ISTMT Test Report

For

MIC Optoelectronic CO., LTD

2nd floor, Third Building, 97# AiNan Road, LongDong, BaoLong Street, LongGang District, Shenzhen, China

LED Street Light

Model Name(s):
MSL-F300

Representative (Tested) Model:
MSL-F300

Model Difference: N/A

Prepared by:

Engineer: Alan Wang
Date: 2025-05-09

Reviewed by:

Technical Lead: Vincent Yuan
Issue Date: 2025-05-14
Revised Date: N/A

Note:
1. The results contained in this report pertain only to the tested samples.
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3. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the U.S. Government.

Client Information:

Applicant Name:	MIC Optoelectronic CO., LTD
Brand Name:	MIC
Manufacturer Name:	MIC Optoelectronic CO., LTD
Manufacturer Address:	2nd floor, Third Building, 97# AiNan Road, LongDong, BaoLong Street, LongGang District, Shenzhen, China

Product Information:

Model Number:	MSL-F300
Product Type:	LED Street Light
Rating Input:	100-277Vac, 50/60Hz, 300W
Declared CCT:	5000K
Declared Light Output:	48776 lm
Declared Lifetime:	50000 hours
LED Manufacturer:	Bridgelux, Inc.
LED Model:	L150-AABB50CC00000
LED Quantity:	192 pcs
LED Driver Manufacturer:	MOSO
LED Driver Model:	CP-150M062 EN 1021500540 F.2

Test Information:

Date of Receipt Samples:	2025-05-06
Quantity of Receipt Samples:	1 pc
Sample Number:	250506022-S1
Test Representation:	N/A

Laboratory Information:

Test Laboratory:	Dongguan New Testing Centre Co., Ltd
Laboratory Address:	3F, No. 1 the 1st North Industry Road, Songshan Lake Science & Technology Park, Dongguan, Guangdong, China
Laboratory Contact Name:	Neil Zhong
Laboratory Contact E-mail:	Neil_zhong@ntc-cert.com

Report Information:

Test Report Form:	ISTMT_TRF_V1.5
Issued Date of Test Report:	2025-05-14
Revised Date of Test Report:	N/A
Test Report No.:	NTCLR25050042
Remark *(If applicable)*:	N/A

Test Specification:	
Date of Test	2025-05-07
Test Item	1. In-Situ Temperature Measured Test (ISTMT)
Reference Standard	ANSI/UL 1598 Luminaire ANSI/UL 1598C Light-Emitting Diode (LED) Retrofit Luminaire Conversion Kits ANSI/UL 153 Standard Portable Electric Luminaires ANSI/IES LM-84:2020 Measuring Optical Radiation Maintenance of LED Lamps, Light Engines, and Luminaires

Test Methods:

1. In-Situ Temperature Measurement Test (ISTMT)

According to UL 1598 and ANSI/IES LM-84:2020, Annex A, maximum LED source operated temperature measurements were taken on one test sample per model with a thermocouple and temperature meter. The SSL sample could reach thermal equilibrium for at least 3 hours before measurements were taken. LED source temperature was measured at the point as indicated by the included diagram in accordance with manufacturers declared hot spot location. The maximum temperature was recorded for the sample. A simulated ceiling or other enclosure may be used in accordance to UL 1598 as applicable.

In-Situ Temperature Measurement Test Results:

Electrical Data:

Voltage (V)	Frequency (Hz)	Current (A)	Wattage (W)	Power Factor	Orientation	Test Time (hours)
230.0	50	1.2102	300.76	0.9700	Face Down	3.5

Test Result:

TC Location	LED Drive Current (mA)	Temperature (°C)			TM-21 Result Reported (hours)			Driver Lifetime (hours)
		Ambient	Test Result	Corrected to 25°C	L70	L70B10	L90	
TMP_{LED}	53.7	25.0	73.0	73.0	>102000	164000	49000	N/A
$TMP_{LED\ Driver}$	N/A	25.0	62.4	62.4	N/A			130000

Note: L70B10 is reference only.

