



VP Engineering
MINLEON INTERNATIONAL (USA) LIMITED, L
4902 CARLISLE PIKE
BOX 195
MECHANICSBURG PA 17055

Date: 2015/07/27
Subscriber: None
PartySite: 1087742
File No: E469573
Project No: 4786822835
PD No: 15034934
Type: R
PO Number: M LOTTOR

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

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

Issue

<u>Date</u>	<u>Vol</u>	<u>Sec</u>	<u>Pages</u>	<u>Revised Date</u>
2015/07/24	1	1	Cart of Compliance	
2015/07/24	1	1	Add New Volume	

If there are illegible images in this package, legible images may be found online via MyHome@UL under My UL Reports/CDA.

Inspections at your plant will be conducted under the supervision of THOMAS MALAGISI, AREA MANAGER, UL INSPECTION CENTER ADIRONDACK-POCONO, UL LLC, PO BOX 506, MANLIUS, NY, United States, 13104., PHONE: 315-751-3026, FAX: 315-513-7533, EMAIL: THOMAS.MALAGISI@US.UL.COM

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

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

Please review this material and report any inaccuracies to UL's Customer Service Professionals. Contact information for all of UL's global offices can be found at <http://www.ul.com/global/eng/pages/corporate/contactus>.

If you'd like to receive updated materials FASTER, UL offers electronic access and/or delivery of this material. For more details, contact UL's Customer Service Professionals as shown above.

This material is provided on behalf of UL LLC(UL) or any authorized licensee of UL.

SCL File

UL INSPECTION CENTER 25



UL FUS Procedure



Follow-Up Service Procedure

DO NOT DISCARD THIS PAGE

It is important to keep UL Procedures and Test Reports up-to-date as new or revised pages are received. Correct maintenance will decrease the amount of time the UL Representative spends when visiting your facility.

UL LLC offers MyHome @UL, a dedicated website providing secure access to online tools and databases that can help simplify your compliance activities. You can customize your personal MyHome @UL page to include the content needed most, including timely information about certification updates and links to other Web sites you visit regularly. Visit <http://my.home.ul.com/> to sign up today!

PAGES (in content order)	FUNCTION	HOW TO UPDATE
Authorization Page	Displays the Product Category, the type of Follow-Up Service (Type R=Reexamination / Type L=Label), the File Number and the Volume Number associated with each Applicant's, Manufacturer's and Listee's company name and address.	Replace existing page by matching the UL File Number and Volume Number. Discard the older page (refer to "Issued" or "Revised" date).
Addendum to Authorization Page*	Lists the additional names and addresses of manufacturing locations, when multiple locations exist	Replace existing page by matching the UL File Number and Volume Number. Discard the older page (refer to "Issued" or "Revised" date).
Listing Mark Data (LMD), Classification Mark Data (CMD) or Recognized Component Mark Data (RCMD) Pages * #	Used only for products covered under Type R Service. Displays the correct LMD, CMD, or RCMD Mark, the Control Number for Listed and Classified categories and additional information regarding minimum size, application, procurement, and any other optional markings, in addition to the UL Mark.	Replace existing page by matching the UL File Number and Volume Number. Discard the older page (refer to "Issued" or "Revised" date).
Multiple Listing (ML) Correlation Sheet	Correlates product model numbers between those products made by a Manufacturer for the Basic Applicant and those supplied to another company, the Multiple Listee.	Replace, add or delete page(s) with most current "Issued" or "Revised" date.
Index *	Catalogs the contents of the Procedure by some logical means, i.e. Section Number, Report Reference Number, or Issue Date.	Replace present page by matching the UL File Number, Volume Number, Page Number and most current "Revised" date.
Appendices * # (App.)	Contains instructions for the Manufacturer and UL Representative concerning specific responsibilities and required periodic tests. May also outline tests to be conducted on samples to be forwarded to UL's facilities.	Replace present page by matching the UL File Number, Volume Number, Appendix letter (eg. App. A), Page Number and most current "Revised" date.
	Standardized Appendix Pages are the same for all manufacturers within a particular product category.	Replace present page by matching the Appendix letter (eg. App. A), Page Number and most current "Revised" date.
Follow-Up Inspection Instructions (FUII) Pages	Contains information similar to that in the Appendices. FUII Pages are issued as part of the Procedure when a UL Standard is used in conjunction with the Procedure, and are the same for all manufacturers within a particular category.	Replace present pages by matching the Page Number and most current "Issued" or "Revised" date.
Section General * # (Sec. Gen.)	Contains description, requirements, identifications and/or specifications that are common to all products covered by the entire volume and supplements the information provided in the Description Section.	Replace present page by matching the UL File Number, Volume Number, Page Number and most current "Revised" date.
Description, or Section (Sec.)	Contains the specific description of one or more products or systems. This includes written text supplemented by photographs, drawings, etc., as necessary, to define features that affect compliance with the applicable requirements.	Replace present page by matching the UL File Number, Volume Number, Section Number, Page Number and most current "Issued" date.

* The above page(s) may not appear in all UL Follow-Up Service Procedures; UL's Conformity Assessment Services staff determines their inclusion.

These pages are combined in the **Generic Inspection Instructions** for International Style Reports, identified, as example by Vol. X1, X2, etc.

PLEASE NOTIFY YOUR LOCAL UL OFFICE OF ANY CHANGES IN CONTACT NAME, COMPANY NAME OR ADDRESS, SO THIS MATERIAL AND IMPORTANT INFORMATION CONTINUES TO BE DELIVERED TO YOUR FACILITY WITHOUT INTERRUPTION.



