



TEST REPORT

For

RENO LED LIGHTING INC

9133 Leslie St #120, Richmond Hill, ON L4B 4N1

Model Number:	RENO-LSN8-DV-MW-MCCT-MS	
Report Type:	Electrical, Photometric and ISTMT tests according to the following standards and show the compliance to DLC Program SSL Technical Requirements V5.1	
Standards:	ANSI/IES LM-79-19: Approved Method: Optical and Electrical Measurements of Solid-State Lighting Products ANSI C82.77-10-2014: Harmonic Emission Limits – Related Power Quality Requirements for Lighting ANSI/UL 1598-2008: Standard for Safety of Luminaires CIE 190:2010 Calculation and presentation of unified glare rating tables for indoor lighting luminaires IES TM-30-18*: IES Method for Evaluating Light Source Color Rendition	
Project Engineer:	Bay Wang	
Report Number:	RKS230801005-10-2	
Sample Size:	One sample was received on 2023-08-01 and used for testing.	
Test Date:	2023-08-04 to 2023-08-11	
Report Date:	2023-08-12	
Reviewed By:	Seven Xia / EE Engineer	
Prepared By:	Bay Area Compliance Laboratories Corp. (Kunshan). No. 248 Chenghu Road, Kunshan, Jiangsu, People’s Republic of China Tel: +86-0512-86175000 Fax: +86-0512-88934268	

1. Product Information and Description#

Product Primary Use:	Stairwell and Passageway Luminaires
Voltage and Frequency:	120-347VAC, 50/60Hz
LED Source Manufacturer:	Lumileds Holding B.V.
LED Source Model:	L128-xx80RA35000Q1
Driver Model:	SDC96CS200V48DL1A
Auxiliary Ballast Model:	NA
Auxiliary Housing Model:	NA
White Tunable:	Yes
Field-Adjustable Light Output:	Yes

2. Product Rated Values#

Test Model	CCT(K)	Light Output (lm)	Power(W)	Luminous Efficacy (lm/W)
RENO-LSN8-DV-MW-MCCT-MS	3500	7843	48	163
		11043	68	162
		14526	90	161.4
	4000	8304	48	173
		11696	68	172
		15390	90	171
	5000	7872	48	164
		11084	68	163
		14580	90	162

3. Test List

Test Model	CCT(K)	Power(W)	Test Item			
			Goniophotometer Test	Integrating Sphere Test	THDi and PF Test	In-Situ Temperature Measurement Test
RENO-LSN8-DV-MW-MCCT-MS	3500	90	NA	Yes	Yes	Yes

4. Product Photo



5. Test Result

Test Model: RENO-LSN8-DV-MW-MCCT-MS

Control Setting: 3500K/ 90W

Integrating Sphere Test; Orientation: Downward; Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances only)	Conclusion
Light Output(lm)	14028.6	10000~30000	9000~33000	Pass
Power(W)	86.4	None.	None.	N/A
Total Efficacy(lm/W)	162.36	≥120	≥116.4	Pass
CCT(K)	3354	None ⁱ	None.	N/A
Duv	0.00187	None ⁱ	None.	N/A
IES R _r	82	70	69	Pass
IES R _g	99	89	88	
IES Rcs,h1	-10%	-18%~23%	-19%~24%	
R _a	81.4	≥70	≥69	
R ₉	23	/	/	

Note:

- i. White-tunable products are not required to meet the chromaticity requirements in DLC V5.1.

Integrating Sphere THDi, PF Test; Orientation: Downward;

