



File E342323

Vol 1

Auth. Page 1

Issued: 2011-05-26

Revised: 2011-08-02

FOLLOW-UP SERVICE PROCEDURE  
(TYPE R)

COMPONENT - LIGHT-EMITTING-DIODE ARRAYS, MODULES AND CONTROLLERS  
(OOQA2,OOQA8)

Manufacturer: SEE ADDENDUM FOR MANUFACTURER LOCATIONS

Applicant: SAME AS MANUFACTURER  
(100113-367)

Recognized Company: SAME AS MANUFACTURER  
(100113-367)

This Procedure authorizes the above manufacturer to use the marking specified by Underwriters Laboratories Inc.(UL), or any authorized licensee of UL, only on products when constructed, tested and found to be in compliance with the requirements of this Procedure and in accordance with the terms of the applicable UL Services Agreement and Follow-Up Service Terms and Conditions. UL further defines responsibilities, duties and requirements for both manufacturers and UL representatives in the document titled, "UL Mark Surveillance Requirements" that can be located at the following web-site: <http://www.ul.com/fus> and in accordance with the applicable Terms and Conditions at <http://www.ul.com/responsibilities>. Manufacturers without Internet access may obtain the current version of this document from their local UL customer service representative or UL field representative. For assistance, or to obtain a paper copy of the Terms and Conditions, please contact UL's Customer Service at <http://www.ul.com/global/eng/pages/corporate/contactus>, select a location and enter your request, or call the number listed for that location.

The Applicant, the specified manufacturer(s) and any Listee will be considered to have agreed to Follow-Up Services and the terms of this Follow-Up Service Procedure upon the earliest use of the prescribed UL Mark, acceptance of the factory inspection, or payment of the Follow-Up Service fees in accordance with the Follow-Up Services Terms and Conditions. Follow-Up Services will be governed by and incorporate by reference such GSA and the Follow-Up Service Terms which can be accessed by clicking here: <http://www.ul.com/contracts/newfustermes>. In all other events, such Follow-Up Services will be governed by and incorporate the terms of the applicable agreement and any applicable Program Terms and Conditions.

It is the responsibility of the Listee to make sure that only the products meeting the aforementioned requirements bear the authorized Marks of UL, or any authorized licensee of UL. The Applicant and the specified manufacturer(s) in this Follow-Up Services Procedure must agree to the Follow-Up Services as required by UL's Contracting Party.

This Procedure contains information for the use of the above Manufacturer(s) and representatives of UL or any licensee of UL, and is not to be used for any other purpose. It is lent to the Manufacturer with the understanding that it will be returned upon request and is not to be copied in whole or in part.

This Procedure, and any subsequent revisions, is the property of UL and any authorized licensee of UL, and is not transferable. This procedure contains confidential information for use only by the above named Manufacturer(s) and representatives of UL and is not to be used for any other purpose. It is lent to the Subscribers with the understanding that it is not to be copied, either wholly or in part unless specifically allowed, and that it will be returned to UL, upon request.

UL shall not incur any obligation or liability for any loss, expense or damages, including incidental, consequential or punitive damages arising out of or in connection with the use or reliance upon this Procedure to anyone other than the above Manufacturer(s) as provided in the agreement between UL or an authorized licensee of UL, and the Manufacturer(s).

Willam R. Carney  
Director  
North American Certification Program

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Authorization Page Revised: 2011-08-02

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Factory ID:

Recognized Component Marking Data Page (RCMDP)

(FILE IMMEDIATELY AFTER AUTHORIZATION PAGE)

RECOGNIZED COMPONENT MARKING

Products Recognized under UL's Component Recognition Service are identified by marking elements consisting of:

1. The Recognized Company's identification specified in this document.
2. A catalog, model or other applicable product designation specified in the descriptive sections of this document.
3. The UL Recognized Component Mark shown below.

Only those components, which actually bear the Marking, should be considered as being covered under the Recognition Program. The UL Listing or Classification Mark is not authorized for use on or in connection with Recognized Components.