Test Result from TM-21:

L70

***In-Situ* Inputs**

Drive current for each LED package/array/module (mA):	53.7
In-situ case temperature (T_c, ºC):	73
Percentage of initial lumens to project to (e.g. for L_{70}, enter 70):	70

Results

Time (t) at which to estimate lumen maintenance (hours):	50,000
Lumen maintenance at time (t) (%):	89.82%
Reported L70 (hours):	>102000

L90

***In-Situ* Inputs**

Drive current for each LED package/array/module (mA):	53.7
In-situ case temperature (T_c, ºC):	73
Percentage of initial lumens to project to (e.g. for L_{70}, enter 70):	90

Results

Time (t) at which to estimate lumen maintenance (hours):	50,000
Lumen maintenance at time (t) (%):	89.82%
Reported L90 (hours):	49,000

In-Situ Temperature Measurement Test Results:

Electrical Data:

Voltage (V)	Frequency (Hz)	Current (A)	Wattage (W)	Power Factor	Orientation	Test Time (hours)
230.0	50	1.2125	300.62	0.9650	Face Down	3.5

Test Result:

TC Location	LED Drive Current (mA)	Temperature (°C)			TM-21 Result Reported (hours)			Driver Lifetime (hours)
		Ambient	Test Result	Corrected to 40°C	L70	L70B10	L90	
TMP_{LED}	53.7	40.0	80.2	80.2	>102000	154000	46000	N/A
$TMP_{LED\ Driver}$	N/A	40.0	69.0	69.0	N/A			106000

Note: L70B10 is reference only.

Test Result from TM-21:

L70

***In-Situ* Inputs**

Drive current for each LED package/array/module (mA):	53.7
In-situ case temperature (T_c, ºC):	80.2
Percentage of initial lumens to project to (e.g. for L_{70}, enter 70):	70

Results

Time (t) at which to estimate lumen maintenance (hours):	50,000
Lumen maintenance at time (t) (%):	89.21%
Reported L70 (hours):	>102000

L90

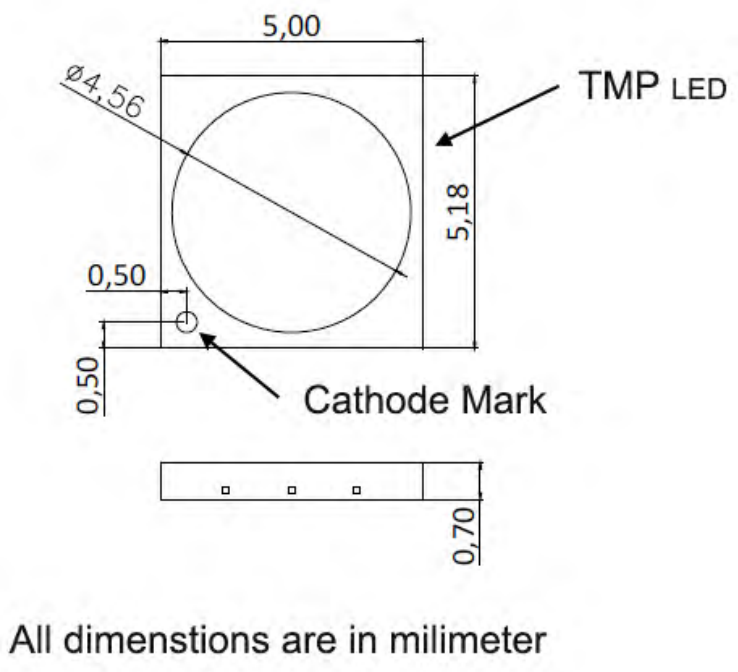
***In-Situ* Inputs**

Drive current for each LED package/array/module (mA):	53.7
In-situ case temperature (T_c, ºC):	80.2
Percentage of initial lumens to project to (e.g. for L_{70}, enter 70):	90

Results

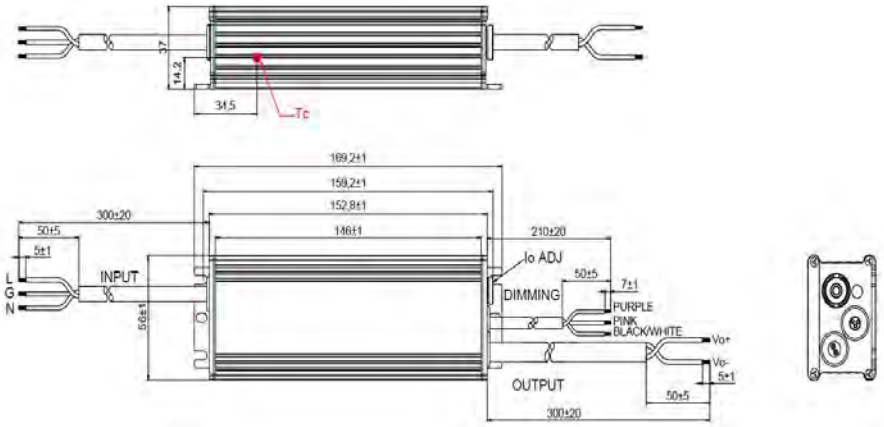
Time (t) at which to estimate lumen maintenance (hours):	50,000
Lumen maintenance at time (t) (%):	89.21%
Reported L90 (hours):	46,000

TMP Position in LM-80:

