



1.0 Reference and Address			
Report Number	201001584SHA-001	Original Issued: 3-Dec-2020	Revised: None
Standard(s)	Luminaires [UL 1598:2018 Ed.4]		
	Luminaires [CSA C22.2#250.0:2018 Ed.4]		
Applicant	<u>Aecolux Technology Ltd.</u>	Manufacturer	<u>Sydney Technology Co., Ltd.</u>
Address	120 - 13431 MAYCREST WAY 120 - 13431 MAYCREST WAY	Address	Jinlong Road, Jinlong Industrial Estate, Qingxi Town, DONGGUAN CITY Guangdong Province 523660
Country	CANADA	Country	CHINA
Contact	Tim Liao	Contact	Yaxian Li
Phone	+1-604-370-1060	Phone	0769-87893550 ext 167
FAX	NA	FAX	NA
Email	<u>Ttim.liao@aecolux.com</u>	Email	<u>yaxian@sydneytek.com</u>

2.0 Product Description	
Product	LED fixed luminaire
Brand name	 Ethoslite 
Description	The products covered by this report was LED fixed luminaire, suitable for wet location use, intended to be mounted over outlet box and provided with leads for supply connection.
Models	Downlight 4"; may be followed by one to ten characters.
Model Similarity	One to ten characters denote product code, each character can be 0-9, A-Z, "+", "-", "/", "\" or blank.
Ratings	120Vac, 60Hz, 9W
Other Ratings	ta:40°C, dimmable

3.0 Product Photographs

Photo 1 - External view of model Downlight 4"

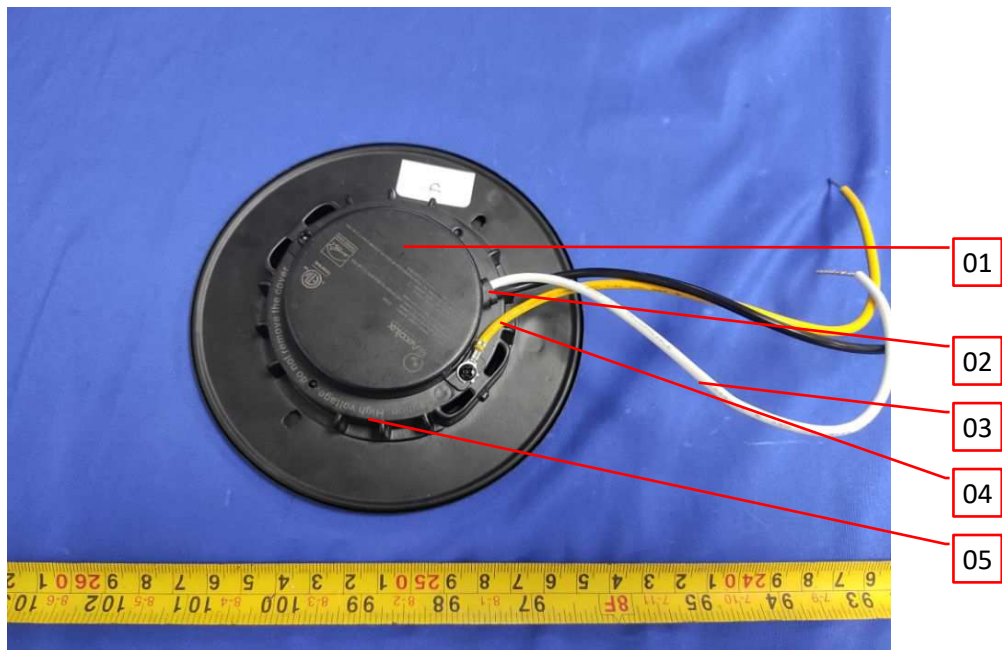
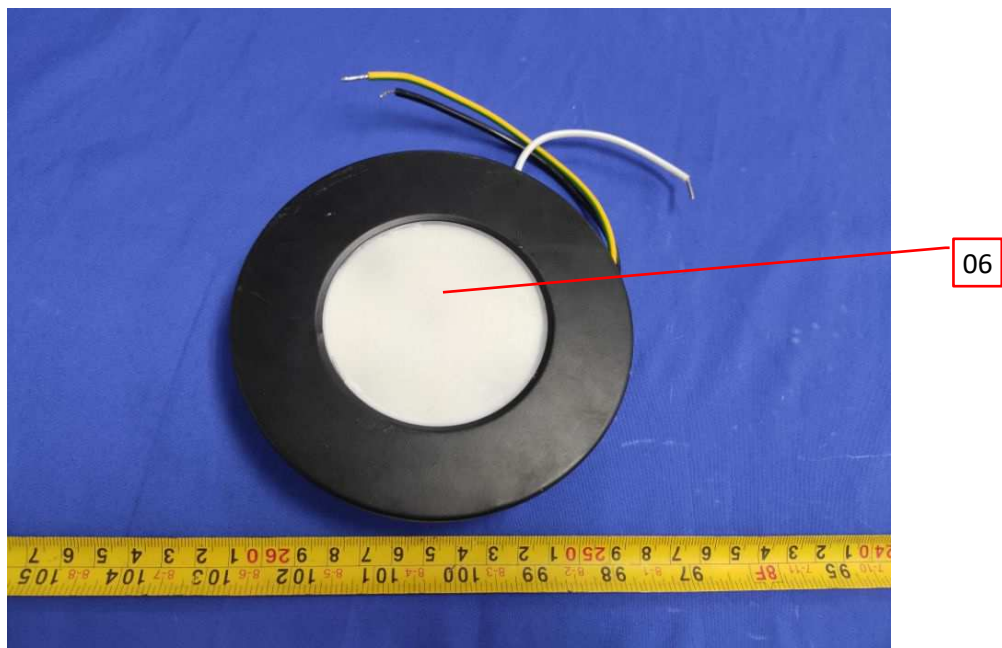