RECOGNIZED COMPONENT MARK



Minimum size of the Recognized Component Mark is not specified as long as it is legible. Minimum height of the registered symbol ® shall be 3/64 inch but may be omitted if it is out of proportion to the Recognized Component Mark or not legible to the naked eye.

The manufacturer may reproduce the Mark electronically. Any decision regarding the acceptability of the manufacturer's Mark reproduction will be made at the Reviewing Office.

THIS FORM PAGE IS TO BE REVISED BY THE NORTHBROOK LABEL DEPARTMENT ONLY

Recognized Component Marking Data Page (RCMDP)

(File Immediately After Authorization Page)

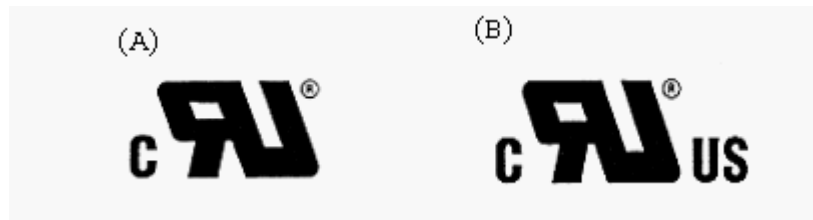
RECOGNIZED COMPONENT MARKING

Products Recognized under UL's Component Recognition Service are identified by marking elements consisting of:

1. The Recognized Company's identification specified in this document.
2. A catalog, model or other applicable product designation specified in the descriptive sections of this document.
3. The UL Recognized Component Mark shown below:
  - (A) Recognized only to Canadian safety requirements, or;
  - (B) Recognized to both U.S. and Canadian safety requirements.

Only those components, which actually bear the Marking, should be considered as being covered under the Recognition Program. The UL Listing or Classification Mark is not authorized for use on or in connection with Recognized Components.

Recognized Component Mark



Minimum size of the Recognized Component Mark is not specified as long as it is legible. Minimum height of the registered symbol ® shall be 3/64 inch but may be omitted if it is out of proportion to the Recognized Component Mark or not legible to the naked eye.

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## Index

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1	LED Modules Models LCL006A, LBA009, LPL003, LBA009, LCL016, LSP019, LSP004	2011-05-26	X	X

File E342323  
Project 10CA52580

May 26, 2011

REPORT

on

Light-emitting-diode Arrays, Modules and Controllers - Component

Plastic Optical Fiber Industries  
Solon, OH

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## DESCRIPTION

## PRODUCT COVERED:

USR, CNR - LED Modules, Cat. No. LCL006A, LSP019, LSP004, LPL003, LCL016, LBA009.

## ELECTRICAL RATING:

Cat. No.	Input DC Voltage, V	Input Current Rating (mA)	Power (W)
LCL006A	3.2	350	1.25
LSP019	3.2	350	1
LSP004	3.2	350	1
LPL003	9.6	350	3
LCL016	9.6	350	3.5
LBA009	9.6/38	350	3.5 W/12.5 W

## GENERAL:

The products are LED modules intended only for connection to a constant current Class 2 power source.

## TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Products designated USR have been investigated using requirements contained in the Standard for Light Emitting Diode (LED) Equipment For Use In Lighting Products, UL 8750.

Products designated CNR have been investigated using requirements contained in the Standard for Luminaires, CSA C22.2 No. 250.



Conditions of Acceptability - For use only in (or with) Applicant's complete equipment where the acceptability is determined by Underwriters Laboratories Inc.

