ENERGY EFFICIENCY CERTIFICATION (EEC): Test Report - Cover Page

Customer Name:	Royal Pacific Ltd.
Address:	4931 Paseo Del Norte Ne, Albuquerque, NM, 87113-1528, United States.

Product Category:	Ceiling Fan with Light Kits
Brand Name(s):	RP Lighting &Fans
Model Name(s):	42" Sabio
Model Number(s):	1021BN-BN-ES, 1021BN-WT-ES, 1021OB-WT-ES, 1021WW-WW-ES, 1021MBK-MBK-ES
Representative (tested) Model:	1021OB-WT-ES
Model Differences:	Color

The sample(s) tested is(are) compliant with the following applied standards/regulations:

ENERGY STAR® PROGRAM REQUIREMENTS FOR RESIDENTIAL CEILING FANS AND CEILING FAN LIGHT KITS - VERSION 4.0 - Issue Date 2018/06/15

Test Location Name:	UL Verification Services (Guangzhou) Co., Ltd.					
Test Location Address:	Room 101,201,301,501,502,503, Building A1, Nansha Science and Technology Innovation Center, No. 25, South Huanshi Avenue, Nansha District, Guangzhou China 511458					
Testing Performed Under:	[x]	UL Lab	[]	Private Label	[]	WMTL
	[]	CTDP/SMTL	[]	EPA 3rd Party	[]	Other - <specify>

UL Project No.:	4790478992.1-1a		
Evaluator:	Xianzhuo Zheng	**Reviewer:**	Chuxian Jiang
		Certifier:	Jasmin Wang
Issued: (yyyy-mm-dd)	2022-11-02	**Revised:** (yyyy-mm-dd)	N/A

Additional information: 1. ES CFLK Test Report – Refer to Report No. 4790478992.2-1a for details. 2. ES CF Test Report – Refer to Report No. 14402972-1a for details.
Project History: N/A

Test Report

Customer Company & Address:			
Company Name: ZHONGSHAN CO-TECH INDUSTRIES LTD. Add: NANLANG INDUSTRIES AREA,NANLANG ZHONGSHAN CHINA			
Contact Person:	KUN	**Email:**	co_tech@126.com
Telephone:	760-87896624	**Fax:**	760-87891381

Manufacturer:	ZHONGSHAN CO-TECH INDUSTRIES LTD.
Country of Origin:	China
Country of Export:	USA
Brand Name:	RP LIGHTING & FANS
Product Description:	Ceiling Fan with Light Kits
Representative (Tested) Model:	1021OB-WT-ES
Model Number:	1021BN-BN-ES, 1021BN-WT-ES, 1021OB-WT-ES, 1021WW-WW-ES,1021MBK-MBK-ES
Model Differences:	Color
Electrical Specification:	120V/60Hz

Test Laboratory & Address:			
UL Verification Services (Guangzhou) Co., Ltd. Address: Room 101,201,301,501,502,503, Building A1, Nansha Science and Technology Innovation Center, No. 25, South Huanshi Avenue, Nansha District, Guangzhou China 511458			
Telephone:	+86 20 28667188	**Fax:**	+86 20 83486605

Receipt of Test Samples	2019-10-23	**Test Period**	2019-10-23~2019-10-23

Handled By	Approved By
Xian Zhuo Zheng / Xianzhuo Zheng	/ Liny Lan
Test Personnel Name & Signatory	**Approval Name & Signatory**

The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products. This report does not imply that the product(s) has met the criterra for certification.

Test Report

Testing Regulation

☐ DOE	DEPARTMENT OF ENERGY Office of Energy Efficiency and Renewable Energy 10 CFR Parts 429 and 430 [Docket No.EERE-2013-BT-TP-0050] RIN: 1904-AD10
☐ CEC	CEC-400-2017-002 California Code of Regulations,Title 20,Sections 1601 through 1608
☑ ES	ENERGY STAR® PROGRAM REQUIREMENTS FOR RESIDENTIAL CEILING FANS AND CEILING FAN LIGHT KITS - VERSION 4.0 - Issue Date 2018/06/15
☐ NRCAN	Amendment 16 to the Energy Efficiency Regulations, 2016: SOR/2019-163 was published in Canada Gazette Part II on June 12, 2019 for Airflow of Ceiling Fans

