THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

DEPARTMENT OF BUILDING SERVICES ENGINEERING
屋宇設備工程學系

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62-70 Texaco Road, Tsuen Wan
N.T.

Our Reference: LT-13-R1508

Date issued: 22-Apr-13

The self-contained emergency exit sign plate supplied by you was tested in our laboratory on 6 July 2010 and 21-24 Feb 2012 and the results were presented as follows;

Description of Luminaire :	"New Lighting" self contained emergency exit sign plate using LED light
Model :	NLED-PR320
A.C. input :	220V +/- 10%, 50Hz
Battery :	Ni-Cd/Ni-MH rechargeable battery 4.8V 0.8/1.0Ah
Full Charge period :	12 hours
Duration :	2 hours
Lamps :	3W LED line
Test button and charging LED:	Incorporated
Low voltage cut off:	Incorporated
Power cables:	No power cables extended outside the enclosure of the self-contained emergency luminaire

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WHERE INNOVATION MEETS APPLICATION 創意與應用 同步並進

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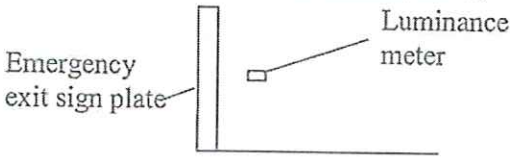
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Test procedures;

1. After 12 hours of charging at 220V 50 Hz AC supply, the emergency exit sign has attained 100% of its rated battery capacity.
2. The emergency exit sign plate was placed vertically on a desk and a luminance meter was placed at a distance of about 5 cm away pointing to the exit sign plate. Luminance measurement was carried out in a dark room so that light emitted by the emergency exit sign plate will not affect the measurement.(see figure below)



3. The test button on the exit sign plate was pressed so that the emergency exit sign plate was now powered by its own battery and the battery voltage and luminance was measured at 5 seconds, 1 minute, 30 minutes and then at 30 minute intervals until the rated duration of 3 hours. The total duration of emergency exit sign plate was recorded.
4. The exit sign plate was tested to the requirement of BSEN 60598-2-22:2002 on 13 Mar 08.
5. The luminance ratio of exit sign was tested on 24 Feb 2012.

Results

1. Luminance of emergency exit sign plate(operated on battery supply)

Time	Luminance(cd/m^2)
normal	351
5 seconds	431
1 min	441
30 min	436
60 min	431
90 min	431
120 min	426

2. The total discharge time is 143 minutes at which the batteries were disconnected by the incorporated low voltage cut out device.

3. The emergency luminaire passed the resistance to flame and ignition as stipulated in BSEN 60598-2-22:2002 and the external parts passed the 850°C glow wire test detailed in IEC60695-2-10: 2000.

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Summary of compliance with PPA/104(A)(4th Revision)

Item	Test Requirement of PPA/104(A) (4th Revision)	Result-Remark	Verdict
B.3	Emergency lighting luminaires shall comply with the non-flammability (resistance to flame and ignition) provisions specified in BS EN 60598-2-22:2002 and external parts shall also be subjected to the 850°C glowing/hot wire test; any burning parts should self-extinguish within 30 seconds.		pass
B.4	All power cables extended outside the enclosure of a self-contained emergency lighting luminaire, other than the wiring connecting the luminaire to normal supply, shall conform to BS EN 60702-1:2002, BS EN 60702-2:2002 and BS 6207-3:2001 as appropriate or to BS 6387:1994 Cat. CWZ or other international standards acceptable to the Director of Fire Services.		pass
B.5	An automatic trickle charger with a 220-volt input and suitable output and fitted with pilot lights or other indicating device shall be provided for the batteries. The charger shall be capable or re-charging the battery to 100% of the rated capacity in not more than 12 hours.		pass
B.6	The self-contained luminaires emergency lighting systems shall be capable of maintaining the stipulated lighting levels for a period of not less than one hour (rated duration).		pass
B.7	Upon failure of the main lighting system or in the event of power failure, the emergency lighting shall automatically light up to at least 90% of the stipulated illumination level within 5 seconds.		pass
B.8	Each unit shall be provided with a properly labeled 'TEST' switch and charge monitor light. A low voltage cut out shall also be provided to disconnect the batteries when fully discharged.		pass

Our measurement complied with relevant sections of BS 5266 part 1:2005. The test results complied with BS5499-3:2002, BS5499-4:2000, BSEN 1838:1999 and FSD COP for Minimum Fire Service Installations(2005) Clause 5.10 on Exit and Directional Signs and Regulation PPA / 104 (A) (4th Revision) of Fire Services Department specifications.

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