File E469573

Vol 1

Auth. Page 1

Issued: 2015-07-26

Revised: 2015-07-26

FOLLOW-UP SERVICE PROCEDURE
(TYPE R)

LOW-VOLTAGE LIGHTING SYSTEMS, POWER UNITS, LUMINAIRES AND FITTINGS
(IFDR, IFDR7)

Manufacturer: SEE ADDENDUM FOR MANUFACTURER LOCATIONS

1087742 (Party Site)
Applicant: MINLEON INTERNATIONAL (USA) LIMITED, LLC
4902 CARLISLE PIKE
BOX 195
MECHANICSBURG PA 17055

1087742 (Party Site)
Listee/Classified Co.: SAME AS APPLICANT

This Follow-Up Service Procedure authorizes the above Manufacturer(s) to use the marking specified by UL LLC, or any authorized licensee of UL LLC, including the UL Contracting Party, only on products when constructed, tested and found to be in compliance with the requirements of this Follow-Up Service Procedure and in accordance with the terms of the applicable service agreement with UL Contracting Party and any applicable Service Terms. The UL Contracting Party for Follow-Up Services is listed on addendum to this Follow-Up Service Procedure ("UL Contracting Party"). UL Contracting Party and UL LLC are referred to jointly herein as "UL."

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 the document titled "UL and Subscriber Responsibilities" that can be located at the following website: <http://www.ul.com/responsibilities>. Manufacturers without Internet access may obtain the current version of these documents from their local UL customer service representative or UL field representative. For assistance, or to obtain a paper copy of these documents or the applicable Service Terms, please contact UL's Customer Service at <http://ul.com/aboutul/locations/>, select a location and enter your request, or call the number listed for that location.

The Applicant, the specified Manufacturer(s) and any Listee/Classified Co. in this Follow-Up Service Procedure must agree to receive Follow-Up Services from UL Contracting Party. If your applicable agreement is a Global Services Agreement ("GSA") with an effective date of January 1, 2012 or later and this Follow-Up Service Procedure is issued on or after that effective date, the Applicant, the specified Manufacturer(s) and any Listee/Classified Co. will be bound to a Service Agreement for Follow-Up Services upon the earliest by any Subscriber of use of the prescribed UL Mark, acceptance of the factory inspection, or payment of the Follow-Up Service fees which will incorporate such GSA, this Follow-Up Service Procedure and the Follow-Up Service Terms which can be accessed by clicking here: <http://www.ul.com/contracts/Terms-After-12-31-2011>. In all other events, Follow-Up Services will be governed by and incorporate the terms of your applicable service agreement and this Follow-Up Service Procedure.

It is the responsibility of the Listee/Classified Co. to make sure that only the products meeting the aforementioned requirements bear the authorized Marks of UL LLC, or any authorized licensee of UL LLC.

This Follow-Up Service Procedure contains information for the use of the above Manufacturer(s) and representatives of UL and is not to be used for any other purpose. It is provided 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 Follow-Up Service Procedure, and any subsequent revisions, is the property of UL and is not transferable. This Follow-Up Service 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 provided 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.

Capitalized terms used but not defined herein have the meanings set forth in the GSA and the applicable Service Terms or any other applicable UL service agreement.

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 Follow-Up Service Procedure to anyone other than the above Manufacturer(s) as provided in the agreement between UL LLC or an authorized licensee of UL LLC, including UL Contracting Party, and the Manufacturer(s).

UL LLC has signed below solely in its capacity as the accredited entity to indicate that this Follow-Up Service Procedure is in compliance with the accreditation requirements.

Bruce A. Mahrenholz
Director
North American Certification Program

File E469573 Vol 1 Addendum To Page 1 Issued: 2015-07-26
Authorization Page Revised: 2015-07-26

LOCATION

1087742 (Party Site)
MINLEON INTERNATIONAL (USA) LIMITED, LLC
4902 CARLISLE PIKE
BOX 195
MECHANICSBURG PA 17055

Factory ID: None
UL Contracting Party for above site is: UL LLC

(FILE IMMEDIATELY AFTER AUTHORIZATION PAGE)

LISTING MARK

The Listing Mark consists of four elements placed in close proximity and shall appear on Listed products only. Minimum size is not specified, as long as the Listing Mark is legible. The following is suggested.



XXXX = The control number assigned by UL, E469573.

The minimum height of the registered trademark symbol ® shall be 3/64 of an inch. When the overall diameter of the UL Mark is less than 3/8 of an inch, the trademark symbol may be omitted if it is not legible to the naked eye.

The product identity is: "LOW VOLTAGE LUMINAIRE", "LOW VOLTAGE RECESSED LUMINAIRE", "LOW VOLTAGE CABINET LUMINAIRE", "LOW VOLTAGE LUMINAIRE POWER SUPPLY", "LOW VOLTAGE LIGHTING SYSTEM", "LOW VOLTAGE LUMINAIRE SYSTEM," "LOW VOLTAGE LUMINAIRE FITTING," "LOW VOLTAGE TRACK LIGHTING," or other appropriate product identities, as shown in the individual Listing.

The product identity may be omitted if the Mark is directly and permanently applied to the product by stamping, molding, ink-stamping, silk screening or similar process. The product identity may appear elsewhere on the product if the other three elements are part of the nameplate which includes the rating or the catalog or model designation.

Separable Listing Mark (not part of a nameplate and in the form of decals, stickers or labels) will always include the four elements.

The manufacturer may reproduce the Mark or obtain it from a UL authorized supplier. The list of UL authorized label suppliers can be found on UL's online directory at www.ul.com.

(FILE IMMEDIATELY AFTER AUTHORIZATION PAGE)

LISTING MARK

The Listing Mark consists of four elements placed in close proximity and shall appear on Listed products only. Minimum size is not specified, as long as the Listing Mark is legible. The following is suggested. (If only Canadian coverage is authorized, use only the C-UL Symbol).

UL Symbol to the left and the C-UL Symbol to the right.



Alternatively, the Canadian/US Mark may be used. The UL Symbol with "C" to the left and "US" to the right.



XXXX = The control number assigned by UL, E469573.

The minimum height of the registered trademark symbol ® shall be 3/64 of an inch. When the overall diameter of the UL Mark is less than 3/8 of an inch, the trademark symbol may be omitted if it is not legible to the naked eye.

The product identity is: "LOW VOLTAGE LUMINAIRE", "LOW VOLTAGE LUMINAIRE POWER SUPPLY", "LOW VOLTAGE LUMINAIRE SYSTEM", "LOW VOLTAGE LUMINAIRE FITTING" or other appropriate product identities, as shown in the individual Listing.

The product identity may be omitted if the Mark is directly and permanently applied to the product by stamping, molding, ink-stamping, silk screening or similar process. The product identity may appear elsewhere on the product if the other three elements are part of the nameplate which includes the rating or the catalog or model designation.

