



TEST REPORT

Of IES LM-79-08

Kunde: <i>Client:</i>	Shenzhen Sinoco Lighting Technologies Co.,Ltd.
Adresse: <i>Address:</i>	G building,Shasi , High-Tec ,Industrial park,Shajing Town,Baoan District, Shenzhen, Guangdong,China
Hersteller: <i>Manufacturer:</i>	Shenzhen Sinoco Lighting Technologies Co.,Ltd.
Adresse: <i>Address:</i>	G building,Shasi , High-Tec ,Industrial park,Shajing Town,Baoan District, Shenzhen, Guangdong,China
Name der Marke: <i>Brand Name:</i>	SINOCO®
Beschreibung des Produkts: <i>Product Description:</i>	LED Street Light
Modelle: <i>Models:</i>	ST-52-80W-T3-3000K
Bewertung: <i>Rating:</i>	AC220-240V, 50/60Hz, 80W, 3000K
Verfahren: <i>Method:</i>	IES LM-79-08: Approved Method for Electrical and Photometric Measurements of Solid-State Lighting Products
Prüfergebnis*: <i>Test result*:</i>	N/A

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>
2020-11-17	2020-11-17	Commission Test	IES LM-79-08

Prüflabor (Testlabor) / Testing Laboratory:
Shenzhen Southern LCS Compliance Testing Laboratory Ltd.

Test von/Test by: William Lian William Lian/ Project Engineer	Check von/Check by:  Ian Luo/ Director	Genehmigt von/Approved by:  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.
Remark: The duplication of this report or parts of it and its use for advertising purposes is only allowed with permission of the testing laboratory. This report contains the result of examination of the product sample submitted by the appliance. A general statement concerning the quality of the products from the series manufacturer cannot be derived therefore.



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1. Test Method

Test Item.....:	Integrating Sphere Test
Ambient Condition	25.1°C
Stabilization time(h):	0.5h
Orientation(burning position) of SSL product during test	down
Test Method	The sample was tested according to the IES 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.....:	25.1°C
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 IES LM-79-2008. Photometric parameters 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.



2. Product Information

Product description.....:	LED Street Light
Model Number.....:	ST-52-80W-T3-3000K
Rated Inputs.....:	AC220-240V, 50/60Hz
Rated Power.....:	80W
Declared CCT.....:	3000K
LED Manufacturer.....:	N/A
LED Model.....:	N/A
Forward current of the LED chip.....:	N/A
Date of Receipt Samples.....:	November 16, 2020
Quantity of Receipt Samples.....:	1 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	2020/07/02	2021/07/01
EVERFINE	Digital Power Meter	SLCS-S-103	PF2010	2020/06/24	2021/06/23
EVERFINE	AC Testing Power Source	SLCS-S-115	DPS1060	2020/06/24	2021/06/23
EVERFINE	Total Spectral Radiant Flux Standard Lamp	SLCS-S-143	D908S	2020/07/02	2021/07/01
SENSING	2 Meter Integrating Sphere	SLCS-S-038	SPR-3000	2020/07/02	2021/07/01
YOKOGAWA	Digital Power Meter	SLCS-S-058	WT310	2020/06/24	2021/06/23
ALL POWER ELECTRONIC	AC Testing Power Source	SLCS-S-111	APW-105N	2020/06/24	2021/06/23
SENSING	Standard Lamp	SLCS-S-118	S11010017	2020/07/02	2021/07/01