Photo 2 - External view of model Downlight 4"



3.0 Product Photographs

Photo 3 - Internal view of model Downlight 4"

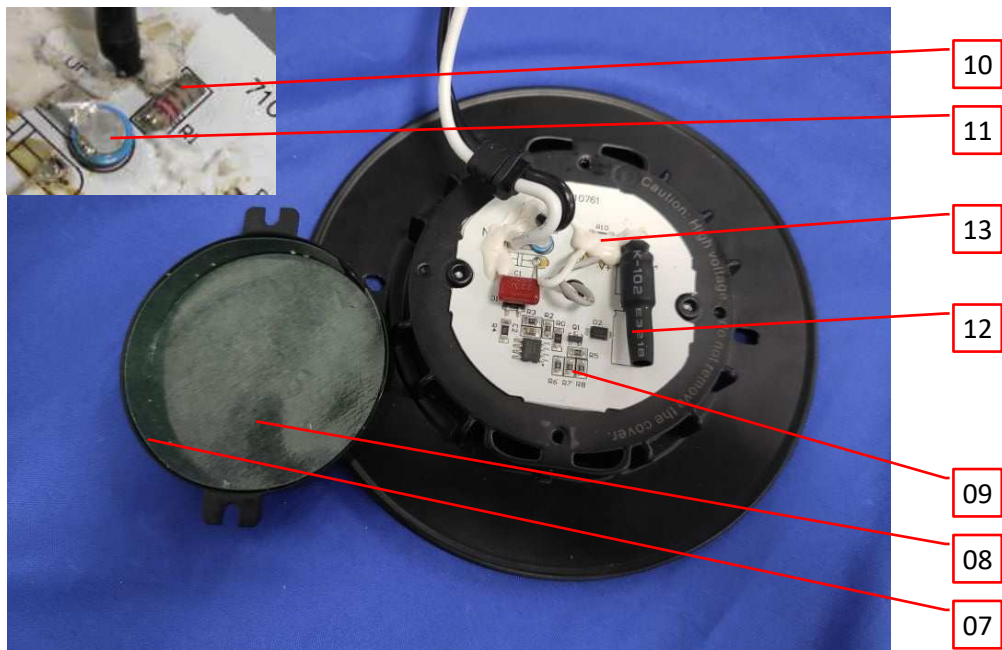
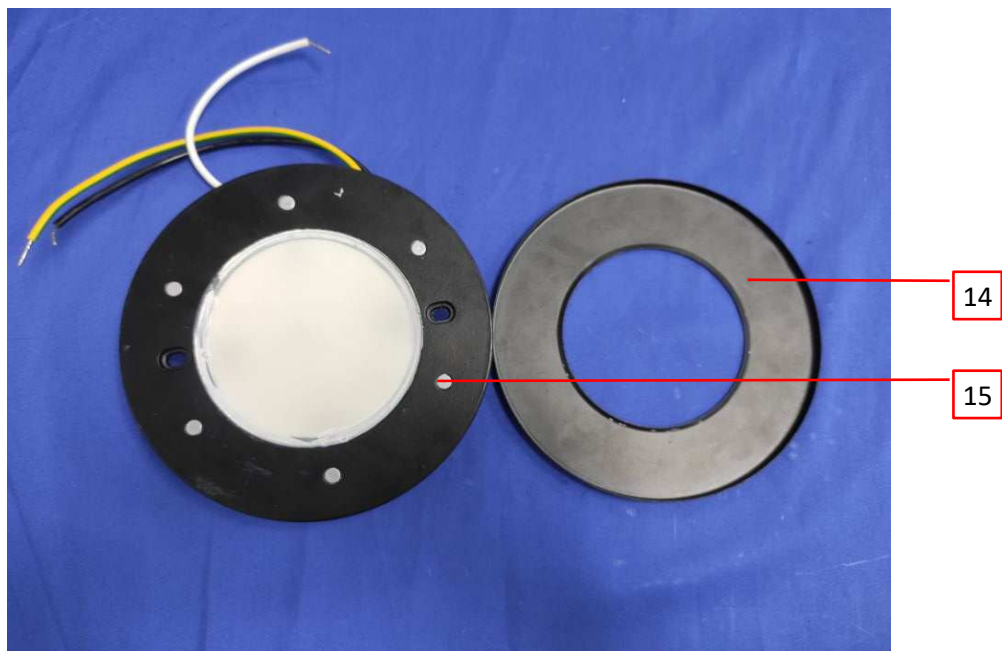
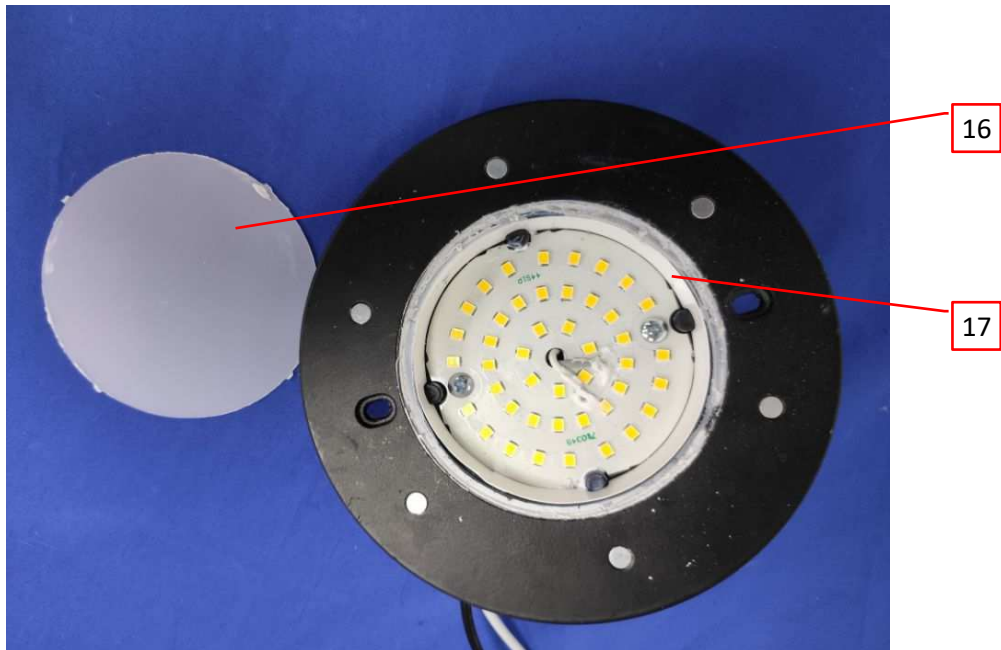