Separable Listing Mark (not part of a nameplate and in the form of decals, stickers or labels) will always include the four elements.

The manufacturer may reproduce the Mark or obtain it from a UL authorized supplier.

THIS PAGE IS TO BE REVISED BY FUS DEPARTMENT ONLY

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

INDEX

Product

Section

USL

CNL

Low Voltage Class 2 Luminaire, Class 2,
designated as "MinleonRGB" system.

1

X

X

X - Active section

GENERAL

PRODUCT COVERED:

USL, CNL - Low Voltage Lighting Systems, Power Units, Luminaires and Fittings.

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

USL indicates product complies with UL 2108, The Standard for Low Voltage Lighting Systems.

CNL indicates product complies with CAN/CSA 22.2 No. 250.0, the Canadian Standard for Luminaires for all except cabinet and undercabinet luminaires.

CNL indicates product complies with CAN/CSA 22.2 No. 9.0, the Canadian Standard for General Requirements for Luminaires for cabinet and undercabinet luminaires.

Notes: USL = United States Standards - Listed
USR = Recognized
USC = Classified

CNL = Canadian Standards - Listed
CNR = Recognized
CNC = Classified

GENERAL CONSTRUCTION - ALL PRODUCTS:

C-UL Components - Unless otherwise specified, all components of products bearing the C-UL mark shall be Listed or Recognized for Canada or CSA Certified, in addition to being UL Listed or Recognized.

Conductors - A conductor shall be made of copper or copper alloy, shall have insulation rated for the voltage, temperature and condition of service to which it will be subjected as indicated in the individual Reports, and shall not be smaller than No. 18 AWG unless otherwise specified.

Wire Connectors - Shall be provided unless otherwise described in the individual Reports, and shall be rated for the size and number of wires to be connected and for the temperature and voltage involved.

Conductor Protection - Insulated conductors that pass over edges or through openings in metal shall be secured from contacting the edges or be protected from cutting and abrasion. For sheet metal less than 0.042 in. (1.1 mm) thick, protection shall be provided by one of the following methods:

- a) Rolling the edges of the metal not less than 120 degrees;
- b) A bushing or grommet of a material other than rubber at least 0.047 in. (1.2 mm) thick; or
- c) Glass sleeving at least 0.010 in. (0.25 mm) thick.

Sheet Metal Screws - Threads of sheet metal and self-tapping screws shall not be exposed in a wiring enclosure for a distance of more than 0.189 in (4.8 mm), unless wires are securely held away from such screw threads.

Electrical Spacings - Each spacing between current-carrying parts of opposite polarity and between live and dead metal parts shall not be less than those specified in Table 1 below.

1. The spacing requirements do not apply to components located in a Class 2 circuit.
2. A minimum spacing of 0.010 in. shall be maintained through air and over surface in secondary circuits of exposed bare conductor systems.

TABLE 1 - MINIMUM SPACINGS

Voltage Involved	Minimum Spacings	
	Through Air	In (mm) Over Surface
0 to 50	0.063 (1.6)	0.063 (1.6)
51 to 150	0.125 (3.2)	0.250 (6.4)
151 to 300	0.250 (6.4)	0.375 (9.5)
301 to 600	0.375 (9.5)	0.500 (12.7)

Conduit Connections - An opening for conduit and the minimum unobstructed diameter of the flat surface surrounding the back of the opening for unthreaded conduit shall have dimensions as indicated in Table 2 below.

A threaded opening for conduit shall:

- a) Have no fewer than 3-1/2 or more than 5 threads when tapped all the way through the opening;
- b) Have at least 5 full threads when not tapped all the way through the opening;
- c) The unthreaded part of the opening shall be smooth and well rounded for protection of the conductors; and
- d) The unthreaded throat diameter of the hole shall have an internal diameter as noted in Table 2 below.

TABLE 2 - DIMENSIONS ASSOCIATED WITH OPENINGS FOR CONDUIT

Nominal Trade Size of Conduit	Unthreaded Opening Diameter ^a		Minimum Throat Diameter		Maximum Throat Diameter		Minimum Diameter of Flat Surface	
	inch	Inch (mm)	Inch	(mm)	inch	(mm)	inch	(mm)
1/2	0.875	22.2	0.53	13.4	0.62	15.8	1.11	28.1
3/4	1.109	28.2	0.70	17.7	0.82	20.8	1.34	34.0
1	1.375	34.9	0.88	22.4	1.05	26.7	1.69	42.9
1-1/4	1.734	44.0	1.17	29.7	1.38	35.1	2.17	55.1

a - Knockout diameters will be measured at other than points where a tab may remain after removal of knockout.

Grounding - The low voltage secondary circuit shall not be grounded.

Corrosion Protection - Ferrous metal parts of the enclosure not inherently corrosion resistant shall be protected against corrosion by enameling, galvanizing, zinc or cadmium plating, or other equivalent means. Edges, punched holes, and spot welds in prefinished steel, enclosed steel pipe, and hanger locations for painting or plating in ferrous metals do not require any corrosion protection.

WET AND DAMP LOCATIONS CONSTRUCTION - ALL PRODUCTS

Insulation - All insulation that is relied upon to provide electrical spacings or sole support of live electrical parts or as electrical insulation shall be of a non-absorptive material. Untreated fiber and asbestos, etc., are examples of materials that shall not be used; while vulcanized fiber, phenolic, urea, porcelain, etc. are examples of acceptable materials.

Drain Holes - An open drain hole when specified in the individual Reports shall permit insertion of a 3.2 mm (0.125 in) rod.

Power Supply Cord - If a power supply cord is provided for a product marked for wet locations, it shall be marked "W" following the type designation.

Wet Location Fittings - A fitting that requires specific methods for sealing the mounting surface or specific fittings for supply connections shall be provided with installation instructions.