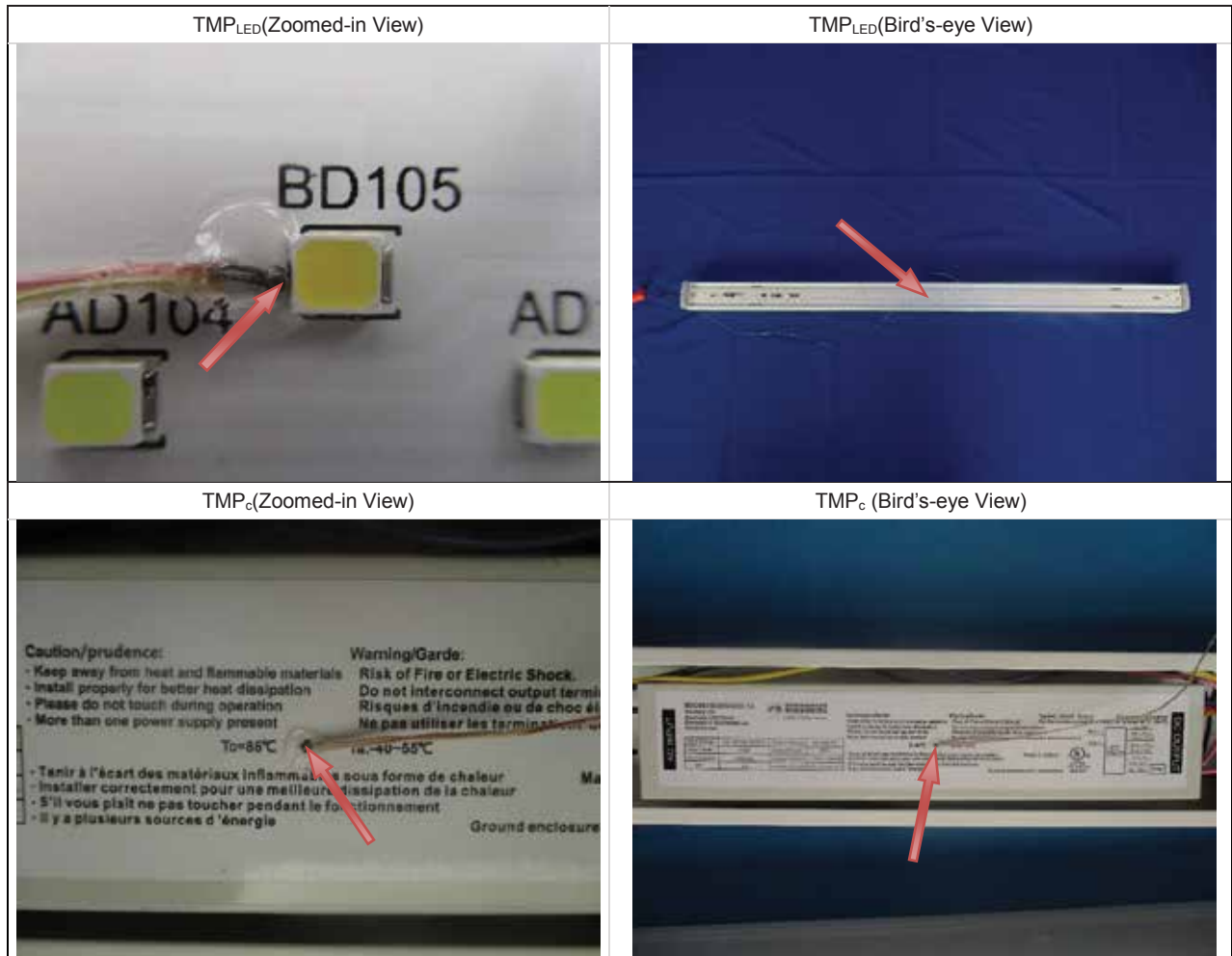
Test Voltage	Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
120	Power Factor	0.9947	≥0.9	≥0.87	Pass
120	THDi	3.84%	≤20%	≤25%	Pass
277	Power Factor	0.9377	≥0.9	≥0.87	Pass
277	THDi	6.05%	≤20%	≤25%	Pass
347	Power Factor	0.8767	≥0.9	≥0.87	Pass
347	THDi	10.53%	≤20%	≤25%	Pass

In-Situ Temperature Measurement Test: Test Voltage: 120V 60Hz;

Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
TMP _{LED} (°C)	57	≤115	With tolerance of ≤ 1.1°C or 0.4%, whichever is greater due to thermocouple tolerance	Pass
TMP _c (°C)	63.9	≤90	With tolerance of ≤ 1.1°C or 0.4%, whichever is greater due to thermocouple tolerance	Pass
Drive Current/Individual LED source(mA)	96.7	≤150	With +5% tolerance	Pass
L ₉₀ Lumen Maintenance Life (Hours)	51000	≥36000	None.	Pass
Color Maintenance	0.002	≤0.007	≤0.0074	Pass

Note:

- The test results were measured directly from the test equipment.
- The DLC requirements were listed according to DLC Technical Requirements V5.1.
- The conclusion is for reference only. Test report that indicate product performance meets DLC Technical Requirements do not represent official DLC product qualification. All decisions regarding product qualification are made by the DLC.