Photo 4 - Internal view of model Downlight 4"



3.0 Product Photographs

Photo 5 - Internal view of model Downlight 4"



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Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
1	1	Back cover	Various	Various	Plated or painted steel, min. 0.41 mm thickness. Secured to heat sink 2 by two screws.	NR
1	2	Bushing	Various	Various	Plastic, non-rubber type, min. 1.2mm thickness. Molded on input wire and physical fitting in metal opening.	NR
1	3	Input wire	Various	Various	Min. 300V, 105°C, 18AWG, AWM. At least 150mm long to extend into outlet box.	cURus
1	4	Grounding wire	Various	Various	Min. 300V, 105°C, 18AWG, AWM. At least 150mm long to extend into outlet box.	cURus
1	5	Heat sink	Various	Various	Die-cast aluminum, min. 2.0mm thickness.	NR
2	6	Diffuser 1	Various	Various	Glass, min. 2.11mm thickness. Secured to heatsink by adhesive.	NR
2	6a	Adhesive (not shown)	FOSHAN TIAN BAO LI SILICON ENGINEERING TECHNOLOGY CO LTD (UL E469464)	TBL-6233	Silicone, V-0, 105°C. Used for securing LED driver PCB & diffuser.	cURus
3	7	Barrier 1	Various	Various	PET, min. HB, min. 90°C, min. 0.18mm thickness. Size: 165 x 9.0 mm (LxW).	UR
3	8	Barrier 2	Various	Various	PET, min. HB, min. 90°C, min. 0.18mm thickness. Size: Dia. 55mm.	UR
3	9	LED driver	Sydney Technology Co., Ltd.	Downlight driver ⁴	Input:120Vac, 60Hz, 9W. Output:127Vdc, 63mA. Non-isolated output. Dimmable. Consisted of component items 10 to 12.	NR
3	10	Fusing resistor	Zhang zhou Shenghuaou Electronic Technology Co Ltd (UL E492937)	RXM0309	2.2 ohm, 0.5W.	cURus
				RXF 1/2W		
3	11	Varistor	Various	Various	SPD type 5, min. 150Vac, 85°C.	cURus
3	12	Heat-shrinkable tube	Various	Various	600V, 125°C, VW-1.	cURus
3	13	Glue	Various	Various	Silicone, min. HB, min. 105°C. Further secure the input wire terminal on PCB.	cURus
4	14	Front cover	Various	Various	Plated or painted steel, min. 0.41 mm thickness. Secured by magnets.	NR
4	15	Magnet	Various	Various	Strong magnet, 6pcs provided.	NR
5	16	Diffuser 2	Various	Various	Plastic, min. HB, min. 80°C, min. 0.2mm thickness.	UR
5	17	Reflector	Various	Various	PET, min. HB, min. 90°C, min. 0.18mm thickness.	UR

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Photo #	Item no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³
1	18	Label (not shown)	Various	Various	Suitable for metal enclosure surface of product, min 80°C, suitable for wet location. Complied with UL969.	cURus
<p>NOTES:</p> <p>1) Not all item numbers are indicated (called out) in the photos, as their location is obvious.</p> <p>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.</p> <p>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.</p>						

5.0 Critical Unlisted CEC Components

No Unlisted CEC components are used in this report.

6.0 Critical Features

Recognized Component - A component part, which has been previously evaluated by an accredited certification body with restrictions and must be evaluated as part of the basic product considering the restrictions as specified by the Conditions of Acceptability.

