TLM-R08

1.00" Ø Low Voltage LED Module for OEM Lighting Fixture Products

FEATURES

- LED alternative to MR8, MR11 and T3 bi-pin halogen lamps
- Light output equal to 20W halogen
- Distribution: 12°, 21°, 41° or 360° pathway lighting lens
- 12V AC/DC input in one flexible unit
- Patented LEDSENSE® Thermal Management simplifies integration and ensures reliability and lumen maintenance
- Efficacy: up to 52 lm/W delivered
- CCT: 2700K, 3000K or 4000K
- CRI: >80 at all CCTs
- Lumen Maintenance: L70 >60,000 hours
- Compatible w/ magnetic transformers & low load electronic transformers

SPECIFICATION

APPLICATION

Fully-integrated, self-contained LED light module with microprocessor-based control system adapts to most tiny fixtures, including sealed outdoor fixtures, with minimal design effort and the lowest possible LED system cost. Key features include LEDSENSE® closed-loop thermal control that maximizes light output while assuring long-term lumen maintenance. Integrated Dynamic Transformer Recognition™, or DTR™, simplifies design efforts and installation, and allows the use of standard cost-effective magnetic or electronic halogen transformers and phase-dimmers.

LED

Provided with high efficiency Cree LED chips. Color variation no greater than 3-step MacAdam Ellipses.

DRIVER

Provided with integral LED driver with microprocessor-based control system designed and manufactured by Sielo. Driver includes LEDSENSE® thermal fold-back, allowing maximum light output in any environment while assuring long-term reliability. Advanced electronics continuously monitor temperatures to ensure LED power does not exceed limits tested by the LED manufacturer to yield no less than 70% of initial light output at more than 60,000 hours of operation.

ENVIRONMENTAL

Functions normally within an operating temperature range of -40° C. to 55° C. (-40° F. to 131° F.) at 0 to 95% relative humidity.

PERFORMANCE

Provides color quality =/>80 CRI and maintains 70% lumen output at more than 60,000 hours per IES TM-21-11, based on the LED manufacturer's measurement per IES LM-80-08 @ 10,000 hours. To be extended as additional data becomes available.

REGULATORY COMPLIANCE

LED module includes the following regulatory and compliance approvals: UL 8750 Recognized Component — damp locations; CSA Standard C22.2 No. 250.0-08; FCC Part 15, Unintentional Radiators Class A; RoHS.

QUALITY & RELIABILITY

Designed and manufactured within an ISO 9001:2008 certified Quality Management System. Product design validated by Reliability Prediction analysis, based on Telcordia SR-332 Ed. 3. Demonstrated Mean Time Between Failure (MTBF) >3.4 Million hours with a 90% confidence level, which equates to an annual failure rate (AFR) of <0.25%.

WARRANTY

5-year limited warranty. Complete warranty terms located at http://sielo.com/warranty.

MODEL & OPTIONS

TLM-R08	-	A	20			A
MODEL		VOLTAGE	*LIGHT LEVEL	CCT	BEAM ANGLE	OPTIONS
TLM-R08 = Low voltage LED module		A = 12V AC/DC	20 = 20W halogen equivalent	27 = 2700K 30 = 3000K 40 = 4000K	12 = 12° beam angle 21 = 21° beam angle 41 = 41° beam angle	A = No option

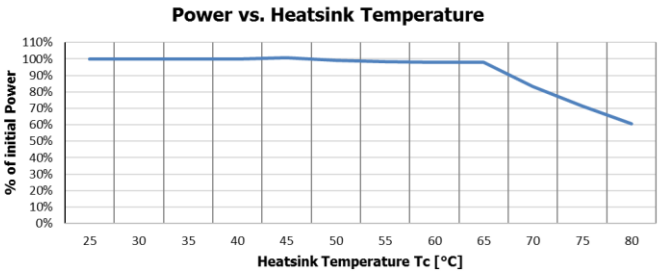
* Indicates typical light output as compared to a Halogen source. See PERFORMANCE table on page 2 for specific lumen output and CBCP data.

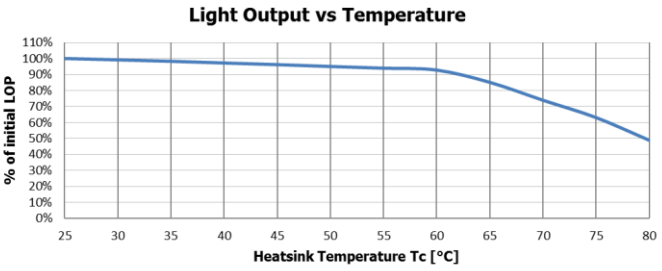
REPLACEMENT LENSES

Model	Description
TLMA-102000010	12° lens (quantity = 48 pieces)
TLMA-102000019	21° lens (quantity = 48 pieces)
TLMA-102000018	41° lens (quantity = 48 pieces)
TLMA-332000803	360° optic

PERFORMANCE

TLM-R08									
Color Temperature (CCT)	2700K			3000K			4000K		
CRI Minimum [typical]	80 [83]			80 [81]			80 [82]		
Power @ 12V AC (watts)	4.8			4.8			4.8		
Light Output (lumens)	235			240			250		
Efficacy (lm/W)	49			50			52		
Beam Angle	12°	21°	41°	12°	21°	41°	12°	21°	41°
Average CBCP (cd)	2665	1210	675	2720	1235	686	2840	1290	715





NOTES

Tested by third party per IESNA-LM79-08.

