

LM-79-08 TEST REPORT

Applied for SASO-2927

Kunde: <i>Client:</i>	MIC Optoelectronic Co., Ltd
Adresse: <i>Address:</i>	2nd floor,Third Building, 97# AiNan Road,LongDong, BaoLong Street, LongGang District, Shenzhen, China
Hersteller: <i>Manufacturer:</i>	MIC Optoelectronic Co., Ltd
Adresse: <i>Address:</i>	2nd floor,Third Building, 97# AiNan Road,LongDong, BaoLong Street, LongGang District, Shenzhen, China
Name der Marke: <i>Brand Name:</i>	MIC
Beschreibung des Produkts: <i>Product Description:</i>	LED Street Light
Modelle: <i>Models:</i>	MSL-F240
Bewertung: <i>Rating:</i>	AC100-277V, 50/60Hz, 240W
Verfahren: <i>Method:</i>	SASO 2927: 2019:Energy efficiency functionality and labelling requirements for lighting products – Part 3: Street lighting LM-79-08: Approved Method for Electrical and Photometric Measurements of Solid-State Lighting Products
Prüfergebnis*: <i>Test result*:</i>	

Datum der Prüfung: <i>Date of Test:</i>	Datum der Emission: <i>Date of Issue:</i>	Klassifizierung: <i>Classification:</i>	Gegenstand der Prüfung: <i>Test item:</i>
13-06-2025~17-06-2025	07-07-2025	Commission Test	IES LM-79-08

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

Prepare von/Prepare by: <i>Seth Cai</i> Seth Cai/ Project Engineer	Check von/Check by: <i>Ian Luo</i> Ian Luo/ Director	Genehmigt von/Approved by: <i>Jesse Liu</i> Jesse Liu/ Manager
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Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.
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Add: 101-201, No.39 Bulding, Xialang Industrial Zone, Heshuikou Community, Matian Street Guangming New District, Shenzhen, Guangdong Prov. 518000 China
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1. Test Method

Test Item.....	Integrating Sphere Test
Ambient Condition	24.9℃
Stabilization time(h):	0.5h
Orientation(burning position) of SSL product during test	down
Test Method	The sample was tested according to the LM-79-2008. 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. 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.
Test Item.....	Goniophotometer Test
Ambient Condition.....	24.9℃
Total operated time of the product for measurements including stabilization..... (h):	1.0h
Orientation(burning position) of SSL product during test	down
Test Method.....	The sample was tested according to the LM-79-2008. Photometric paramters were measured using a type C goniophotometer and software. The sample reference plane was located at the center of the sample goniometer at a test distance of 26m from the detectors. The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, Luminous efficacy, zonal flux were calculated from the software taken at 1° vertical intervals and 22.5°horizontal intervals.

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2. 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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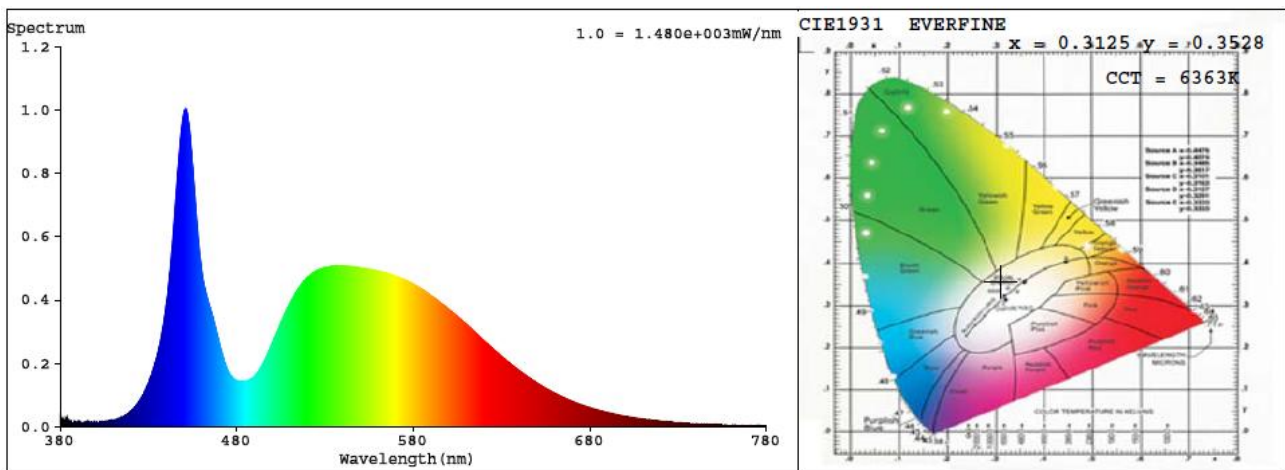
3. Integrating Sphere Test Results