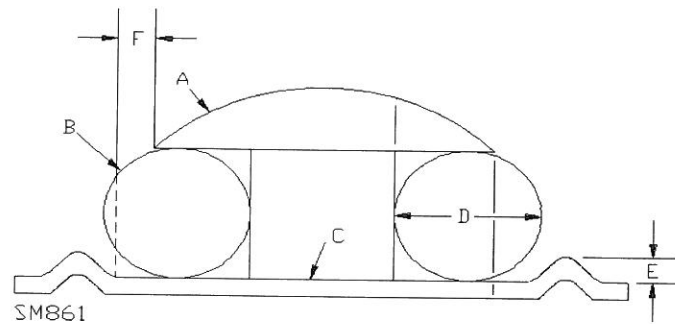
GENERAL CONSTRUCTION - POWER UNITS ONLY:

PWB - R/C (ZPMV2) rated min. V-0, V-1, or V-2. See individual reports for additional requirements.

Grounding\Bonding - All conductive parts of a power unit not intended to be electrically live, that are accessible to persons and that are able to inadvertently become energized, including ground shields on transformers, shall be grounded by being conductively bonded to a common point that incorporates provision for grounding of the power unit. This does not apply to power units identified as being double insulated.

1. Conductive parts required to be grounded that are coated with vitreous enamel, paint, or similar coatings, shall be bonded to the grounding system. The coated parts are to be treated by masking, removal of the coating at points of connection, or the use of fastening means that penetrate the surface coating.
2. A grounding means shall consist of a pigtail lead grounding conductor, a pressure terminal connector, a wire binding screw, the grounding contact of a receptacle, the grounding pin of an attachment plug, or the equivalent. The grounding means shall be at the same location as the power supply connection means.
3. An equipment-grounding conductor shall not be smaller in size than the current carrying supply conductor and in no case shall it be smaller than 18 AWG (0.82 mm).
4. When insulated, the equipment grounding conductor, where visible to the installer, shall have a braid of continuous green color with or without a yellow tracer or, when no braid is employed; the insulation on the conductor shall be green with or without one or more yellow stripes. A conductor having green insulation and a braid of other than green is also able to be employed when the green insulation is readily visible where connections to the branch-circuit supply wires will be made.
5. A wire binding screw intended for the field connection of an equipment-grounding conductor shall have a green colored head that is hexagonal shaped, slotted, or both. A wire binding screw shall be No. 8 [4.2 mm (major diameter)] or larger and shall be provided with a cupped washer or similar means to hold the wire under the head of the screw. A sheet metal screw is not usable for grounding. A cupped washer is not required to be provided when the terminal plate is provided with two raised areas around the tapped hole that are at least 1/4 inch (6.4 mm) apart (on center) as shown in Figure 1.
6. An equipment-grounding conductor shall not be terminated to another device or part that is removable during replacement of any device or component.

Figure 1 - Terminal-conductor relationship



- A - Wire Binding Screw
- B - Conductor
- C - Terminal Plate
- D - Maximum conductor diameter, but not less than 0.08 inch (2 mm)
- E - Minimum height of raised areas = 0.04 inch (1.0 mm)
- F - The horizontal dimension from the edge of the screwhead to the inside edge of the raised area = 0 to 1/4 D

A terminal plate having a tapped hole for a wire binding screw shall be of metal no less than 0.030 inch (0.76 mm) in thickness and shall have no fewer than two full threads in the metal.

GENERAL CONSTRUCTION - LUMINAIRES ONLY:

Rotation - Rotation of a part of an assembly constructed for rotation shall be limited to no more than 360 degrees when damage to wiring or any other electrical part results from rotation in excess of 360 degrees. A swivel lighting luminaire is able to be turned no more than 200 degrees in either direction for a total of 400 degrees.

Metal Enclosure - The minimum thickness for a metal enclosure of a luminaire shall be 0.016 inch (1.6 mm) unless otherwise specified in the individual reports. This requirement does not apply to luminaires intended to be connected to Class 2 or Exposed Bare Conductor power units.

Glass - A diffuser or lens constructed of flat glass shall be a minimum of 0.083 inches (2.11 mm) thick unless otherwise specified in the individual reports and shall be secured by clips in a frame, channels, adhesive, or equivalent means. Flat glass that does not require removal during relamping may be secured by its own weight in a frame.

Supplementary Insulation - An insulated internal wire of lampholder lead that is rated between 90°C and 125°C is considered as rated for 150°C if each wire is individually provided with snugly fitting supplementary insulation of 0.010 in. (0.25 mm) thick fiberglass sleeving.

MARKINGS - ALL PRODUCTS:

General

The required markings shall be shall be legible, and be one of the types designated and located as indicated in the tables below.

Note - For luminaires of other than the Class 2 and exposed bare conductor types, alternate equivalent markings and forms as described under the Section 'MARKINGS - LUMINAIRES OTHER THAN CLASS 2 AND EXPOSED BARE CONDUCTOR TYPES' may be used.

The minimum letter height for markings shall be 1/8 inch (3.2 mm).

For small luminaires or fittings where 1/8 inch lettering does not physically fit, the words "Warning" or "CAUTION," are not prohibited from being 3/32 inch (2.4 mm) minimum. In this case, all other wording shall be 1/16 inch (1.6 mm) minimum.

Form designations for type of marking

Form letter of marking	Type
A	Permanent - Paint-stenciled, die-stamped, indelibly printed lettering, or indelibly printed pressure sensitive label. ^a
B	Temporary - Pressure-sensitive label, decalcomania transfer, paper label, paint, ink, or die stamped lettering. ^b
C	Instructions - Tie-on tag, stuffer sheet or equivalent ^c
^a Pressure sensitive labels shall comply with the requirements in the Standard for Marking and Labeling Systems, UL 969. ^b Form A markings are also able to be used. ^c Forms A and B markings are also able to be used.	

Form number of marking	Location of markings
1	Visible after installation on an exterior surface or by removal of a part using an ordinary tool
2	Visible during relamping
3	Visible during installation
4	On the smallest unit packaging carton

Supply Connections - "For supply connections use wires rated for at least _____°C (_____°F)" in which the blanks are filled in with the temperatures specified in the individual reports. Form B3.

A product marked for supply connections greater than 90°C (194°F) shall be marked "Not for use in dwellings". Form B3.

A product not marked for damp or wet locations shall not be provided with any information such as markings, instructions, or illustrations either on the carton or with the product that implies or depicts a damp or wet location use.