Listed Component - 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.

Unlisted Component - 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.

Critical Features/Components - 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.

Construction Details - 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. Spacing - In primary circuits. 3.2mm minimum spacing are maintained through air and 6.4mm over surfaces of insulating material between current-carrying parts of opposite polarity and between such current-carrying parts and dead-metal parts.
2. Mechanical Assembly - 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. Corrosion Protection - All ferrous metal parts are protected against corrosion by painting, plating or the equivalent.
4. Accessibility of Live Parts - 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. Grounding - All exposed dead-metal parts and all dead-metal parts within the enclosure that are exposed are connected to the equipment grounding terminal.
6. Polarized Connection - 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. Internal Wiring - 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. Details refer to Sec.4.0.
8. Markings - The product is marked on a labeling system as described in item no. 18 of Section 4.0 as follows:
 - a) Applicant's name or brand name/trademark (S13-L1);
 - b) Model number (S13-L1);
 - c) Date code of manufacturer (S13-L1);
 - d) Electrical ratings (S16-L3);
 - e) ETL Marking include 3 parts:
 - Part 1 - cETLus Recognized Logo
 - Part 2 - The ETL Logo control number is 5012145
 - Part 3 - The standards shall be marked near the ETL logo as followed:
CONFORMS TO UL STD.1598
CERTIFIED TO CSA STD.C22.2 No. 250.0

- Refer to Illustration No. 1 of Sec7.0 for minimum size (S__) and in the location (L__).

6.0 Critical Features

9. Cautionary Markings - The following are required:

"SUITABLE FOR WET LOCATIONS" & "CONVIENT AUX EMPLACEMENTS HUMIDES" (S24-L2)
"MAXIMUM AMBIENT OPERATING TEMPERATURE 40°C" & "TEMPÉRATURE AMBIANTE MAXIMALE DE FONCTIONNEMENT 40°C" (S24-L2)
"MIN 75°C SUPPLY CONDUCTORS" & "LES FILS D'ALIMENTATION 75°C MIN" (S24-L3 and S32-L4)
"CAUTION – RISK OF FIRE" & "ATTENTION – RISQUE D'INCENDIE" (S24-L1)
"CONSULT A QUALIFIED ELECTRICIAN TO ENSURE CORRECT BRANCH CIRCUIT CONDUCTOR" & "CONSULTER UN ÉLECTRICIEN QUALIFIÉ POUR VOUS ASSURER QUE LES CONDUCTEURS DE LA DÉRIVATION SONT ADÉQUATS" (S24-L4)

10. Installation, Operating and Safety Instructions - Instructions for installation and use of this product are provided by manufacturer.

1. Using circumstance.
2. Proper wiring connection method, proper installation method.
3. Other warnings that will not lead to misuse.

11. Schematics - Refer to Illustration No.2, 3 for schematics requiring verification during Field Representative Inspection Audits.

7.0 Illustrations

Illustration 1 - Format of cautionary markings

Size designation	Letter height		Font size (points)	Font typeface, upper case
	mm	(in)		
S16	1.6	(0.062)	6	Univers bold, Arial bold, Helvetica bold, Zurich BT Bold
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