4.1 Test Data

Test type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	230.05	59.98	1.098	0.9606	242.8

Test type	CCT (K)	CRI	Luminous flux (lm)	Luminous efficacy(lm/W)
Output	6363	72.2	42858	176.52

4.2 Spectrum



Colorimetric Parameters

Chromaticity Coordinate: $x = 0.3125$ $y = 0.3528$ / $u' = 0.1891$ $v' = 0.4805$ ($duv = 1.50 \times 10^{-2}$)

CCT= 6363K Prcp WL: $L_d = 504.4 \text{ nm}$ Purity=6.3%

Peak WL: $L_p = 451 \text{ nm}$ FWHM: $\approx 17.7 \text{ nm}$ Ratio: R=11.3% G=84.5% B=4.2%

Render Index: $R_a = 72.2$

R1 =66 R2 =76 R3 =85 R4 =71 R5 =69 R6 =70 R7 =84
 R8 =56 R9 =-46 R10=45 R11=68 R12=40 R13=68 R14=92 R15=59
 LEVEL:OUT

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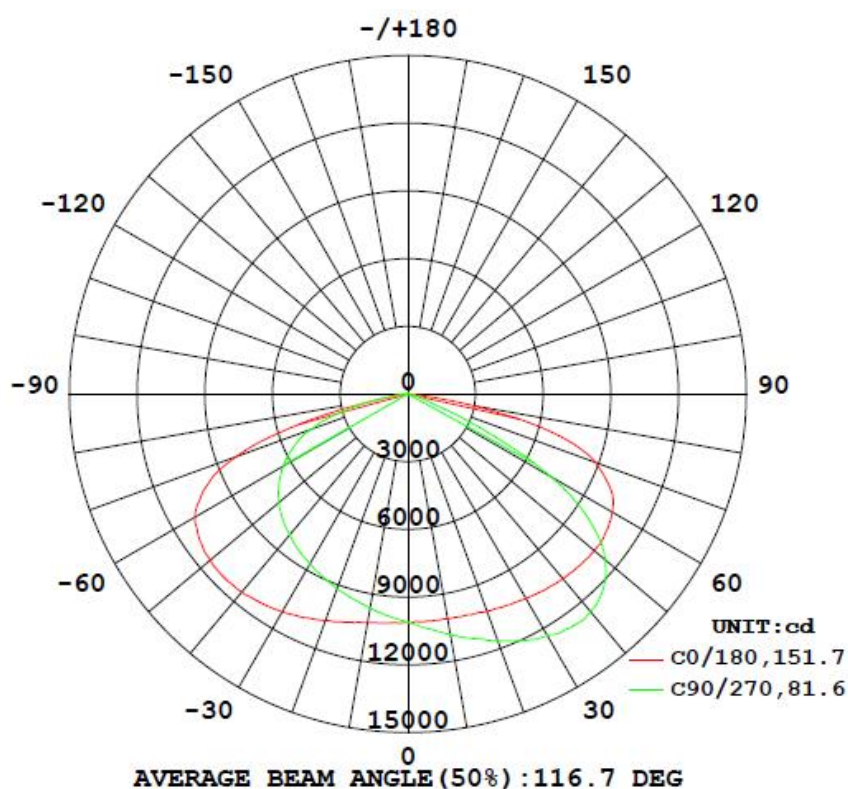
4. Goniophotometer Test results