Wet and Damp Locations

Damp Locations - A product complying with the damp location requirements and identified in the individual reports may be marked "Suitable for Damp Locations". Form A3.

A product marked for damp locations shall not be provided with any information such as markings, instructions, or illustrations either on the carton or with the product that implies or depicts a wet location use.

Wet Locations - A product complying with the wet location requirements and identified in the individual reports may be marked "Suitable for Wet Locations". Form A3.

Wall and Ceiling Mount Products:

Wall Mounting - A product shall be marked "Wall" or "Wall only" if specified only for wall mounting in the individual reports. Form B3.

Hot Surface - A product required to be marked in Form A-1 "HOT SURFACE" in the individual reports shall be provided with instructions in Form C that includes the following statement: "CAUTION - Hot surface. Keep away from curtains and other combustible materials."

Non-Combustible - A product shall be marked "Mount on _____ only" if specified in the individual reports for non-combustible mounting surfaces. The blank is to be filled with an identified noncombustible material (such as concrete or steel) as specified in the individual reports. Form B3.

Cabinet and Under-cabinet Mount Products:

Cabinet Use - An identified cabinet-mounted product shall be marked "For cabinet use only". Form B3.

An identified cabinet-mounted product shall not be provided with any information such as markings, instructions, or illustrations either on the carton or with the luminaire that implies or depicts an installation into a ceiling.

Minimum Spacing - A cabinet-mounted product shall be marked "CAUTION" and the following or the equivalent: "To prevent the risk of fire, do not install closer than _____ inches to cabinet wall or in a compartment smaller than _____ inches by _____ inches by _____ inches." The blanks are to be filled in per the individual reports. Form C.

Open Top - A cabinet-mounted product intended only for use in a cabinet, where the cabinet is not enclosed at the top as identified in the individual reports shall be marked "Install only in cabinets where the top of the cabinet light housing is not enclosed" or "Install only in open top cabinets." Form B1.

Under-cabinet Use - An under-cabinet or under shelf mounted product shall be marked "For under-cabinet mount," or "For under-cabinet or shelf mount" as applicable. Form B3.

An identified under-cabinet or shelf-mounted product shall not be provided with any information such as markings, instructions, or illustrations either on the carton or with the luminaire that implies or depicts an installation into an open or enclosed cabinet.

CLOTHES CLOSET STORAGE AREA: A product evaluated for use in the storage area of a clothes closet is permitted to be marked "Suitable for Installation in the Storage Area of a Clothes Closet." Form C.

Recessed Mount Products:

Type IC - A Type IC identified product shall be marked:

- a) "Type IC Recessed" Form B3; and
- b) "Notice - Blinking light may indicate improper lamp wattage or type (or other condition causing overheating)," Form A2, when provided with a thermal protective device; or
- c) "Inherently Protected" when not provided with a thermal protective device. Form B3.

Type Non-IC - A Type Non-IC identified product shall be marked:

- a) "Type Non-IC Recessed," Form B3; and
- b) "Warning - Risk of Fire. Do not install insulation within 3 inches of unit sides or above unit in such a manner to entrap heat." Form B3.
- c) "Notice - Thermally protected. Blinking light may indicate insulation too close to unit (or other condition causing overheating)" Form A2.

Concrete Only - A product identified in individual reports as only intended for poured concrete use only shall be marked "For use in concrete only." Form B3.

In-ground Use - A product identified in individual reports as only intended for in-ground use only shall be marked "For in-ground installation only." Form B3.

Access Above Ceiling - "Access above ceiling required" or "Access behind wall required." Form C. If specified in the individual reports.

Noncombustible Surfaces - A recessed product identified in individual reports as only intended for noncombustible mounting shall be marked "Mount only on noncombustible surfaces." Form B3.

Polymeric Recessed Housing - A product with identified in individual reports as having a polymeric recessed housing shall be marked "For use in one-and-two family dwellings only," Form C, and "Not for use in fire rated installations." Form B3.

Products found suitable for installation in air handling spaces are permitted to be marked "Suitable for Use in Air Handling Spaces" or "Suitable for Use in Other Environmental Air Space in Accordance with Section 300.22, (C) of the National Electrical Code." Form A3.

MARKINGS - POWER UNITS ONLY:

General

All products - A power unit shall be marked in Form A1 with the:

- a) Manufacturer's name;
- b) Catalog or model number;
- c) Electrical ratings; and
- d) Date or other dating period of manufacture, not exceeding any three consecutive months.

The electrical ratings in (a) shall include the following:

- 1) Input voltage;
- 2) Input current;
- 3) Frequency;
- 4) Nominal output voltage; and
- 5) Nominal output wattage.

The date of manufacture in (d) may be abbreviated or in a nationally recognized conventional code or in a code affirmed by the manufacturer, when the code does not repeat in less than 10 years; and does not require reference to the production records of the manufacturer to determine when the product was manufactured.

Not For Use With Dimmer - Unless otherwise identified in individual reports, a power unit not temperature tested with a 2-volt dc offset or with a specific dimmer shall be marked in Form A3 with either (a) "Not for use with dimmers" or (b) "Dimmer, if used, must be a magnetic low-voltage dimmer" if the power unit is magnetic and "Dimmer, if used, must be electronic low-voltage dimmer" if the power unit is electronic.

Exposed Bare Conductor Type Power Unit - An exposed bare conductor type power unit shipped separately from the luminaires shall be marked "For use with _____ low voltage lighting system only," where the blank spaces are to be filled in with the manufacturer's name and series designation. Form B3.

Replaceable Fuse - When a replaceable fuse is provided, there shall be a marking located near the fuseholder that states "Replace only with same type _____ A, _____ V fuse." The blanks are to be filled in with the appropriate fuse ratings in the individual reports. Form A1.

Grounding - A power unit having a pressure wire terminal for the connection of an equipment grounding conductor shall be marked adjacent to the terminal or screw "GROUND", "GRND", "GND", or similar designation in Form B3. The

symbol  (IEC Publication 417, Symbol 5019) is usable, and when used alone the symbol shall be defined in the installation instruction provided with the equipment.

MARKINGS - LUMINAIRES OTHER THAN CLASS 2 AND EXPOSED BARE CONDUCTOR TYPES

General - These markings are in addition to the markings required for all products.