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

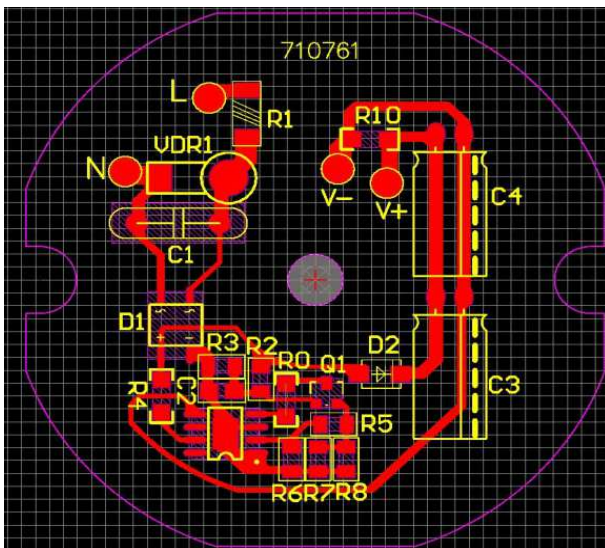
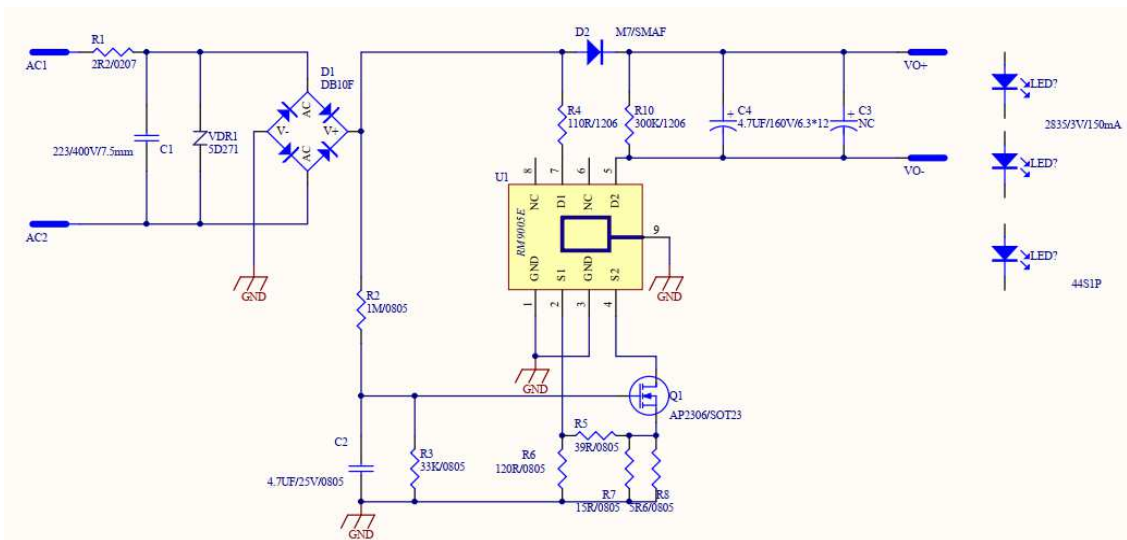
Type P designates a permanent label or nameplate that is intended to remain in the applied position for the lifetime of the luminaire under conditions of normal use. It provides information required for user maintenance over the expected life of the product. It is made of metal, plastic, or other material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

7.0 Illustrations

Illustration 2 - Schematic diagram and PCB layout of driver of model Downlight 4"

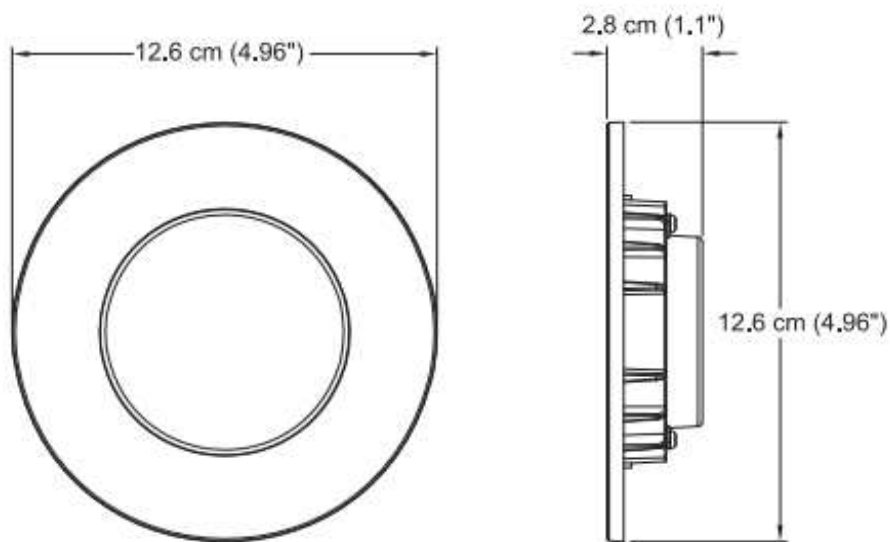


7.0 Illustrations

Illustration 3 - Schematic diagram and PCB layout of LED PCB of model Downlight 4"