Statement of Results

Test Flow	Test Method	Sample ID (Lab)	Sample Serial No.	Pass/Fail/NA
Ceiling Fan Energy Efficiency Testing	Appendix U to Subpart B of Part 430 – Uniform Test Method for Measuring the Energy Consumption of Ceiling Fan	2640495	N/A	Pass
		2640499	N/A	

Deviation from Test Method *(if any)*

N/A

Remark *(if any)*

1.The measurement result for the sample received are according to the Accuracy Method decision rule.
2.This report test data trace to DOE report: 13083282-1a.

Test Report

Test Flow : Ceiling Fan Energy Efficiency Testing

1. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
GVS-LE-CF001	Power Meter	2019-07-19	2020-07-18
GVS-LE-CF002	Digital Tachometer	2019-07-21	2020-07-20
GVS-LE-CF003	Tem.& Hum.& Atm. Record	2019-07-19	2020-07-18
GVS-LE-CF004	Distance Measure Meter	2019-07-25	2020-07-24
GVS-LE-CF005	Chamber	2019-07-21	2020-07-20
GVS-LE-CF007	Rotating Sensor Arm System	2019-07-21	2020-07-20
GVS-LE-CF009～020	Air Speed Sensor	2019-10-16	2020-10-15

2. Test Sample Information

Product Description	Ceiling Fan with Light Kits		
Representative (Tested) Model	1021OB-WT-ES		
Light Kit Model Number	LM04A-130-120V		
Motor Model Number	153x9MM	Number of Blades	3
Fan Size(inch)	42	Blade Pitch Angle(°)	12
Speed Control Type/Model No.	Pull Chain	Downrod Length(inch)	N/A
Blade Description	Standard Flat	Mounting Method	Hugger Only
Blade Weight(g)	1.3kg/3pcs	DOE Products Category	LSSD
Blade Edge Thickness(inch)	0.1925	Flow-Direction Control Type/Model No.	Slide Switch
High of pull chain above floor	< 203 cm	Minimun Warranty Statement	3 years
Blades Lowest Point to Ceiling	Hugger: 9.25inches		

3. Test Result

Hugger Mounting Method

Sample ID	Measured Airfow(CFM)			Measured Power(W)				Efficiency (CFM/W)
	High	Medium	Low	High	Medium	Low	standby	
001	3214.76	/	1242.66	43.60	/	7.94	0.00	85.19
002	3213.87	/	1252.27	43.53	/	7.94	0.00	85.45
Average of Sample	3214.31	/	1247.47	43.57	/	7.94	0.00	85.32
LCL/0.9 for Airflow	3569.94	/	1369.64	/	/	/	/	94.35
UCL/1.1 for Power	/	/	/	39.81	/	7.23	0.00	/
Represented Value	3214.31	/	1247.47	43.57	/	7.94	0.00	85.32
ES Minimum Efficiency(CFM/W)	58.50		ES Minimum High Speed Airflow(CFM)				1924.22	
ES Result (Pass/Fail)	Pass							

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4. Test Data

LSSD+Hugger -001

Sample ID	001	Tested Date	2019/10/23	Tested By	Chuxian
Room Temp.(^{0}C)	21.7	Relative Humidity(%)	52.9	Barometric Pressure(PSI)	14.6
Low Speed Testing Model					
Max. RPM	97	Min. RPM	92	Voltage(V)	120.01
Frequency(Hz)	59.990	Power P1(W)	7.94	Current(A)	0.1619

Sensor #	Sensor Dist. From Center (inch)	Velocity in FPM - Axis #				Average Vel. (FPM)	Circle area (sq. Ft.)	Air Delivery (CFM)
		A	B	C	D			
1	0	121.94	108.85	105.29	108.18	111.07	0.0873	9.70
2	4	138.43	109.40	103.94	125.87	119.42	0.6981	83.37
3	8	127.46	118.76	124.50	139.01	127.43	1.3963	177.93
4	12	101.24	130.92	134.07	142.99	127.31	2.0944	266.64
5	16	65.38	119.98	113.77	121.38	105.13	2.7925	293.58
6	20	39.49	90.10	71.58	83.10	71.07	3.4907	248.08
7	24	24.90	75.79	47.91	63.84	53.11	3.0761	163.37
							Total Air Flow of Low Speed(CFM)	1242.66