Note - Alternate equivalent markings and forms as described under the Sections "MARKINGS - GENERAL" and "MARKINGS - LUMINAIRES - CLASS 2 AND EXPOSED BARE CONDUCTOR TYPES" may be used.

Each luminaire shall be marked with the following applicable markings in addition to the markings indicated in the individual Reports. See Table 3 for format minimum size designation for marking height and typeface and Table 4 for format location designation for markings.

TABLE 3 - FORMAT MINIMUM SIZE DESIGNATION FOR MARKING HEIGHT AND TYPEFACE

SIZE DESIGNATION	LETTER HEIGHT		TYPEFACE, UPPERCASE
	mm	(in)	
S16	1.6	(0.062)	Not specified
S24	2.4	(0.094)	Univers Bold
S32	3.2	(0.125)	Not specified
S48	4.8	(0.188)	Univers Bold

TABLE 4 - FORMAT LOCATION DESIGNATION FOR MARKING

LOCATION DESIGNATION	DESCRIPTION	LABEL EXPOSED TO DRY ENVIRONMENT	LABEL EXPOSED TO DAMP/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 smallest unit package or carton	Type T	Type T
L5	On instruction sheet or tag	Type T	Type T
L6	Visible during component replacement	Type T	Type P

Notes:

Type N	Non-permanent label or nameplate	Material: Paper with an adhesive suitable for the temperature involved.
Type P	Permanent label or nameplate	Material: Metal, plastic, or other suitable material with an adhesive suitable for the temperature involved
Type T	Temporary label or instruction sheet	Material: Printed matter with or without adhesive and/or attachment, intended to be included with or attached to the product.

Product Identifier

Shall be marked with the Manufacturer's name, Catalog or model number, and input voltage. Format S16-L1.

Supply Markings

CONDITION	MARKING	FORMAT
If greater than 60°C supply wiring	"MIN ___ °C SUPPLY CONDUCTORS".	S24-L3 or S32-L4
Luminaire with supply wire greater than 90°C	"NOT FOR USE IN DWELLINGS".	S24-L3
Outlet box mounted luminaire with greater than 60°C supply wiring	"CAUTION - RISK OF FIRE. CONSULT A QUALIFIED ELECTRICIAN TO ENSURE CORRECT BRANCH CIRCUIT CONDUCTOR".	S24-L4

Relamping Markings

1) Incandescent type lamp

CONDITION	MARKING	FORMAT
All	"CAUTION - RISK OF FIRE. MAX ___ WATTS TYPE ___", or "MAX ___ W TYPE ___".	S24-L1

2) Halogen type lamp

CONDITION	MARKING	FORMAT
For lamps with integral shields.	"CAUTION - RISK OF FIRE. MAX ___ WATTS TYPE ___ SHIELDED, or MAX ___ W TYPE ___ SHIELDED"	S24-L1
For lamps suitable for open use.	"CAUTION - RISK OF FIRE. DO NOT INSTALL A LAMP IDENTIFIED FOR USE ONLY IN ENCLOSED LUMINAIRES"	S24-L1

Damp/Dry/Wet Locations

CONDITION	MARKING	FORMAT
Default environmental option.	"DRY LOCATIONS ONLY"	S24-L2
Units complying with damp location requirements.	"SUITABLE FOR DAMP LOCATIONS"	L5
Units complying with wet location requirements.	"SUITABLE FOR WET LOCATIONS"	L5
A wet location surface or recessed wall mounted, or ground mounted surface luminaire fitting subjected to rain and sprinkler test.	"SUITABLE FOR MOUNTING WITHIN 1.2 m (4 ft) OF THE GROUND"	S24-L2
A wet location luminaire fitting intended for covered ceiling and only tested from ceiling side.	"COVERED CEILING MOUNT ONLY"	S24-L2

MARKINGS - CLASS 2 AND EXPOSED BARE CONDUCTOR TYPE LUMINAIRES

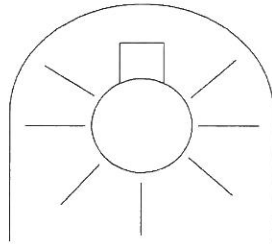
Shall be marked with the Manufacturer's name, Catalog or model number, and input voltage or voltage range. Form A1.

Lamp Replacement Marking - If the luminaire is provided with a user replaceable lamp, the lamp wattage, as noted in each individual report, shall be marked "CAUTION - Risk of Fire" and "Max ___ watt" (type) or "Max ___ W" (type), or equivalent. The lamp wattage shall be in the blank space and the lamp type indicated (example "Max 50 W MR16") in the marking. Form A2. When the lamp (bulb) does not have a marked wattage rating, the lamp trade number designation shall be substituted.

A luminaire with a non-standard user-replaceable light source, such as a plug-connected LED module, shall be marked "Replace with _____ part _____", or equivalent, with the blanks identifying the manufacturer and part number. Form A2.

Not Provided With Containment Barrier Or UV Filter - A tungsten-halogen luminaire identified in the individual reports as not provided with a lamp containment barrier or UV filter shall have the relamping marking include the word "SHIELDED" or the pictograph below and be provided with instruction in Form C that include the following statement: "CAUTION" and the following or the equivalent, "To reduce the risk of fire do not use a lamp identified for use in enclosed luminaires."

Open luminaire pictograph



54636

Similar To Halogen Shape - A luminaire identified in the individual reports as intended for non-halogen lamps for which similar shaped and rated halogen (or xenon) lamps are available, shall be provided with instructions in Form C that include the statement "Warning - Risk of Fire and Burns. Do not use halogen (or xenon) type lamps with this product."

Shipped Separately - A luminaire intended for connection to a Class 2 power unit that is shipped separately shall be:

- a) Marked in Form A3 "Use only with Class 2 power unit",
- b) Provided with installation instructions that caution the user against installing the luminaire with other than a Class 2 power unit.

Recessed Luminaire - A recessed luminaire shall be marked with a lamp replacement marking which is visible during relamping for all trims in Form A2. A lamp replacement marking is not prohibited from being located behind the trim when the luminaire is marked "See other side of trim for relamping instructions" Form A2.