Illustration 4 - Dimension drawing of model Downlight 4"



8.0 Test Summary				
Evaluation Period	22-Oct-2020 to 16-Nov-2020		Project No.	201001584SHA
Sample Rec. Date	20-Oct-2020	Condition	Sample ID.	0201020-14
Test Location	Intertek Testing Services Shanghai Limited.			
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 /Clause	CSA C22.2#250.0:2018 Ed.4 /Clause
Normal temperture test			15	15
Stress relief test			17.4	17.4
Sprinkler test			17.5.3	17.5.3
Loading test			17.15	17.15
Glass support adhesive test			17.23	17.23
Glass supported by friction or adhesive test			17.24	17.24
Dielectric voltage-withstand test			18.1	18.1
Bonding circuit impedance test			18.2	18.2

Test Description	UL 8750:2015 Ed.2+R:11Oct2019 /Clause	CSA C22.2#250.13:2017Ed.3+E1 /Clause	
Input test	8.2	9.2	
Temperature test	8.3	9.3	
Dielectric voltage-withstand	8.6	9.4	
Component failure test	8.7.2	9.5.2	
Adhesive support test	8.13	9.11	
Humidity exposure	8.14.1	9.12.1	

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:	Angus Liu	Reviewed by:	Orion Fan
Title:	Senior Technical Supervisor	Title:	Technical Supervisor
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	Aecolux Technology Ltd.
Address	120 - 13431 MAYCREST WAY 120 - 13431 MAYCREST WAY
Country	CANADA
Product	LED fixed luminaire

MULTIPLE LISTEE 1	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	
MULTIPLE LISTEE 1 MODELS	BASIC LISTEE MODELS

MULTIPLE LISTEE 2	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	
MULTIPLE LISTEE 2 MODELS	BASIC LISTEE MODELS

MULTIPLE LISTEE 3	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

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.

The Applicant will be notified, in writing, via the applicable contact methods, as defined in Section 1.0, when these components must be selected and sent to Component Evaluation Center (CEC) for re-evaluation.

Due to particular testing requirements, some components may be requested to be shipped to specific labs. Thus, specific shipment destination(s) for each sample will be provided in the written notification.

Managing CEC Location:

Intertek Testing Services Shanghai Limited

ETL Component Evaluation Center

Building No. 86, 1198 Qinzhou Road (North)

Shanghai 200233, China

Attn: Ms. 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

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, switches, contractors, relays, etc., should be closed so that all primary circuits are energized by the test all 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 wiring, including connected components, and accessible dead metal parts of a portable luminaire that are likely to become energized, including those parts that are accessible only during relamping. 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.

Test Records:

Test records shall be retained for a period of at least six months, and shall include test quantity, test dates, catalog or model numbers, test results, and disposition of any non-complying products.

Products Requiring Dielectric Voltage Withstand Test:

<u>PRODUCT</u>	<u>Test Voltage</u>	<u>Test Time</u>
All products covered by this report.	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.

Test Equipment:

The grounding continuity test apparatus shall consist of an indicating instrument and an ac or dc power supply of approximately 12 V providing a current of 30A though the bonding means being evaluated.

Test Records:

Test records shall be retained for a period of at six months, and include test quantity, test dates, catalog or model numbers, test results and disposition of any non-complying products.

Products Requiring Grounding Continuity Test:

At least Once per quarter for all products covered by this report.

Test location

Allowable value

Between the point of grounding means and any dead metal part

< 0.10 ohm

The following changes are in compliance with the declaration of Section 8.1:

ED 16.3.15 (15-Oct-20) Mandatory