

Standards Alert

Part of the Energy Queensland Group

Subject:	Guide to the Use of LED Road Lighting Luminaires	Control Ref No: StdsA437c
		Date Issued: 30/06/2020
		Supersedes: StdsA437b
For Policy/Procedure/Manual:	Public Lighting Design Manual & EX 00767 EE NA000403R434	Expiry Date: 30/09/2020
Originating Dept:	Asset Standards:- Line Standards	
Target Audience: EQL		

1. Amendment Record

Version	Date	Author	Amendments
Initial	15/01/2019	A. Bletchly	Initial Issue
a	04/02/2019	A. Bletchly	Clarify Maintenance Factor requirements for IP5X and IP6X luminaires.
b	26/08/2019	A. Bletchly	Add information about 3000K CCT luminaires and transition to 0° upcast.
c	30/06/2020	A. Bletchly	Add 3000K CCT and adaptor to reduce upcast to 0° for Philips Roadflair Luminaires. Add 3000K Pedestrian Crossing floodlight.

2. Objective

This Standards Alert provides guidance on the use of LED road lighting luminaires on the Energex and Ergon Energy networks. The photometric performance of LED luminaires differs from High Intensity Discharge (HID) luminaires and gives the designer more options to optimise designs. The aim is to establish a uniform state-wide approach to the application of this technology.

3. Introduction

With the emergence of LED technology as a viable alternative to existing HID luminaires, Energex and Ergon Energy have introduced a range of LED luminaires suitable for Category 'V' and Category 'P' road lighting. The move to LED luminaires will have both an operational and maintenance benefit over the life of the luminaires.

4. Designing with LED luminaires

4.1. Maintenance Factor

The range of LED luminaires available for use in the Energex and Ergon Energy networks is available in Standards Alert StdsA406D and the Public Lighting Construction Manual. When undertaking designs, attention should be paid to the relevant Australia & New Zealand Standards Series AS/NZS1158, refer table below and the specific Road Controlling Authority requirements.

Lighting Standard Category	Standards Australia Reference
Category P	AS/NZS 1158.3.1
Category V	AS/NZS 1158.1.1 and 1158.1.2
Category PX	AS/NZS 1158.4

The Australian and New Zealand Standards Lighting Committee LG002 is still considering the best option for determining maintenance factors for LED luminaires. Until this has been finalised the following maintenance factor shall be used for all LED designs:

- IP5X luminaires:- 0.7
- IP6X luminaires :- 0.75

All other aspects of a public road lighting design undertaken so as to be installed upon the Energex and Ergon Energy networks shall comply with the Public Lighting Design Manual.

4.2. 3000K Vs 4000K

Energex and Ergon Energy have introduced to the LED luminaire contract, a range of 3000 K Correlated Colour Temperature (CCT) luminaires. The range of luminaires available with a 3000K CCT has been expanded to include the major road, pedestrian crossing and watchman floodlights.

These luminaires are available for use on Rate 1 and Rate 2 designs. The Road Controlling Authority is responsible for nominating the Correlated Colour Temperature of the luminaires to be used.

Table 1 below lists the luminaires which are available with a CCT of 3000K.

Construction Code	Stock Code	Description
Major Road		
SLEDPH0509A3	2471902	FIXTURE,LIGHTING 50W RoadFlair BRP391 (L50A) 3K, Major Road, EQTS 05-01-02 (scm)
SLEDPH0808A3	2471928	FIXTURE,LIGHTING 80W RoadFlair BRP391 (L80A) 3K, Major Road, EQTS 05-01-02 (scm)
SLEDPH0912A3	2471910	FIXTURE,LIGHTING 90W RoadFlair BRP392 (L90A) 3K, Major Road, EQTS 05-01-02 (scm)
SLEDPH1749A3	2467082	FIXTURE,LIGHTING 170W RoadFlair BRP393 (L170A) 3K, Major Road, EQTS 05-01-02 (scm)
SLEDPH2356A3	2471944	FIXTURE,LIGHTING 240W RoadFlair BRP393 (L240A) 3K, Major Road, EQTS 05-01-02 (scm)
SLEDPH2664A3	2471936	FIXTURE,LIGHTING 270W RoadFlair BRP394 (L270A) 3K, Major Road EQTS 05-01-02 (scm)
Minor Road		
SLEDGL0167N3	2471621	FIXTURE,LIGHTING Gerard Lighting StreetLED MKIII 14 W (L17) 3K, c/w NEMA PE Cell, Minor Road, EQTS 05-01-02 (scm)
SLEDGL0167A3	2471639	FIXTURE, LIGHTING 17W StreetLED MKIII (L17A) 3K c/w NEMA PE Cell, Minor Road, EQTS 05-01-02 (scm)
SLEDGL0325A3	2471647	FIXTURE, LIGHTING 30W StreetLED MkII (L33A) 3K Aeroscreen c/w NEMA PE Cell, Minor Road, EQTS 05-01-02 (scm)
Pedestrian Crossing		
SLEDPH2029F3	2467363	FIXTURE,LIGHTING 200W Tango G3 LED Flood, Pedestrian Crossing, 3K Asymmetrical Medium Beam

Table 1: 3000K Luminaires

4.3. Upcast

Currently the Queensland Public Lighting Design lists the upcast for streetlights as 5° above the horizontal (Section 6.3.2). Energex and Ergon Energy have made the decision to transition away for a standard upcast of 5° above the horizontal to 0° above the horizontal. No change is going to be made to the design of the outreaches and pole brackets and they will retain the 5° above the horizontal upcast as part of the luminaire spigot. The reduction in the upcast will be achieved within the luminaire.

Page 2 of 3	This Standards Alert will remain in force until either the expiry date is exceeded, or update of the relevant sections of the specified manuals has occurred. stdsa437c - guide to the use of led road lighting	A. Bletchly
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The adaptors to achieve the 0° upcast are supplied in the box with the luminaire. The following luminaires are supplied with the adaptor:

- Sylvania-Schreder StreetLED Mk III
- Philips Roadflair

The adaptors are able to be sourced separately for the luminaire via the following stock codes.

Stock Code	Description	Suits Luminaires
2472363	ADAPTOR RoadFlair BRP391, BRP392 & BRP393, Tilt Adaptor, -5°	2467058 2467066 2467074 2467090 2467116 2467082 2471902 2471910 2471928 2471944
2472371	ADAPTOR RoadFlair BRP394, Tilt Adaptor, -5°	2467108 2471936
2471548	ADAPTOR StreetLED MkIII, Tilt Adaptor, -5°	2469690 2471621 2469708 2471639 2469724

NOTE	The adaptor for the Sylvania-Schreder StreetLED luminaire is only compatible with the Mk III version of the luminaire. This means this adaptor cannot be used on the SteetLED Mk II L33A. An adaptor will be introduced in the future for this luminaire.
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CAUTION	During installation the luminaires using the 0° adaptors care will need to be taken to ensure the luminaire is not tilted forward, i.e. the spigot entry is highest part. Luminaire should be Level.
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5. Update to Manuals

The Public Lighting Design Manual will be updated with this requirement in the next revision.

The Queensland Public Lighting Construction Manual will be update with the additional luminaires with the next revision.

6. Further Information

For further information, please contact:

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