Recessed Trim Correlation - A recessed luminaire intended for use with multiple trims shall be marked in Form A2 on the luminaire housing "Use only with (manufacturer's name) (catalog number) trims." The trims shall be marked with the trim manufacturer's name and catalog number as specified in the individual reports.

INSTALLATION INSTRUCTIONS - POWER UNITS AND SYSTEMS

General

A power unit intended for use with multiple luminaires shall have installation instructions, which provide information to the user on how to determine the number of luminaires and the lamp wattage to be used with the power unit.

Mounting and Wiring - Installation instructions shall be provided that include specific instructions for mounting, proper wiring, minimum wire size, grounding, and servicing of the power unit.

Exposed Bare Conductor Type systems

Mounting and Wiring - For exposed bare conductor type power units, the maximum intended length of the exposed bare conductors shall also be included in the mounting and wiring instructions.

Power Unit Shipped Separately - An exposed bare conductor type power unit shipped separately from the luminaires shall include instructions "For use with _____ low voltage lighting system only," where the blank spaces are to be filled in with the manufacturer's name and series designation.

Safety Instructions - Important safety instructions shall be provided with an exposed bare conductor type power unit, which includes the following information:

"IMPORTANT SAFETY INSTRUCTIONS

- a) Read all instructions.
- b) Do not conceal or extend exposed conductors through a building wall.
- c) Do not install this system in wet locations.
- d) For low voltage exposed insulated conductor systems, do not install any part of this system less than 7 feet (2.2 m) above the floor.
- e) To reduce the risk of fire and burns, do not install this lighting system where the exposed bare conductors can be shorted or contact any conductive materials.
- f) To reduce the risk of fire and overheating, make sure all connections are tight.
- g) Do not install any luminaire closer than 6 inches (15.25 cm) from any curtain, or similar combustible materials.
- h) Turn off electrical power before modifying the lighting system in any way.

SAVE THESE INSTRUCTIONS"

The phrases "IMPORTANT SAFETY INSTRUCTIONS" and "SAVE THESE INSTRUCTIONS" shall be at least 3/16 inch (4.8 mm) high. All other lettering shall be at least 1/16 inch (1.6 mm) high.

INSTALLATION INSTRUCTIONS - LUMINAIRES

Luminaire Shipped Separately - A luminaire part of a lighting system and shipped separately from the power unit shall be marked "For use with _____ power unit," where the blank spaces are to be filled in with the manufacturer's name and series designation. Form C Tungsten Halogen Luminaire - A tungsten-halogen low voltage lighting luminaire shall be provided with instructions that include the items in the following list or equivalent

statements for each item. The statements "INSTRUCTIONS PERTAINING TO A RISK OF FIRE OR INJURY TO PERSONS" AND "IMPORTANT SAFETY INSTRUCTIONS" or the equivalent shall precede the list, and the statement "SAVE THESE INSTRUCTIONS" or the equivalent shall either precede or follow the list. All words shown entirely in upper case letters shall be in upper case letters or shall be emphasized to distinguish them from the rest of the text.

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, OR INJURY

IMPORTANT SAFETY INSTRUCTIONS

Lighted lamp is HOT!

WARNING - To reduce the risk of FIRE OR INJURY:

Turn off power and allow to cool before replacing lamp.

Lamp gets HOT quickly! Contact only switch/plug when turning on.

Do not touch hot lens, guard, or enclosure.*

Keep lamp away from materials that may burn.

Do not touch the lamp at any time. Use a soft cloth. Oil from skin may damage lamp.

Do not operate the luminaire with a missing or damaged shield.

Exception: Reference to a shield is able to be replaced with equivalent wording.

SAVE THESE INSTRUCTIONS

* An explanation, a picture, or a drawing of a lens, a guard, a shield, or an enclosure shall be provided so that the user will be able to identify these parts on the luminaire.

MANUFACTURING AND PRODUCTION TESTS - POWER UNITS

Dielectric Voltage Withstand Test -

Each power unit shall withstand without electrical breakdown, as a routine production-line test, the application of a 40 - 70 hertz potential between:

- a) Primary wiring, including connected components, and accessible dead metal parts of a unit that are at risk of becoming energized, including those parts that are accessible only during relamping; and
- b) Primary wiring and accessible low voltage (42.4 volts peak or less) metal parts, including terminals.

The test potential is to be 1200 volts applied for 1 second or 1000 volts applied for 1 minute.

The test shall be conducted when the unit is fully assembled. It is not intended that the unit be unwired, modified, or disassembled for the test. The test is able to be conducted before final assembly when it is representative of testing performed on the completed unit. When a unit employs a solid-state component that is not relied upon to reduce the risk of electric shock and that is able to be damaged by the dielectric potential, the test is able to be conducted before the component is electrically connected, when a random sample from production each day is tested at the potential specified. The circuitry is able to be rearranged for the purpose of the test to reduce the risk of solid-state-component damage while retaining the representative dielectric stress of the circuit.

The test equipment is to include a transformer having a sinusoidal output, a means of indicating the test potential, and an audible or visual indication of breakdown. In the event of breakdown, manual reset of an external switch or an automatic reject of the unit under test that does not meet the requirements is required.

When the output of the test-equipment transformer is less than 500 volts-amperes, the equipment is to include a voltmeter in the output circuit to directly indicate the test potential. When the output of the test equipment transformer is 500 volt-amperes or larger, the test potential is to be indicated by a voltmeter in the primary circuit or a tertiary-winding circuit, by a selector switch marked to indicate the test potential, or by a marking in a readily visible location to indicate the test potential of equipment having a single test-potential output. When a marking is used without an indicating voltmeter, the equipment is to include a positive means, such as a power-on lamp, to indicate that the manually reset switch has been reset after it trips open.

During the test, the primary switch is to be in the "on" position, both sides of primary circuit of the unit are to be connected together and to one terminal of the test equipment, and the second test-equipment terminal is to be connected to the accessible dead metal.

Continuity of Grounding Connection Test -

Each grounded power unit design is to be tested as a random production line test, for grounding continuity between the grounding means and the accessible dead-metal parts of the power unit.

Any effective indicating device (an ohmmeter, low voltage battery and buzzer combination, or the like) may be employed for the test described above; however, the maximum voltage applied shall not exceed 12 V

PRODUCT COVERED:

USL, CNL - Low Voltage Class 2 Luminaire, Class 2, designated as "MinleonRGB" system.