High Speed Testing Model					
Max. RPM	232	Min. RPM	224	Voltage(V)	120.01
Frequency(Hz)	59.990	Power P2(W)	43.60	Current(A)	0.3645

Sensor #	Sensor Dist. From Center	Velocity in FPM - Axis #				Average Vel. (FPM)	Circle area (sq. Ft.)	Air Delivery (CFM)
		A	B	C	D			
1	0	243.95	234.97	239.85	256.38	243.79	0.0873	21.28
2	4	312.72	291.76	294.03	313.06	302.90	0.6981	211.45
3	8	338.44	334.08	341.67	343.86	339.52	1.3963	474.07
4	12	310.43	344.70	349.57	330.80	333.87	2.0944	699.26
5	16	234.40	308.09	290.24	275.86	277.15	2.7925	773.94
6	20	144.51	221.51	185.01	187.20	184.55	3.4907	644.21
7	24	93.44	169.76	116.83	127.80	126.96	3.0761	390.54
							Total Air Flow of High Speed(CFM)	3214.76

Standby Testing Model			
Voltage(V)	120.00	Frequency(Hz)	0.000
Power P0(W)	0.00	Current(A)	0.0000

Test Report

LSSD+Hugger -002

Sample ID	002	Tested Date	2019/10/23	Tested By	Chuxian
Room Temp.(^{0}C)	21.1	Relative Humidity(%)	52.4	Barometric Pressure(PSI)	14.6
Low Speed Testing Model					
Max. RPM	97	Min. RPM	94	Voltage(V)	120.01
Frequency(Hz)	59.990	Power P1(W)	7.94	Current(A)	0.1620

Sensor #	Sensor Dist. From Center (inch)	Velocity in FPM - Axis #				Average Vel. (FPM)	Circle area (sq. Ft.)	Air Delivery (CFM)
		A	B	C	D			
1	0	112.66	101.77	94.48	97.91	101.71	0.0873	8.88
2	4	133.88	99.19	90.29	113.95	109.33	0.6981	76.32
3	8	125.50	113.36	113.68	134.55	121.77	1.3963	170.03
4	12	102.81	127.72	137.22	141.56	127.33	2.0944	266.68
5	16	67.49	115.79	126.48	122.96	108.18	2.7925	302.10
6	20	41.09	88.42	79.85	85.01	73.59	3.4907	256.89
7	24	24.08	76.84	56.04	65.88	55.71	3.0761	171.37
							Total Air Flow of Low Speed(CFM)	1252.27

High Speed Testing Model					
Max. RPM	232	Min. RPM	226	Voltage(V)	120.00
Frequency(Hz)	59.990	Power P1(W)	43.53	Current(A)	0.3638

Sensor #	Sensor Dist. From Center	Velocity in FPM - Axis #				Average Vel. (FPM)	Circle area (sq. Ft.)	Air Delivery (CFM)
		A	B	C	D			
1	0	237.43	244.78	214.07	251.09	236.84	0.0873	20.68
2	4	299.61	299.90	279.02	316.48	298.75	0.6981	208.56
3	8	330.37	337.72	340.73	345.48	338.58	1.3963	472.75
4	12	308.89	351.55	352.02	333.87	336.58	2.0944	704.94
5	16	238.33	312.10	287.08	275.46	278.24	2.7925	776.99
6	20	150.65	220.32	181.02	183.54	183.88	3.4907	641.89
7	24	96.14	168.62	115.92	123.95	126.16	3.0761	388.07
							Total Air Flow of High Speed(CFM)	3213.87

Standby Testing Model			
Voltage(V)	120.00	Frequency(Hz)	0.000
Power P0(W)	0.00	Current(A)	0.0000

Test Report

5. Test Sample Photo(s)

Sample Photo

**********END OF TEST REPORT**********