LM-84-14 TEST REPORT

Applied for SASO-2927

Kunde: *Client:*	MIC Optoelectronic Co., Ltd
Adresse: *Address:*	2nd floor,Third Building, 97# AiNan Road,LongDong, BaoLong Street, LongGang District, Shenzhen, China
Hersteller: *Manufacturer:*	MIC Optoelectronic Co., Ltd
Adresse: *Address:*	2nd floor,Third Building, 97# AiNan Road,LongDong, BaoLong Street, LongGang District, Shenzhen, China
Name der Marke: *Brand Name:*	MIC
Beschreibungdes Produkts: *Product Description:*	LED Street Light
Modelle: *Models:*	MSL-F240
Bewertung: *Rating:*	AC100-277V, 50/60Hz, 240W
Verfahren: *Method:*	IES LM-84-14: Approved Method for Measuring Luminous Flux and Color Maintenance of LED Lamps, Light Engines, and Luminaires SASO 2927: 2019:Energy efficiency functionality and labelling requirements for lighting products – Part 3: Street lighting
Prüfergebnis*: *Test result*:*	/

Datum der Prüfung: *Date of Test:*	**Datum der Emission:** *Date of Issue:*	**Klassifizierung:** *Classification:*	**Gegenstand der Prüfung:** *Test item:*
24-09-2024~19-06-2025	07-07-2025	Commission Test	LM-84-14

Prüflabor (Testlabor) / Testing Laboratory:
Shenzhen Southern LCS Compliance Testing Laboratory Ltd.
101-201, No.39 Buliding, Xialang Industrial Zone, Heshuikou Community,
Matian Street, Guangming District, Shenzhen, China

Prepare von/Prepare by:	**Check von/**Check by:	**Genehmigt von/**Approved by:
Seth Cai	Ian Luo	
Seth Cai/ Project Engineer	Ian Luo/ Director	Jesse Liu/ Manager

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1. Test Method

1.1 Photometric and Electrical Measurement

Test Standard.....:	IES LM-79-08:Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products
Ambient Condition .....:	24.9℃
Stabilization time ……..…....…...:	0.5h
Orientation(burning position) of SSL product during test ……..……:	5 base-up and 5 base-down
Test Method ……..……:	The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at rated voltage and was stabilized before measurement. Lumen output, Lamp efficacy,Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm. Input power,Power factor,Voltage ,Current,were calculated from the digital power meter.

1.2 Luminous Flux and Color Maintenance Measurement

Test Standard.....:	IES LM-84：Approved Method: Measuring Luminous Flux and Color Maintenance of LED Lamps, Light Engines, and Luminaires
Ambient Condition .....:	50℃ / 60%RH
Orientation(burning position) of SSL product during test ……..……:	5 base-up and 5 base-down
Test Method ……..……:	Season the LED Lamp from 0 hours to 6000 hours. The sample are operated steady state (no cycling) for a period of 6000 hours. The samples are inspected at regular intervals (24 hours) throughout the 6000 hours. The time and date of failure of each lamp is recorded. The actual elapsed time for each light package is in hour.

1.3 In-Situ Temperature Measurement Test (ISTMT)

Test Standard.....:	Maximum led source operating temperature measurements were taken on one test sample per model with a thermocouple and temperature meter. The SSL sample was allowed to 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.

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2. Product Information

Product description .....:	LED Street Light
Model Number .....:	MSL-F240
Rated Inputs .....:	AC100-277V, 50/60Hz
Rated Power.....:	240W
Declared CCT.....:	6000K
LED Manufacturer.....:	LUMILEDS
LED Model .....:	L150-6580502400000
Date of Receipt Samples.....:	September 23, 2024
Quantity of Receipt Samples.....:	10 unit

3. Test equipment list

Manufacturer	Description	Equipment ID	Model	Calibration Date	Calibration Due Date
EVERFINE	Full-field Speed Goniophotometer	SLCS-S-112	GO-R5000	2025/05/27	2026/05/26
EVERFINE	Digital Power Meter	SLCS-S-103	PF2010	2025/05/27	2026/05/26
EVERFINE	AC Testing Power Source	SLCS-S-115	DPS1060	2025/05/27	2026/05/26
EVERFINE	Total Spectral Radiant Flux Standard Lamp	SLCS-S-143	D908S	2025/06/02	2026/06/01
EVERFINE	2m Integrating Sphere System	SLCS-S-312	HAAS2000	2025/05/27	2026/05/26
EVERFINE	Digital Power Meter	SLCS-S-309	PF9810	2025/05/27	2026/05/26
EVERFINE	AC Testing Power Source	SLCS-S-310	DPS1005	2025/05/27	2026/05/26
EVERFINE	DC Testing Power Source	SLCS-S-311	WY605	2025/05/27	2026/05/26
OSRAM	Standard Lamp	SLCS-S-313	DC24/50W	2025/06/02	2026/06/01