All specifications subject to tolerance of ± 10%.

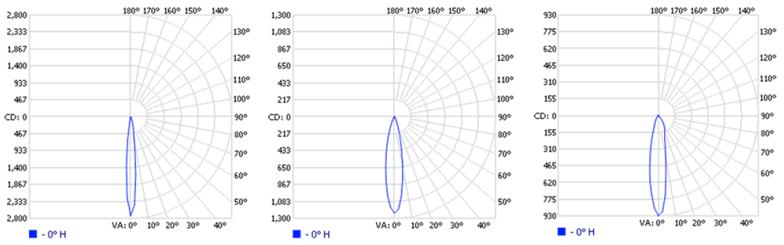
Typical performance @ 25° C. heatsink temperature, Tc. See Relative Light Output vs. Temperature (left) for the effect of LEDSENSE® thermal fold-back on light output at various operating temperatures.

LEDSENSE® OPERATION, THERMAL DE-RATING, & LUMEN MAINTENANCE

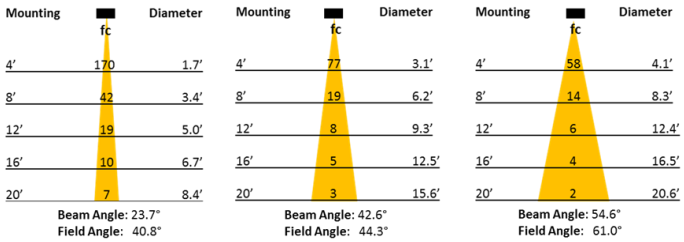
The TLM-R08 employs Sielo patented LEDSENSE® Thermal Management Technology to automatically provide maximum light output in various fixtures and operating conditions while assuring long-term lumen maintenance. LEDSENSE® regularly measures the operating temperature and ensures compliance with a pre-programmed temperature and drive-current profile. This profile is based on the LED manufacturer's LM-80 data report and minimum L70 >60,000-hour lumen maintenance curves. LEDSENSE® is always active, and will compensate for variation in thermal conditions due to heatsinking, ambient air, light engine positioning, or any other variable that affects the operating temperature. The thermal de-rating curve below identifies the relative light output that can be expected under various thermal conditions. The LEDSENSE® power curve identifies the reduction in input power over temperature.

PHOTOMETRY

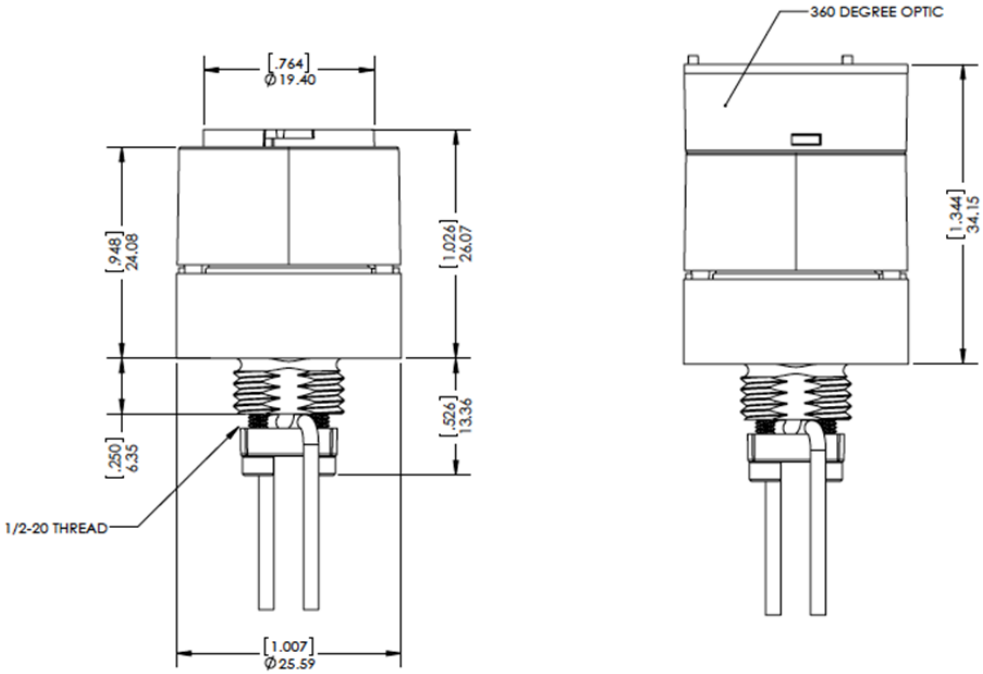
Relative Candela Distribution (3000K)

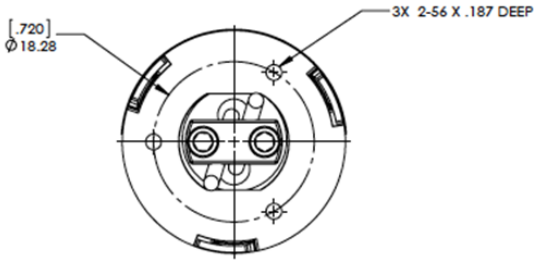


Illuminance at a Distance (3000K)



DIMENSIONS





OPTIONAL 360° OPTIC

Ideal for for pathway fixtures and mini bollards. Snaps onto the module, over any primary lens type. Part number TLMA-332000803.