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1.0 Reference and Address						
Report Number	201200193SHA-001	Original Issued:	7-Dec-2020	Revised: None		
	Luminaires [UL 1598	:2018 Ed.4]				
Standard(s)	Luminaires [CSA C22.2#250.0:2018 Ed.4]					
Applicant	Aecolux Technology Ltd.		Manufacturer	Sydney Technology Co., Ltd.		
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		
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2.0 Product Description							
Product	LED fixed I	uminaire					
Brand name	E	Ethoslite					
Description	The production use	ets covered by this report were	e LED fixed lu	uminaires a	nd suitable for d	amp	
Models	Panel Light ten charact	: 12", Panel Light 9", Panel Lig ers.	ght 7" or Pan	el Light 4"; r	nay be followed	by one to	
Model Similarity	All models had similar mechanical and electrical constructions, details refer to ratings as below. One to ten characters denote product code, each character can be 0-9, A-Z, "+", "-", "/", "\" or blank						
	Model No.	Input rating	Mounting mean	LED qty, pcs	Dimension drawing (Dia.xH), mm	Remark	
	Panel Light 12"	120Vac, 50/60Hz, 24W	Ceiling	44S1P: 44	300x13	Dimmable	
Ratings	Panel Light 9"	120Vac, 50/60Hz, 18W	Ceiling	42S2P: 84	255x13	Damp	
	Panel Light 7"	120Vac, 50/60Hz,12W	Ceiling	44S2P: 88	180x13	ta:40°C	
	Panel Light 4"	120Vac, 50/60Hz, 6W	Ceiling	44S3P: 132	135x13	u.70 0	
Other Ratings	NA						

Photo 1 - External view of models Panel Light 12", Panel Light 9", Panel Light 7", Panel Light 4"(form right to left)



Photo 2 - External view of models Panel Light 12", Panel Light 9", Panel Light 7", Panel Light 4"(form right to left)



Photo 3 - Internal view of model Panel Light 12", alo represents models Panel Light 9", Panel Light 7", Panel Light 4"



Photo 4 - Internal view of model Panel Light 12", alo represents models Panel Light 9", Panel Light 7", Panel Light 4"



Photo 5 - Internal view of model Panel Light 12", alo represents models Panel Light 9", Panel Light 7", Panel Light 4"



Photo 6 - Internal view of model Panel Light 12", alo represents models Panel Light 9", Panel Light 7", Panel Light 4"



Photo 7 - LED driver view of models Panel Light 12", Panel Light 9", Panel Light 7", Panel Light 4"(form bottom to top)



4.0	.0 Critical Components						
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	Plastic, min. HB, min. 90°C, min. 1.0mm thickness. For Panel Light series models.	cURus	
1	2	Input wire	Various	Various	Min. 300V, 105°C, 18AWG, AWM. At least 150mm long to extend into outlet box. For Panel Light series models.	cURus	
2	3	Diffuser	CHI MEI CORPORATION (UL E56070)	PC-6600(Y)(a)	PC, V-0, 120°C, min. 1.0mm thickness. For Panel Light series models.	cURus	
2	4	Frame	CHANG CHUN PLASTICS CO LTD (UL E59481)	4130	PBT, 5VA, 120°C, 1.5mm thickness. HWI:3, HAI:0, CTI:2. For Panel Light series models.	cURus	
3	5	Mountting bar	Various	Various	Plated or painted steel, min. 1.35 mm thickness. Secured to frame by two stoppers. For Panel Light series models.	NR	
3	6	Grounding wire	Various	Various	Min. 300V, 105°C, 18AWG, AWM. At least 150mm long to extend into outlet box. For Panel Light series models.	cURus	
4	7	Stopper	Various	Various	Plastic, min. HB, min. 80°C, min. 1.0mm thickness. Phsical fitting to mounting bar. For Panel Light series models.	cURus	
5	8	Light guide plate	CHI MEI CORPORATION (UL E56070)	PC-6600(Y)(a)	PC,5VA,120°C, min. 2.5mm thickness. Phsical fitting to mounting bar. For Panel Light series models.	cURus	
5	9	Reflector	Various	Various	Plastic, min. HB, min. 90°C, min. 0.18mm thickness. For Panel Light series models.	UR	
6	10	LEDs	Various	Various	Type 2835. If=150mA, Vf=2.8-3.6V For Panel Light series models.	NR	
6	11	LED PCB	Various	Various	Flexible LED PCB, V-0, min.105°C, min. 0.1mm thickness. For Panel Light series models.	UR	
			Zhang zhou	RXM0309	2.2 ohm, 0.5W. For models Panel Light 7", Panel Light 4".	cURus	
6	12	Fusing resistor	Shenghuaou Electronic		2.2 ohm, 1.0W. For models Panel Light 12", Panel Light 9".	cURus	
		0	Ltd	RXF 1/2W	2.2 ohm, 0.5W. For models Panel Light 7", Panel Light 4".	cURus	
			(UL E492937)	RXF1W	Light 12", Panel Light 9".	cURus	
6	13	Varistor	Various	Various	For Panel Light series models.	cURus	
6	14	Internal wire	Various	Various	Min. 300V, 105°C, 24AWG, AWM. For Panel Light series models.	cURus	