GENERAL:

These products shall comply with the applicable requirements in Sec. Gen. and with the following description.

These low voltage luminaires are intended to be remotely powered by an isolated class 2 power supply or transformer.

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

USL indicates product complies with the Standard for Low Voltage Lighting Systems, UL 2108 1st Ed, the Standard for Luminaires, UL 1598 3rd Ed, the Standard for Light Emitting Diode (LED) Equipment For Use In Lighting Products, UL 8750 1st Ed, and the United States country specific requirements.

CNL indicates the product has been evaluated using the Canadian National Standard for Luminaires, CSA C22.2 No. 250.0; and the Canadian country-specific requirements.

Unless otherwise specified, components of products bearing the C-UL Mark shall be Listed or Recognized for Canada or CSA certified, in addition to being UL Listed or Recognized.

Electrical Ratings

12 Vdc, 5 A or 60 W , where the current rating or wattage is based on length of LED array.

CONSTRUCTION DETAILS:

General - The details of construction are covered in the following photographs and accompanying descriptive pages and illustrations.

Corrosion Protection - All parts are made of corrosion resistant materials or galvanized plated, painted or equivalent as corrosion protection.

Tolerances - All indicated dimensions are nominal, unless specified otherwise.

Spacing - Spacing is not specified since these devices are intended to be connected to a class 2 source.

Polymeric Materials on Class 2 Circuits - When provided and when applicable, all polymeric materials on Class 2 side of the circuit, shall be R/C (QMFZ2), rated min HB, 50°C.

MARKINGS:

In accordance with the Section General and as follows:

When the words of a particular marking are given within quotation marks, the actual wording must be used. Words between parenthesis are optional. The minimum letter height shall be 3.2 mm unless indicated otherwise. Permanent label is a UL PGDQ2, suitable for the surface and rated min. 90°C.

Manufacturer's identification, Date code of at least the month and year of manufacture, Model number, and Electrical Ratings, minimum 1.6 mm letter height on a non-permanent label or tag where visible during installation.

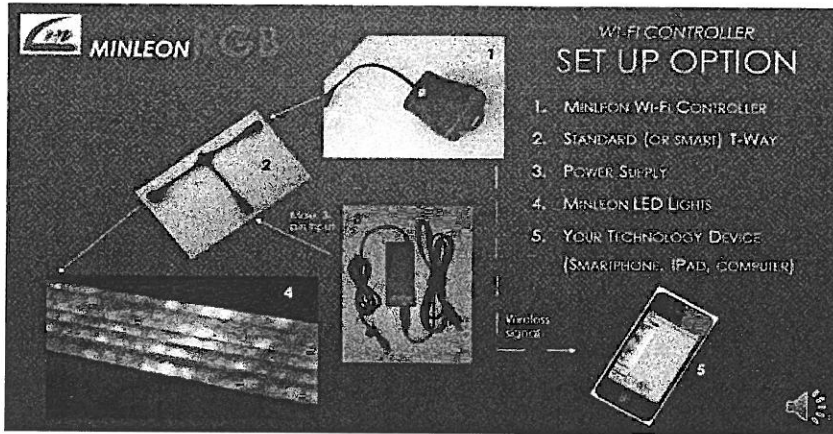
"Use only with class 2 power unit" or equivalent minimum 3.2 mm tall where visible during installation.

May be marked for dry, damp, or wet location use.

"MINLEONRGB" SYSTEM - FIGS. ILL. 1

General - All dimensions are nominal, within engineering tolerances, except where specifically indicated as a minimum or a maximum.

1. Power Supply - Class 2 or LPS Direct plug-in power unit - Listed/CN , rated input 100-240 Vac, 50/60 Hz, Class 2 output or LPS rated max. 12 Vdc, 5 A max.
2. "T-WAY" Conductor - Powered by Class 2 circuit, R/C (AVLV2/8), provided with outer jacket, appliance wires rated min. 22 AWG, 60°C, provided with integral connector for connection to load and output of Power Supply (Item 1), shape size and design may vary.
3. LED Modules and controllers - Manufacturer, shape, size, number of LED's and designation may vary, powered by Class 2 or LPS Direct plug-in power unit (Item 1), consisted of LEDs mounted on R/C (QMFZ2) PWB, rated min. HB (50°C), LED's rated min. 3.7 V FV. Mechanically secured to Enclosure Frame.
4. Components - See ILL. 1 for description and detailed components information and setup.
5. Mounting Means - Blind keyhole slot, ring, mounting clip or hole, mechanically supported by chain or cable, or by similar method in accordance with the Standard, not shown.



MINLEON RGB

WI-FI CONTROLLER SET UP OPTION

1. MINLEON WI-FI CONTROLLER
2. STANDARD (OR SMART) T-WAY
3. POWER SUPPLY
4. MINLEON LED LIGHTS
5. YOUR TECHNOLOGY DEVICE (SMARTPHONE, IPAD, COMPUTER)

Wireless signal

The diagram illustrates the setup for the Wi-Fi controller option. It shows a Minleon Wi-Fi controller (1) connected to a standard or smart t-way switch (2). A power supply (3) is connected to the t-way switch. The Minleon LED lights (4) are connected to the t-way switch. A technology device (5), such as a smartphone, iPad, or computer, is connected to the Wi-Fi controller via a wireless signal. The Minleon logo and 'RGB' are visible in the top left corner.



MINLEON RGB

MINI-CONTROLLER V3 PARTS & CONNECTION

1. MINI-CONTROLLER
2. MINI-CONTROLLER REMOTE CONTROL
3. MINI-CONTROLLER 1.5-AMP, 12VDC POWER SUPPLY
4. LIGHT SPACER CABLE (OPTIONAL)
5. MINLEON RGB LIGHTS

The diagram shows the parts and connection for the Mini-Controller V3. It includes a Mini-controller (1), a Mini-controller remote control (2), a Mini-controller 1.5-amp, 12VDC power supply (3), a light spacer cable (4), and Minleon RGB lights (5). The Minleon logo and 'RGB' are visible in the top left corner.

N151363127