4. Integrating Sphere Test Results

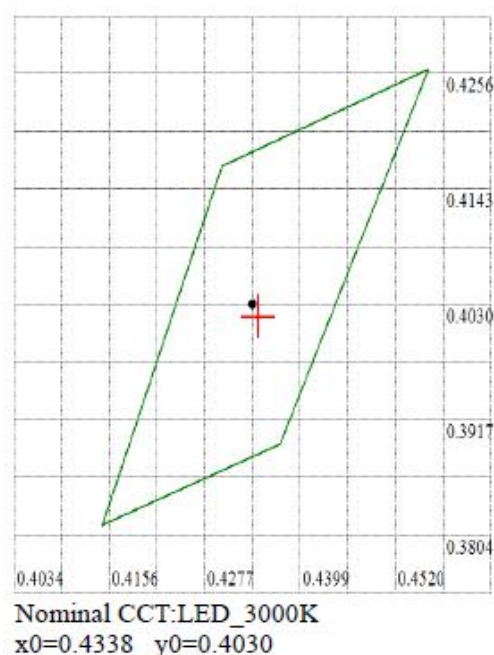
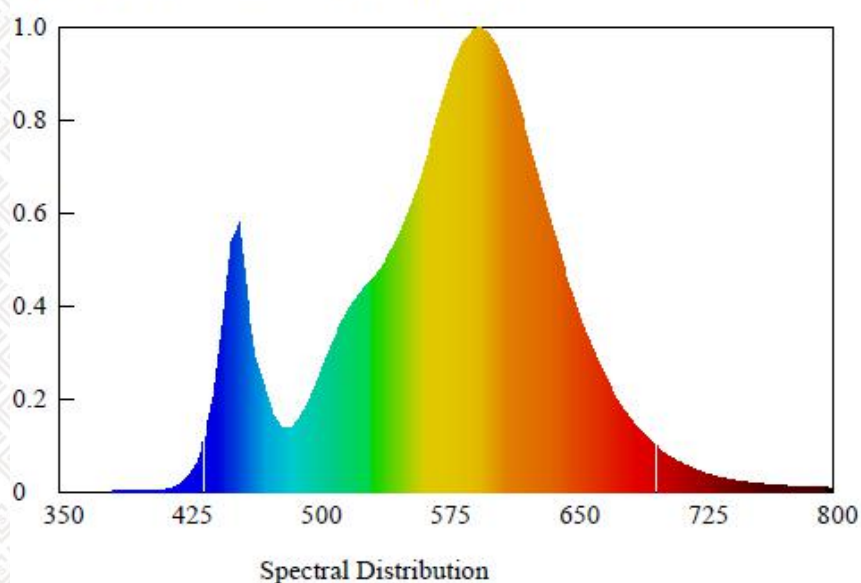
4.1 Test Data

Test type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	220.00	50.0	0.3734	0.9780	80.35

Test type	CCT (K)	CRI	Duv	Luminous flux (lm)	Luminous efficacy(lm/W)
Output	3023	72.8	-0.00057	12277.48	152.8

4.2 Spectrum

Spectroradiometric Parameters



Chromaticity Coordinates: $x=0.4345$ $y=0.4018$ $u'=0.25$ $v'=0.5201$

Correlated Color Temperature: 3023 K

Colour Fidelity Index: $R_f=74$

Luminous Flux: 12277.48 lm

Chromaticity Difference: -0.00057Duv

Color Ratio: $K_r=45.5\%$ $K_g=48.2\%$ $K_b=6.3\%$

Bandwidth: 101.6nm

Photosynthetically Active Radiation(PAR): 42.37W

Rendering Index: $R_a=72.8$

$R_1=69$ $R_2=85$ $R_3=94$ $R_4=68$ $R_5=69$ $R_6=81$ $R_7=75$ $R_8=41$

$R_9=-36$ $R_{10}=68$ $R_{11}=64$ $R_{12}=56$ $R_{13}=74$ $R_{14}=97$ $R_{15}=60$ $R_e=64$

Dominant Wavelength: 581.0 nm(E)