4.0 0	Critic	al Components							
Photo #	ltem no. ¹	Name	Manufacturer/ trademark ²	Type / model ²	Technical data and securement means	Mark(s) of conformity ³			
6	14a	Glue (not shown)	Various	Various	Silicone, min. HB, min. 105°C. Further secure the input wire terminal on PCB. For Panel Light series models.	cURus			
6	15	Drvier PCB	Various	Various	Aluminum base, V-0, min. 105°C, min. 0.8mm thickness. Secured by Adhesive. For Panel Light series models.	UR			
6	16	Heat sink	Various	Various	Aluminum, min. 0.41mm thickness. For Panel Light series models.	NR			
6	17	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. For Panel Light series models.	cURus			
				Panel driver 4	Input:120Vac, 60Hz, 6W. Output: 100Vdc, 63mA. Non-isolated output. Dimmable. Consisted component items 12 to 15.	NR			
	LED driver	Sydney Technology Co	Panel driver 7	Input:120Vac, 60Hz, 12W. Output: 95Vdc, 105mA. Non-isolated output. Dimmable. Consisted component items 12 to 15.	NR				
	7 18 LE					Ltd.	Panel driver 9	Input:120Vac, 60Hz, 18W. Output: 102Vdc, 152mA. Non-isolated output. Dimmable. Consisted component items 12 to 15.	NR
				Panel driver 12	Input:120Vac, 60Hz, 24W. Output: 101Vdc, 218mA. Non-isolated output. Dimmable. Consisted component items 12 to 15.	NR			
1	19	Label (not shown)	Various	Various	Suitable for enclosure surface of porduct, min. 90°C, suitable for damp location. Comlied with UL969. For all models.	cURus			

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 certification 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, 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.
- 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. <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 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. Details refer to Sec.4.0.
- Markings The product is marked on a labeling system as described in item no. 19 of Section 4.0 as follows:
 Applicant's name or brand name/trademark. (S16-L2)
 - model number.(S16-L2)
 - date of manufacture.(S16-L2)
 - electrical ratings (volts, amperes & frequency).(S16-L3)
 - ETL Marking include 3 parts:
 - Part 1 cETLus listed 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

Note: the format refer to illustration 1 of sec.7.0.

6.0 Critical Features

	Cautionary Markings - The following are required:
	For all models: "SUITABLE FOR DAMP LOCATIONS" & "CONVIENT AUX EMPLACEMENTS MOUILLÉS" (S24-L2) "MAXIMUM AMBIENT OPERATING TEMPERATURE 40°C" & "TEMPÉRATURE AMBIANTE MAXIMALE DE
	FONCTIONNEMENT 40°C" (S24-L2)
	"MIN 90°C SUPPLY CONDUCTORS" & "LES FILS D'ALIMENTATION 90°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)
	Note - Refer to Illustration No. 1 of Sec7.0 for minimum size (S_) and in the location (L_).
ŀ	. Installation, Operating and Safety Instructions - Instructions for installation and use of this product are
	provided by manufacturer.
	1. Using circumstance.
	Proper wiring connection method, proper installation method.
	3. Other warnings that will not lead to misuse.
ŀ	. Schematics -Refer to Illustration No. 2, 3 for schematics requiring verification during Field Representative
1	Inspection Audits.

7.0 Illustrations

Size designation	Letter height		Font size	Font typeface,
	mm	(in)	(points)	upper case
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

Illustration 1	-	Format	of	cautionary	y markings
mustration i	-	Fumal	UI	cautional	y markings

Location designation	Description	Label exposed to a dry/damp environment	Label exposed to a wet environment
L1	Visible during relamping, andafter 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	Туре Т
L5	On an instruction sheet or tag	Type T	Туре Т
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 2 - Schematic diagram of driver of model Panel Light 4", Panel Light 7", Panel Light 9", Panel Light 12"(from top to bottom)









Illustration 3 - PCB layout of driver of model Panel Light 4", Panel Light 7", Light 9", Panel Light 12"(from top to bottom)



8.0 Test Summary **Evaluation Period** 16-Nov-2020 to 4-Dec-2020 Project No. 201200193SHA Sample ID. 0201020-14 Sample Rec. Date 20-Oct-2020 Condition Intertek Testing Services Shanghai Limited. Test Location 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: CSA UL 1598:2018 C22.2#250.0:2018 Ed.4 Ed.4 /Clause /Clause Test Description Normal temperture test 15 15 Mold stress relief test 17.4 17.4 17.15 17.15 Loading test Polymeric impact test 17.41 17.41 18.1 18.1 Dielectric voltage-withstand test Bonding circuit impedance test 18.2 18.2

	UL 8750:2015	CSA
	Ed.2+R:11Oct2	C22.2#250.13:201
	019	7Ed.3+E1
Test Description	/Clause	/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	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:	Brgn	Signature:	Orion Fan			

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 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.

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 reevaluation.

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:						
PRODUCT	Test Voltage	<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

Between the point of grounding means and any dead metal part

Allowable value

12.0 Revision Summary

The following changes are in compliance with the declaration of Section 8.1: Date/ Project Handler/ Item Description of Change Section Proj # Site ID Reviewer None