	ZHONGSHAN WOSEN LIGHTING TECHNOLOGY CO.,LTD
Address	3 of first floor, 2 of second floor, 3 of third floor, No.526, Dong`an Rd North ,Cao'er Village, Guzhen Town, ZHONGSHAN CITY, Guangdong Province 528421
Country	China
Product	Fixed luminaire

MULTIPLE LISTEE 1	Factory Direct Lighting (2020) Limited
Address	100 Shields Court, Markham Ontario L3R 9T5
Country	Canada
Brand Name	FDL

ASSOCIATED MANUFACTURER	ZHONGSHAN WOSEN LIGHTING TECHNOLOGY CO.,LTD
Address	3 of first floor, 2 of second floor, 3 of third floor, No.526, Dong`an Rd North ,Cao'er Village, Guzhen Town, ZHONGSHAN CITY, Guangdong Province 528421
Country	China

MULTIPLE LISTEE 1 MODELS	BASIC LISTEE MODELS
FDWPW-15-LED-5K-120V-P	WOSEN-WP-15W-120V-P
FDWPW-25-LED-5K-120V-P	WOSEN-WP-25W-120V-P
FDWPW-45-LED-5K-120-347V-D	WOSEN-WP-45W-120-347V
FDWPW-70-LED-5K-120-347V	WOSEN-WP-70W-120-347V
FDWPW-90-LED-5K-120-347V-D	WOSEN-WP-90W-120-347V
FDCLW-45-LED-5K-120-347V-D	WOSEN-CP-45W-120-347V
FDCLW-70-LED-5K-120-347V	WOSEN-CP-70W-120-347V
FDWPW-70-LED-5K-120-347V-D	WOSEN-WP-70W-120-347V-D
FDCLW- 70-LED-5K-120-347V-D	WOSEN-CP-70W-120-347V-D

MULTIPLE LISTEE 2	None
Address	
Country	
Brand Name	

ASSOCIATED MANUFACTURER	
Address	
Country	

MULTIPLE LISTEE 2 MODELS	BASIC LISTEE MODELS

MULTIPLE LISTEE3	None
Address	
Country	
Brand Name	

ASSOCIATED MANUFACTURER	
Address	
Country	

MULTIPLE LISTEE 3 MODELS	BASIC LISTEE MODELS

10.0 General Information

The Applicant and Manufacturer have agreed to produce, test and label ETL Listed products in accordance with the requirements of this Report. The Manufacturer has also agreed to notify Intertek and to request authorization prior to using alternate parts, components or materials.

COMPONENTS

Components used shall be those itemized in this Intertek report covering the product, including any amendments and/or revisions.

LISTING MARK

The ETL Listing mark applied to the products shall either be separable in form, such as labels purchased from Intertek, or on a product nameplate or other media only as specifically authorized by Intertek. Use of the mark is subject to the control of Intertek.

The mark must include the following four items:

- 1) applicable country identifiers "US" and/or "C" or "US", "C" and "EU"
- 2) the word "Listed" or "Classified" or "Recognized Component" (whichever is appropriate)
- 3) a control number issue by Intertek
- 4) a product descriptor that identifies the standards used for certification. Example:

For US standards, the words, "Conforms to" shall appear with the standard number along with the word, "Standard" or "Std." Example: "Conforms to ANSI/UL Std. XX."

For Canadian standards, the words "Certified to CAN/CSA Standard CXX No. XX." shall be used, or abbreviated, "Cert. to CAN/CSA Std. CXX No. XX."

Can be used together when both standards are used.

Note: A facsimile must be submitted to Intertek, Attn: Follow-up Services for approval prior to use.

The facsimile need not have a control number. A control number will be issued **after signed Certification Agreements** have been received by the Follow-up Services office, approval of the facsimile of your proposed Listing Mark, satisfactory completion of the Listing Report, and scheduling of a factory assessment in your facility.

MANUFACTURING AND PRODUCTION TESTS

Manufacturing and Production Tests shall be performed as required in this Report.