1. The LED Array modules are intended for connection to a Class 2 power supply. Therefore, when the arrays are connected and used with power supplies other than Class 2, the need for an additional evaluation shall be considered in the end use product investigation.
2. The Array modules shall be installed in compliance with the mounting, Spacing, casualty, and the segregation requirements applicable to the ultimate application.
3. The Print Wiring board shall not exceed 125°C.
4. The temperature of the connector shall not exceed 75°C.
5. The temperature test was conducted with the following models:

Model LBA009, 38 VDC, 12 W
Model LCL016, 9.6 VDC, 3.5 W
Model LCL006A, 3.2 VDC, 1.25 W

The test box had dimensions of 30.4 cm x 30.4 cm x 30.4 cm. and is considered representative of all models. The temperature test shall be re-conducted with any cabinet of a smaller dimension.

6. The Array housing shall be determined suitable in the end use application.

## CONSTRUCTION DETAILS:

In accordance with Section General and as noted below.

Markings- Each array shall be marked in accordance with the Section General, and as follows:

1. Manufacturer's name, trademark, or other means of identification, and model number.
2. Electrical Ratings
3. Date code of at least the month and year of manufacture.
4. Dry or Damp Locations.

MODEL LCL006  
FIGS. 1-2

General - Shaped as shown in Figs. All measurements are nominal and minimum unless stated otherwise.

1. LED Housing - Optional - Metal, two pieces mechanically secured together via threaded housing top. Overall dimensions of 28 mm (1.1 in.) long, 40 mm (1.5 in.) diameter.
2. Lens - R/C (QMFZ2) - HB, mechanically secured to top of housing.
3. Printed Wiring Board - R/C (ZPMV2), rated 125°C. Mechanically secured to housing via screws.
4. LED - Maximum of 1 provided. LED is rated maximum 1W, 3.2V DC, 350 mA.
5. Connector - Provided with 22AWG wiring rated min 75°C.

MODEL LSP019  
FIGS. 3-4

General - Shaped as shown in Figs. All measurements are nominal and minimum unless stated otherwise. Model LSP019 is similar to model LCL006 except for the following:

1. LED Housing - Optional, Metal, overall dimensions of 39 mm (1.5 in.) long, 19 mm (0.75 in.) diameter.
2. Lens - not provided.

MODEL LSP004  
FIGS. 5-6

General - Shaped as shown in Figs. All measurements are nominal and minimum unless stated otherwise. Model LSP004 is similar to model LCL006 except for the following:

1. LED Housing - Optional, Metal, overall dimensions of 28 mm (1.1 in.) long, 28 mm (1.1 in.) diameter. LED housing is provided with an adjustable swivel for angle of LED.
2. Lens - not provided

MODEL LPL003  
FIGS. 7-8

General - Shaped as shown in Figs. All measurements are nominal and minimum unless stated otherwise. Model LPL003 is a pillar luminaire provided with 3 LED modules of Model LSP004.

1. LED Housing - Optional, Metal, overall dimensions of 444 mm (17.5 in.) long, 31 mm (1.2 in.) diameter tapering to 25 mm. (0.98 in.) diameter.

MODEL LCL016  
FIGS. 9-10

General - Shaped as shown in Figs. All measurements are nominal and minimum unless stated otherwise. Model LCL016 is similar to model LCL006 except that it is provided with 3 LEDs and the following:

1. LED Housing - Optional, Metal, overall dimensions of 29 mm (1.14 in.) long, 64 mm (2.5 in.) diameter.
2. Lens - Glass, mechanically secured within housing top.

MODEL LBA009  
FIGS. 11-12

General - Shaped as shown in Figs. and Ill. All measurements are nominal and minimum unless stated otherwise. Model LBA009 can be provided in a 3 W or 12 W version. The 12 W version described below is considered representative of the 3 W.

1. LED Housing - Optional, Metal, overall dimensions of 965 mm (38 in.) long, 12 mm (0.5 in.) wide, 6 mm (1/4 in.) high.
2. Printed Wiring Board - R/C (ZPMV2), rated 125°C. Mechanically secured to housing via screws.
2. LED - Maximum of 12 provided. Each LED is rated maximum 1W, 3.2V DC, 350 mA. LEDs are spaced minimum of 80 mm. (3.1 in.) apart.
3. Connector - Provided with 22AWG wiring rated min 75°C.

