Gamut Index: $R_g=92$

Purity: 0.5135

Peak Wavelength: 595.0 nm

Radiant Flux: 43.274 W

Photosynthetic Photon Flux(PPF):204.20 μ mol/s



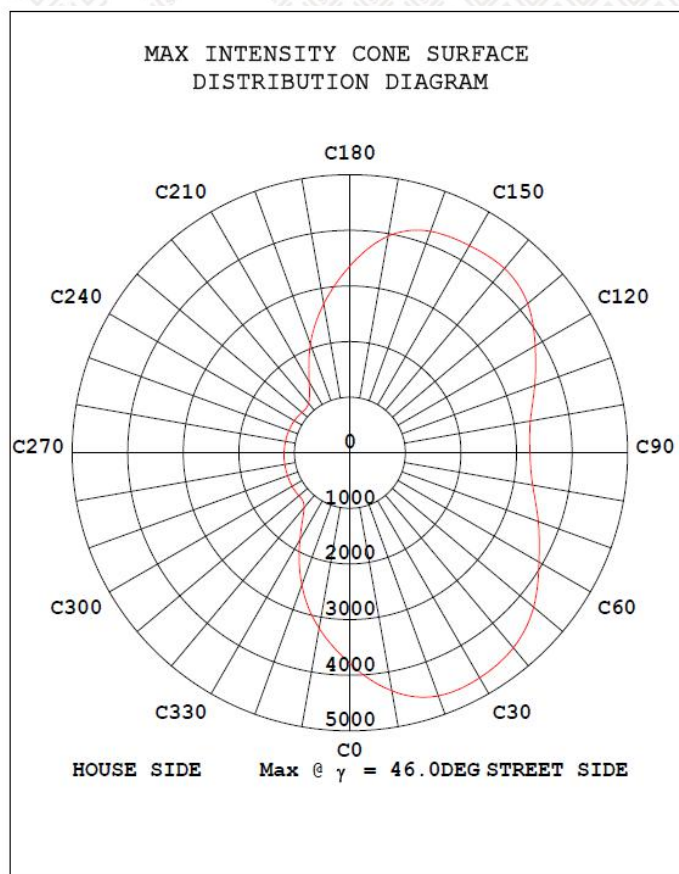
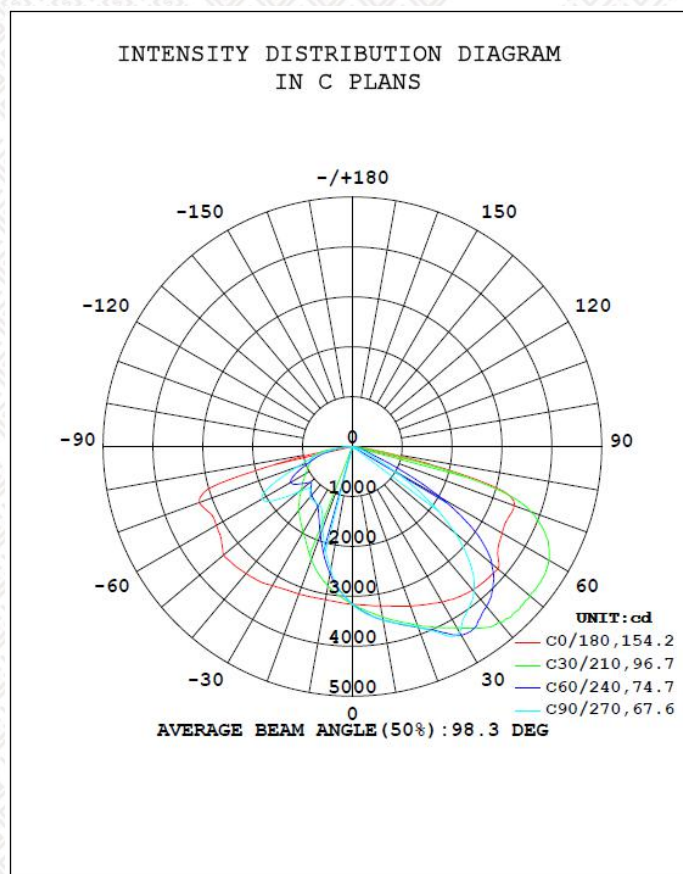
5. Goniophotometer Test results

5.1 Test Data

Test type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	220.1	50.01	0.3729	0.9780	80.28

Test type	Total Flux (lm)	Luminous efficacy(lm/W)	I _{max} (cd)	ZL (0~90°)	ZL (80~90°)
Output	12267.8	152.81	4671	100%	1.1%