5.1 Test Data

Test type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	230.0	60.01	1.092	0.9607	241.2

Test type	Total Flux (lm)	Luminous efficacy(lm/W)	Imax (cd)	Spacing Criteria (0~180°)	Spacing Criteria (90~270°)
Output	43121.1	178.80	12682	--	--

5.2 Luminous Intensity Distribution Diagram



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5.3 Zonal Flux Diagram

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	Φ lum, lamp
10	1011	1061	1082	1066	1029	989.1	963.2	974.1	0- 10	971.1	971.1	2.25,2.25
20	1023	1121	1162	1139	1067	973.8	918.3	944.2	10- 20	2928	3900	9.04,9.04
30	1047	1184	1235	1202	1115	956.0	868.2	914.4	20- 30	4887	8786	20.4,20.4
40	1069	1214	1260	1231	1146	911.6	815.3	872.9	30- 40	6702	15489	35.9,35.9
50	1079	1177	1142	1182	1144	837.4	747.0	807.8	40- 50	8089	23577	54.7,54.7
60	1046	1022	730.9	981.6	1090	707.8	637.0	697.8	50- 60	8529	32106	74.5,74.5
70	885.1	524.4	95.57	355.7	809.5	504.4	452.4	520.7	60- 70	7074	39180	90.9,90.9
80	277.2	39.17	14.49	23.60	96.18	156.1	117.5	218.5	70- 80	3450	42630	98.9,98.9
90	2.509	1.416	0.4384	0.8576	1.769	1.303	1.125	1.644	80- 90	392.6	43023	99.8,99.8
100	1.231	0.8434	0.5417	0.7019	1.440	1.007	0.4161	0.8829	90-100	11.23	43034	99.8,99.8
110	1.212	0.8703	0.8589	0.8639	1.992	1.624	1.013	1.422	100-110	10.97	43045	99.8,99.8
120	1.312	1.034	1.049	1.008	2.017	2.011	1.719	2.133	110-120	14.00	43059	99.9,99.9
130	1.647	1.460	1.429	1.250	1.664	1.894	1.945	2.151	120-130	14.35	43073	99.9,99.9
140	2.007	1.865	1.843	1.593	1.584	1.840	2.090	2.161	130-140	13.60	43087	99.9,99.9
150	2.270	2.239	2.215	2.068	1.901	2.196	2.378	2.484	140-150	13.02	43100	100,100
160	2.461	2.457	2.396	2.268	2.461	2.702	2.830	2.907	150-160	11.13	43111	100,100
170	2.805	2.844	2.621	2.673	2.598	2.802	2.903	3.159	160-170	7.459	43118	100,100
180	3.194	3.101	2.902	2.924	3.185	3.227	2.930	3.032	170-180	2.797	43121	100,100
DEG	LUMINOUS INTENSITY: $\times 10\text{cd}$									UNIT: lm		



