

Sales Technical Information

200 Series Bus Light

1 GENERAL DESCRIPTION

200 Series to the Aftermarket sector as a replacement to the current bus light range. This product will be ranged in the Australia & New Zealand market and will meet local regulation including NSW Technical Specification Regulation (TS150) for all buses registered on or after 08 February 2019.



2 SPECIFICATIONS

- 12 – 24VDC
- Current draw while illuminated (per unit) @ 1.2A
- 118mm (H) x 130mm (W) x 21.5mm (D)

3 FEATURES

- Complies with Australia Bus TS150 FPM and illuminated lens area - (90 FPM per light / 180 FPM combined)
- Three flash patterns
- Alternating 'Wig Wag' and Steady Burn flash patterns
- Synchronise with additional units
- Temperature Range: -30°C to +55°C
- Non-corrosive bezel
- Polycarbonate base and lens
- Units sealed against moisture and dust ingress

4 INSTALLATION

Mounting locations should be chosen based on the legislation of the State or Territory where the vehicle will be used.

5 CERTIFICATION AND COMPLIANCE

See Appendix A for Engineering Test Report.

6 PART NUMBERS

830-200A – LED SURFACE MOUNT 12-24V AMBER

7 Background

The LED bus lights must meet the photometric requirements specified in the various Australian state regulations. The scope of this testing is limited to the photometric performance and the surface area of the outermost optical surface.

8 Test Procedure

Must meet NSW state regulation TS150 – This pertains to light output of 60cm² as well as luminosity meeting or exceeding the candela rating as per the below.

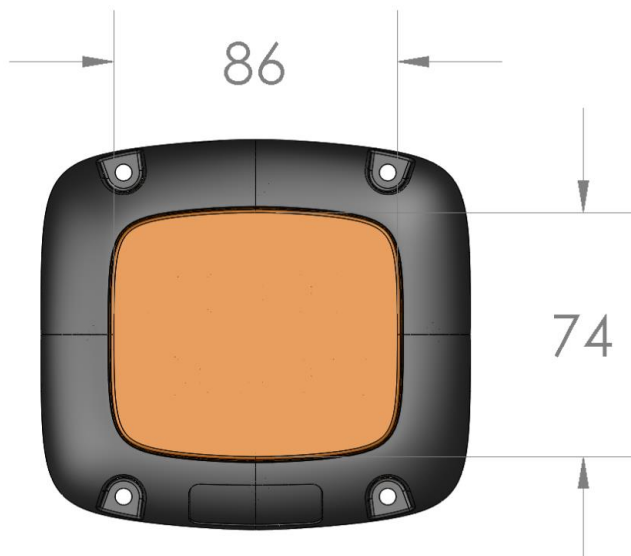
9 Results

Luminous Intensity of Warning Lights. PC-Amber SecurILED + 40% Amber Lens									
Horizontal									
	-30°	-20°	-10°	-5°	0°	5°	10°	20°	30°
Vertical	10°			50	80	50			
				587	626	549			
	5°		180	320	350	450	350	320	180
			698	923	1147	1325	1040	843	614
	0	75	450	1000	1250	1500	1250	1000	450
	594	981	1224	1562	1884	1420	1148	882	504
	40	270	450	570	600	570	450	270	40
	543	878	1107	1310	1464	1215	1041	831	492
				75	75	75			
				756	797	743			

Top number = requirement
 Bottom number = measured (bold)

10 Illuminated Lens Area

The outermost optical surface of all LED bus lights is the rectangular outer optic, which contributes to the final light dispersion of the lamp. The lenticular surface of this lamp is shown below to be 86mm x 74mm, giving a surface area of 61.8 cm². This exceeds the requirement for a minimum of 60 cm² specified in the various bus standards.



11 Conclusion

LED Bus Light versions listed in this document meet and exceed the minimum luminous intensity at all specified angles required by the state regulations in addition to the requirement for minimum lens surface area of 60 cm².

Test Equipment

The following list contains primary equipment used during testing:

Equipment	Manufacturer	Model	Cal Last	Cal Due
Power Supply	Lambda	GEN 40-38	N/A	N/A
DMM	Fluke	179	2009-08-21	2010-08-21
Photo Sensor	International Light	SED033	2008-10-31	2010-11-01
Radiometer	International Light	IL1700	2008-10-31	2010-11-01
Goniometer	Hazard Systems	In-House	N/A	N/A

References

Australian Design Rule 6/00 – Direction Indicators. 2/2000

UN Regulation ECE6-01 – Uniform provisions concerning the approval of direction indicators. Supplement 17, 15/10/2008

Transport Operations (Passenger Transport) Standard 2000, Office of the Queensland Parliamentary Council. Reprint 2B, 2/1/2009.

Code of Practice for Buses, Central Inspection Authority, Department for Transport, Energy and Infrastructure, Government of South Australia. Dec. 2006

National Heavy Vehicle Inspection Manual, National Transport Commission, Tasmanian Edition 2009

Technical Specification 150 – Warning signs and lights for school buses. Version 1 (8th August 2018).