5.2 Luminous Intensity Distribution Diagram and C0 Plane Isolux Diagram (Unit : lx)



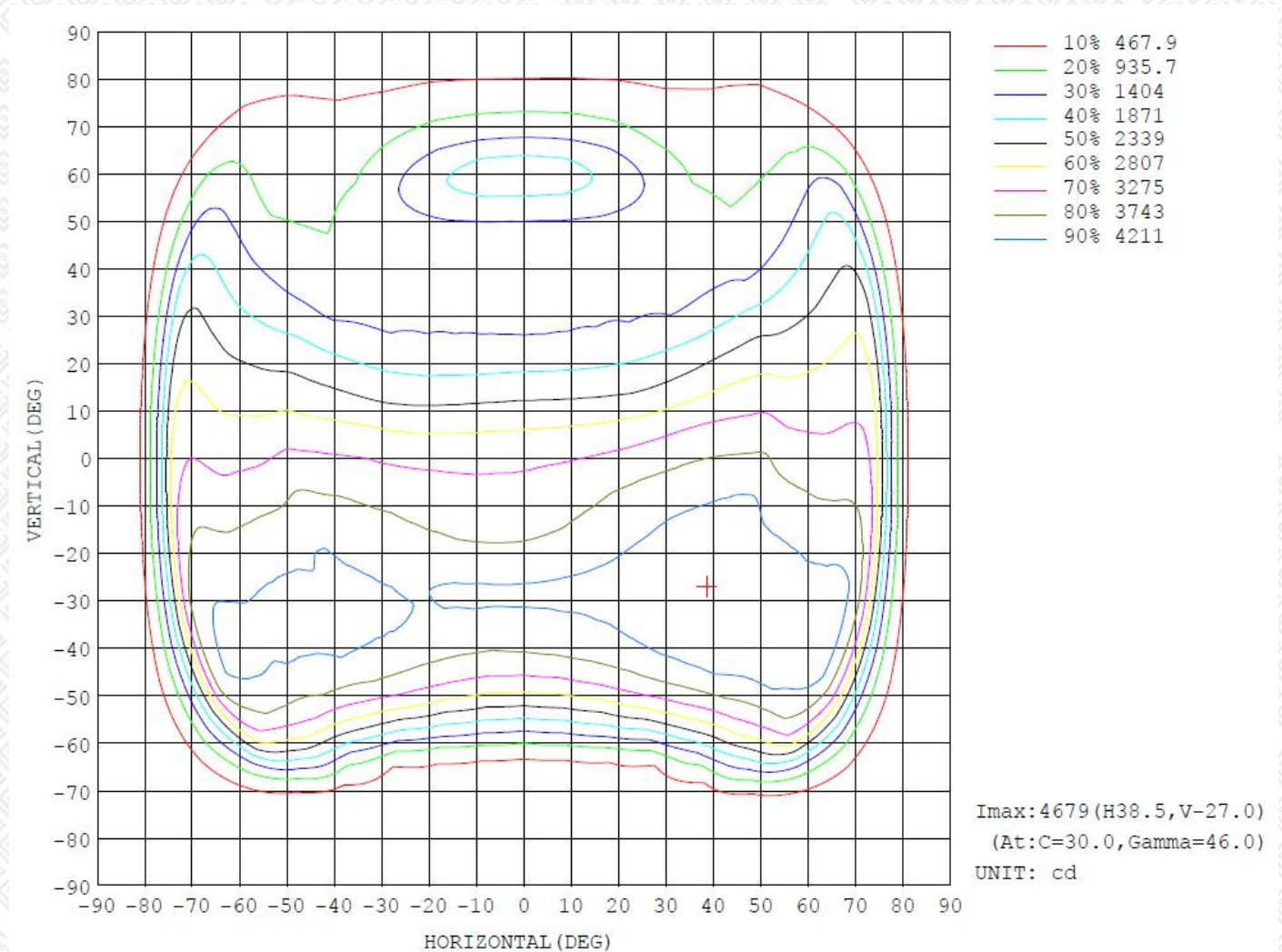


5.3 Zonal Flux Diagram

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	Φ lum, lamp
10	3240	3517	3530	3427	3113	2707	2520	2772	0~ 10	298.8	298.8	2.44, 2.44
20	3397	3854	3851	3670	3143	2099	1749	2215	10~ 20	861.7	1160	9.46, 9.46
30	3597	4297	4294	4031	3215	1599	1348	1746	20~ 30	1386	2546	20.8, 20.8
40	3751	4491	3794	4242	3320	1287	1319	1401	30~ 40	1879	4426	36.1, 36.1
50	3804	4344	2681	4180	3377	1065	1410	1166	40~ 50	2215	6641	54.1, 54.1
60	3469	3530	942.5	3456	3155	981.0	2089	1029	50~ 60	2305	8945	72.9, 72.9
70	3451	1673	205.2	1724	3268	751.3	1168	806.6	60~ 70	2003	10949	89.2, 89.2
80	655.7	99.48	8.986	86.86	646.1	470.2	472.3	557.3	70~ 80	1185	12134	98.9, 98.9
90	0	0	0	0	0	0	0	0	80~ 90	133.7	12268	100, 100
100	0	0	0	0	0	0	0	0	90~100	0	12268	100, 100
110	0	0	0	0	0	0	0	0	100~110	0	12268	100, 100
120	0	0	0	0	0	0	0	0	110~120	0	12268	100, 100
130	0	0	0	0	0	0	0	0	120~130	0	12268	100, 100
140	0	0	0	0	0	0	0	0	130~140	0	12268	100, 100
150	0	0	0	0	0	0	0	0	140~150	0	12268	100, 100
160	0	0	0	0	0	0	0	0	150~160	0	12268	100, 100
170	0	0	0	0	0	0	0	0	160~170	0	12268	100, 100
180	0	0	0	0	0	0	0	0	170~180	0	12268	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