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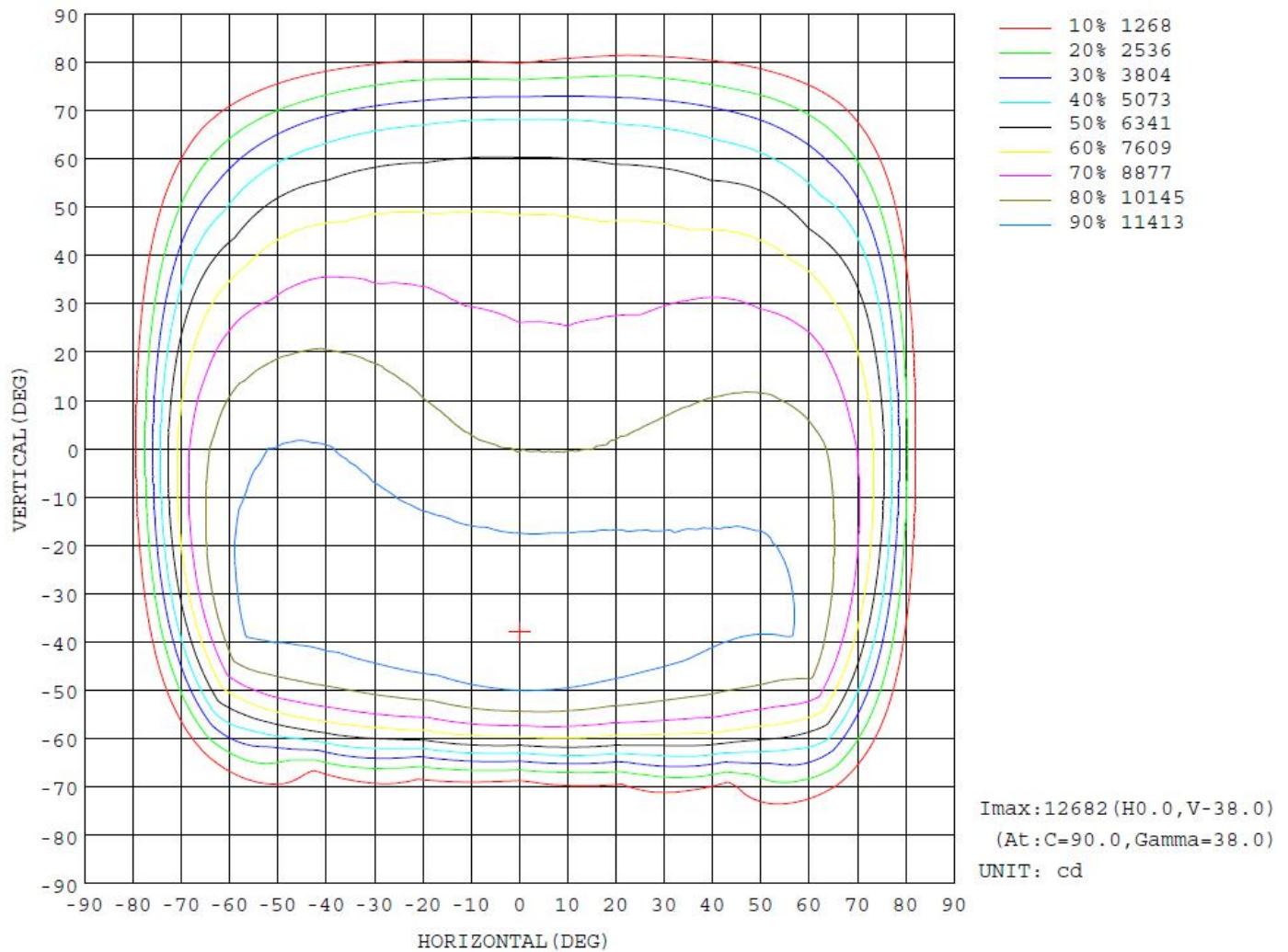
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5.4 Isocandela Diagram



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5.5 Luminous Distribution Intensity Data