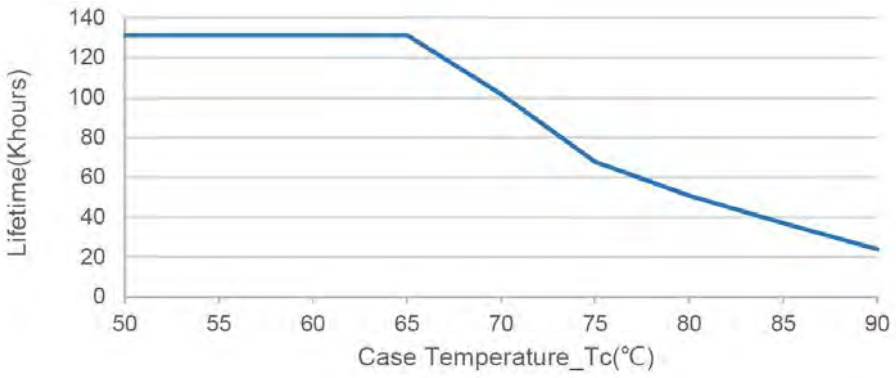


All dimenstions are in milimeter

TMP Position in LED Driver Spec:



Lifetime vs. Case Temperature



Thermocouple Position on TMP:

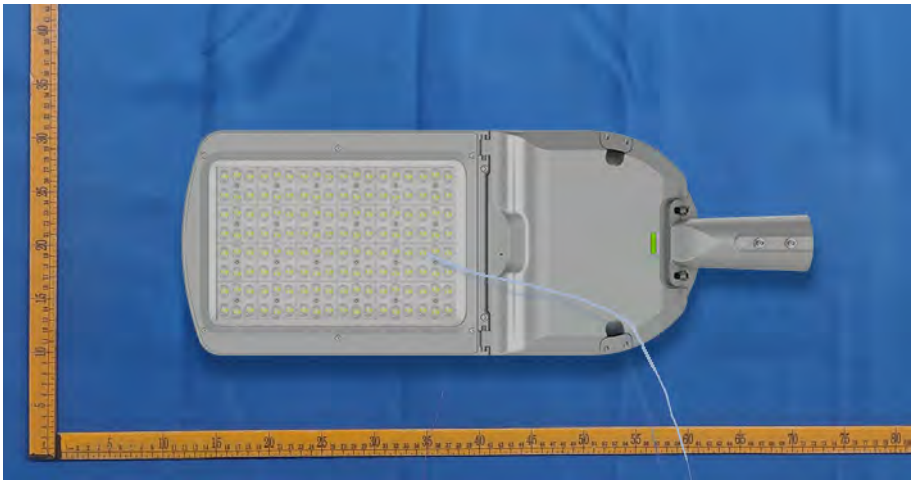
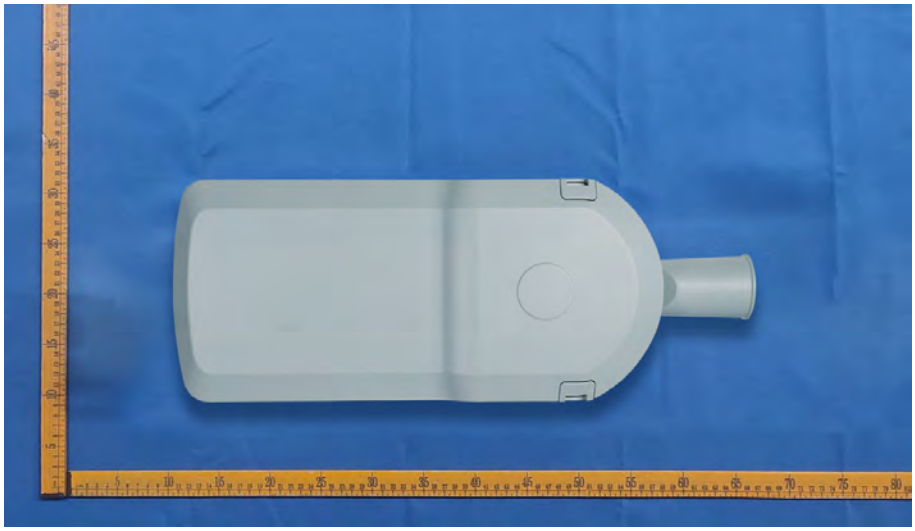


Photo of Sample:



Equipment List:

Equipment ID	Equipment Name	Last Cal.	Due Cal.
NTC-F01-031	Digital Power Meter	2024-08-06	2025-08-05
NTC-F01-020	Temperature & Humidity Meter	2024-10-29	2025-10-28
NTCD-S001	Temperature Data Logger	2024-11-05	2025-11-04

************End of Report************