5.4 Isocandela Diagram



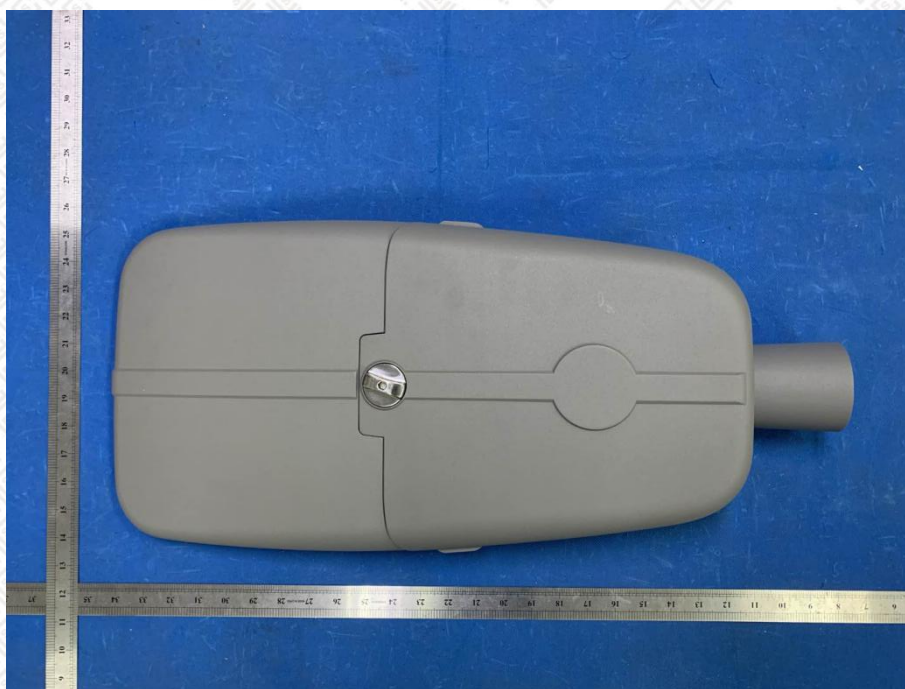
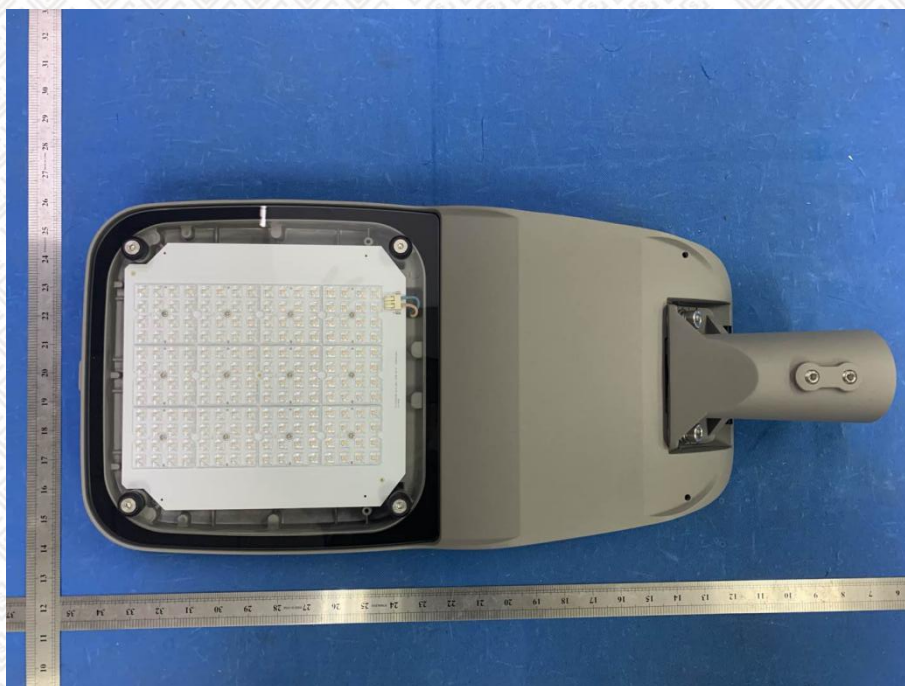
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6. Photo of sample

Photo document

Photos of ST-52-80W-T3-3000K



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