FOLLOW-UP SERVICE

Periodic unannounced audits of the manufacturing facility (and any locations authorized to apply the mark) shall be scheduled by Intertek. An audit report shall be issued after each visit. Special attention will be given to the following:

1. Conformance of the manufactured product to the descriptions in this Report.
2. Conformance of the use of the ETL mark with the requirements of this Report and the Certification Agreement.
3. Manufacturing changes.
4. Performance of specified Manufacturing and Production Tests.

In the event that the Intertek representative identifies non-conformance(s) to any provision of this Report, the Applicant shall take one or more of the following actions:

1. Correct the non-conformance.
2. Remove the ETL Mark from non-conforming product.
3. Contact the issuing product safety evaluation center for instructions.

10.1 Evaluation of Unlisted Components

Because Unlisted Components are uncontrolled, and they do not fall under a third party follow up program, Intertek may require these components to be tested and/or evaluated at least once annually, more often for certain components, as part of the independent certification process. The Unlisted Components in Section 5.0 require testing and/or evaluation as indicated.

Note to Intertek Follow Up Inspector: The Component Evaluation Center, CEC, will notify you in writing when these components must be selected and sent to the CEC for re-evaluation

Ship the samples to:
Intertek Testing Services Shanghai Limited
ETL Component Evaluation Center
Building No. 86, 1198 Qinzhou Road (North)
Shanghai 200233, China
Attn:Angela Han

Sample Disposition: Due to the destructive nature of the testing, all samples will be discarded at the conclusion of testing unless, the manufacturer specifically requests the return of the samples. The request for return must accompany the initial component shipment.

11.0 Manufacturing and Production Tests

The manufacturer agrees to conduct the following Manufacturing and Production Tests as specified:

Required Tests

- Dielectric Voltage Withstand Test
- Grounding Continuity Test
- Polarity

11.1 Dielectric Voltage Withstand Test

Method

One hundred percent of production of the products covered by this Report shall be subjected to a routine production line dielectric withstand test.

The test shall be conducted on products, which are fully assembled. Prior to applying the test potential, all switches, contactors, relays, etc., should be closed so that all primary circuits are energized by the test potential. If all primary circuits cannot be tested at one time, then separate applications of the test potential shall be made.

The test voltage specified below shall be applied between primary circuits and accessible dead-metal parts. The test voltage may be gradually increased to the specified value but must be maintained at the specified value for one second or one minute as required.

Test Equipment

The test equipment shall incorporate a transformer with an essentially sinusoidal output, a means to indicate the applied test potential, and an audible and/or visual indicator of dielectric breakdown.

The test equipment shall incorporate a voltmeter in the output circuit to indicate directly the applied test potential if the rated output of the test equipment is less than 500VA.

If the rated output of the test equipment is 500VA or more, the applied test potential may be indicated by either:

- 1 - a voltmeter in the primary circuit;
- 2 - a selector switch marked to indicate the test potential; or
- 3 - a marking in a readily visible location to indicate the test potential for test equipment having a single test potential output.

In cases 2 and 3, the test equipment shall include a lamp or other visual means to indicate that the test potential is present at the test equipment output. All test equipment shall be maintained in current calibration.

Products Requiring Dielectric Voltage Withstand Test:

<u>Product</u>	<u>Test Voltage</u>	<u>Test Time</u>
All products covered by this Report.	1000V	60 s
	or	
	1200V	1 s

11.2 Grounding Continuity Test

Method

Each product listed below shall be subjected to a test to determine that there is continuity between accessible dead-metal parts of the product and the grounding pin or blade of the attachment plug.

If all accessible dead metal is connected, only a single test need be performed. A visual or audible device (ohmmeter, buzzer, etc.) may be used to indicate grounding continuity.

Products Requiring Grounding Continuity Test:

All products covered by this Report.

11.3 Polarity

Method

One hundred percent of production of the products covered by this Report shall be subjected to a routine production line polarity test.

Continuity shall be verified between the point where the identified (neutral) branch circuit conductor is intended to be connected to the luminaire and the lampholder screwshell, using an indicating device such as an ohmmeter or other continuity testing device.

Test Equipment

An indicating device such as an ohmmeter or other continuity testing device.

Products Requiring Polarity Test:

All products covered by this Report.