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4. Test Results

Table 1:Energy Efficiency at AC100V, 60Hz

Sample No.	Power (W)	Luminous Flux Φuse (lm)	Efficacy (lm/W)
1	253.80	43714.1	172.24
2	251.74	43012.3	170.86
3	253.29	44432.1	175.42
4	250.77	43004.5	171.49
5	250.16	43347.7	173.28
6	254.12	43932.3	172.88
7	252.86	43034.2	170.19
8	250.74	43701.5	174.29
9	249.86	43288.2	173.25
10	251.98	43567.3	172.90
Avg.	251.93	43503.4	172.68

Table 2:Energy Efficiency at AC277V, 60Hz

Sample No.	Power (W)	Luminous Flux Φuse (lm)	Efficacy (lm/W)
1	240.00	42956.7	178.99
2	239.59	42040.9	175.47
3	241.16	41725.5	173.02
4	240.59	42757.7	177.72
5	238.75	41277.5	172.89
6	239.24	41814.4	174.78
7	240.58	41848.9	173.95
8	240.33	42838.8	178.25
9	241.02	41927.8	173.96
10	239.62	41042.1	171.28
Avg.	240.09	42023.0	175.03

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Table 3:Functionality Requirements

Sample No.	Starting time (s)	Power Factor	Beam angle (°)	Color Temp (CCT)	Color rendering (Ra)	SDCM
1	0.421	0.961	116.3	6318	72.2	4.3
2	0.419	0.958	115.8	6297	72.5	4.0
3	0.398	0.963	116.1	6302	72.1	3.9
4	0.406	0.960	116.2	6337	72.6	3.7
5	0.412	0.958	115.4	6271	72.3	4.3
6	0.424	0.959	115.7	6288	72.0	3.9
7	0.411	0.960	116.0	6305	72.4	4.0
8	0.403	0.964	115.3	6326	72.5	4.2
9	0.400	0.959	115.9	6279	72.6	4.5
10	0.395	0.961	116.6	6292	72.3	4.2
Avg.	0.409	0.960	115.9	6302	72.4	4.1

Table 4:Survival Factor and Lumen Maintenance

Sample No.	Switching Cycle	Initial Luminous Flux (lm)	Premature Failure Rate 1000h	Survival factor at 6000h	Luminous Flux at 6000h	Lumen Maintenance at 6000h (%)
1	15000	43076.5	P	P	40280.8	93.51%
2	15000	42068.9	P	P	39031.6	92.78%
3	15000	42521.5	P	P	40021.2	94.12%
4	15000	41401.4	P	P	38337.7	92.60%
5	15000	42520.6	P	P	39416.6	92.70%
6	15000	41148.7	P	P	38552.2	93.69%
7	15000	42399.7	P	P	39503.8	93.17%
8	15000	42334.1	P	P	39328.4	92.90%
9	15000	41026.9	P	P	38290.4	93.33%
10	15000	41558.3	P	P	39073.1	94.02%
Avg.	15000	42005.7	P	P	39183.6	93.28%

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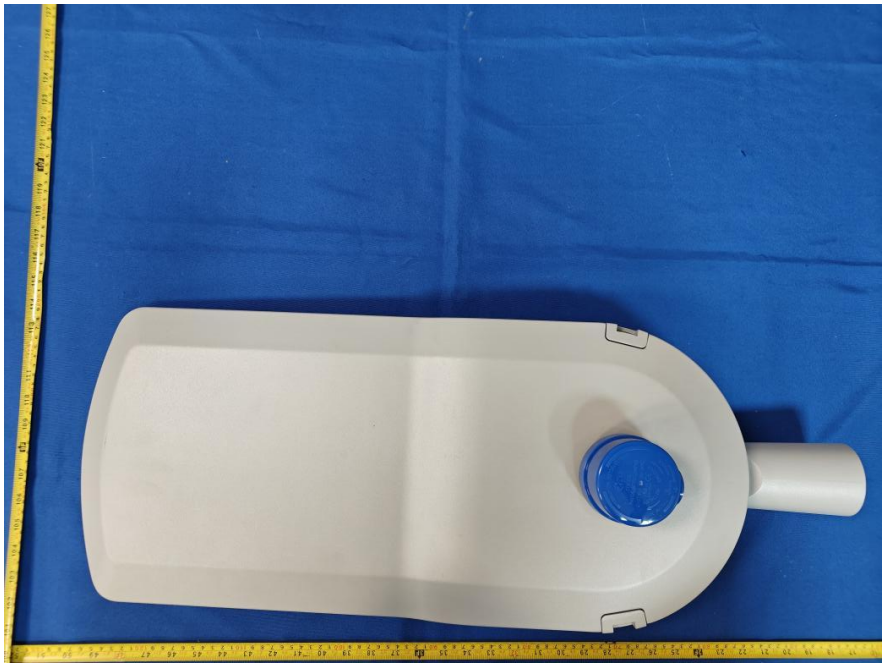
5. Photo of sample

Photo document

Photos of MSL-F240



----- End of test report -----

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