Table--1

UNIT: ×10cd

C (DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	1013	1013	1016	1011	1010	1013	1009	1011	1013	1013	1016	1011	1010	1013	1009	1011			
5	1009	1023	1036	1040	1044	1044	1036	1027	1019	1008	1002	991	988	988	992	999			
10	1011	1035	1061	1074	1082	1081	1066	1046	1029	1007	989	970	963	964	974	994			
15	1013	1049	1091	1113	1121	1122	1103	1074	1047	1013	980	952	940	941	958	987			
20	1023	1070	1121	1152	1162	1159	1139	1103	1067	1021	974	936	918	920	944	984			
25	1033	1092	1153	1187	1205	1199	1174	1134	1093	1030	965	917	893	898	931	984			
30	1047	1112	1184	1220	1235	1230	1202	1159	1115	1036	956	895	868	875	914	982			
35	1059	1132	1204	1239	1262	1245	1225	1185	1131	1037	935	874	845	851	894	978			
40	1069	1146	1214	1243	1260	1242	1231	1206	1146	1028	912	848	815	825	873	971			
45	1076	1163	1206	1218	1224	1206	1217	1227	1152	1013	879	813	785	793	844	957			
50	1079	1175	1177	1150	1142	1125	1182	1233	1144	976	837	767	747	754	808	933			
55	1070	1181	1120	1029	989	993	1109	1230	1127	921	782	715	699	706	760	892			
60	1046	1173	1022	831	731	777	982	1209	1090	845	708	650	637	644	698	836			
65	991	1137	854	496	354	419	756	1135	995	733	616	571	563	573	618	752			
70	885	1038	524	159	95.6	123	356	912	810	566	504	474	452	482	521	616			
75	670	728	113	57.7	43.8	48.8	71.3	495	460	369	336	325	302	345	395	458			
80	277	271	39.2	21.3	14.5	16.0	23.6	78.4	96.2	143	156	159	118	192	218	246			
85	24.8	20.8	6.87	2.48	1.82	1.86	2.96	6.85	10.7	16.9	30.9	34.3	19.9	50.9	53.2	41.3			
90	2.51	2.57	1.42	0.65	0.44	0.51	0.86	1.77	1.77	1.62	1.30	1.25	1.13	1.41	1.64	2.04			
95	1.49	1.59	1.05	0.53	0.40	0.48	0.67	1.13	1.38	1.42	0.92	0.58	0.50	0.71	0.86	1.36			
100	1.23	1.10	0.84	0.58	0.54	0.59	0.70	0.95	1.44	1.52	1.01	0.55	0.42	0.55	0.88	1.42			
105	1.17	0.98	0.83	0.71	0.67	0.70	0.83	0.97	1.68	1.80	1.24	0.79	0.61	0.71	1.10	1.62			
110	1.21	0.97	0.87	0.85	0.86	0.83	0.86	1.08	1.99	2.02	1.62	1.18	1.01	1.05	1.42	1.98			
115	1.22	1.03	0.96	0.94	1.00	0.89	0.98	1.17	2.04	2.22	1.93	1.54	1.39	1.40	1.77	2.31			
120	1.31	1.08	1.03	1.02	1.05	0.97	1.01	1.21	2.02	2.19	2.01	1.73	1.72	1.78	2.13	2.36			
125	1.50	1.29	1.22	1.25	1.30	1.13	1.11	1.38	1.76	2.02	1.89	1.73	1.90	1.77	2.14	2.20			
130	1.65	1.47	1.46	1.43	1.43	1.30	1.25	1.44	1.66	1.71	1.89	1.81	1.95	1.95	2.15	2.09			
135	1.77	1.63	1.64	1.61	1.55	1.49	1.39	1.59	1.56	1.59	1.80	1.87	1.95	2.24	2.12	2.04			
140	2.01	1.91	1.87	1.88	1.84	1.78	1.59	1.85	1.58	1.70	1.84	2.20	2.09	2.45	2.16	2.09			
145	2.16	2.08	2.03	2.06	2.03	1.94	1.85	1.88	1.69	1.77	1.97	2.35	2.23	2.56	2.28	2.20			
150	2.27	2.28	2.24	2.27	2.21	2.15	2.07	1.95	1.90	1.96	2.20	2.57	2.38	2.76	2.48	2.32			
155	2.37	2.45	2.37	2.37	2.31	2.20	2.21	2.07	2.21	2.23	2.56	2.74	2.62	2.86	2.58	2.53			
160	2.46	2.49	2.46	2.45	2.40	2.30	2.27	2.19	2.46	2.44	2.70	2.90	2.83	2.88	2.91	2.69			
165	2.60	2.64	2.56	2.60	2.46	2.46	2.40	2.40	2.47	2.47	2.70	2.89	2.83	2.89	2.99	2.72			
170	2.80	2.91	2.84	2.80	2.62	2.71	2.67	2.64	2.60	2.59	2.80	2.99	2.90	2.91	3.16	2.86			
175	3.09	3.19	3.06	2.93	2.88	2.94	2.88	2.94	2.97	2.95	3.10	3.12	2.95	2.91	3.14	2.93			
180	3.19	3.21	3.10	2.93	2.90	3.04	2.92	3.02	3.18	3.18	3.23	3.11	2.93	2.94	3.03	2.93			

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5. Photo of sample

Photo document

Photos of MSL-F240





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