Test Data

[Integrating Sphere System]

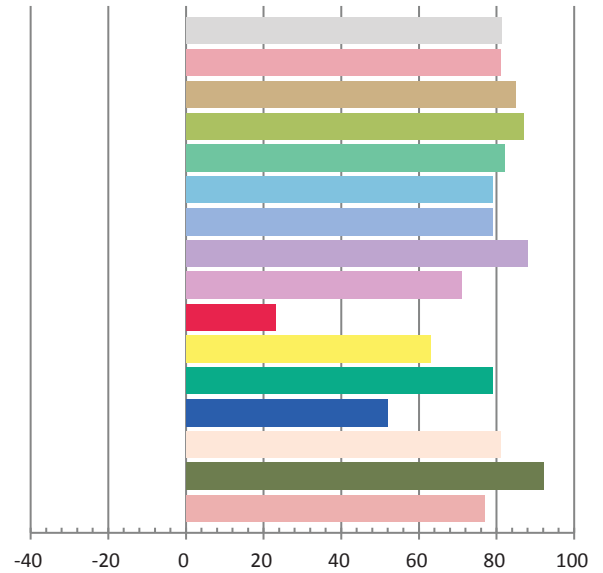
Photometric and Electrical Measurement Result

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Luminous Flux(lm)	Efficacy (lm/W)
120.0	60	0.7238	86.4	0.9947	14028.6	162.36

Radiant Flux (W)	CCT (K)	Duv	x	y	u'	v'
39.289	3354	0.00187	0.4160	0.4002	0.2387	0.5167

Color Rendering Index

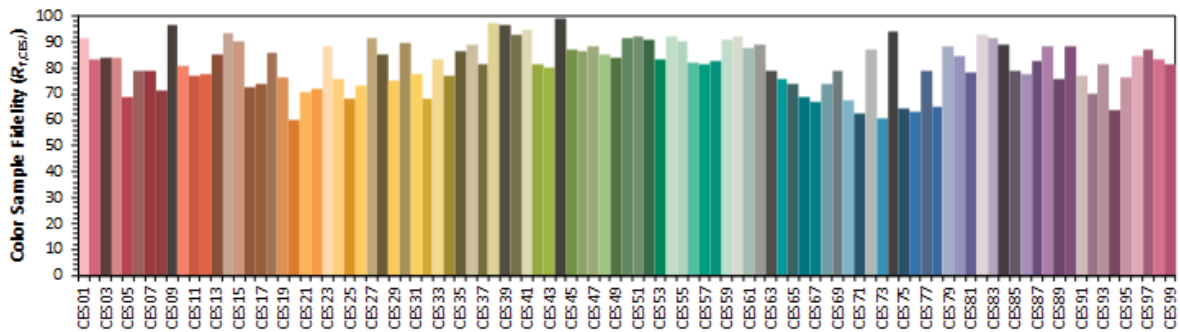
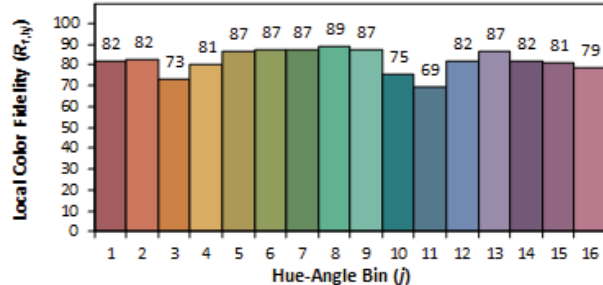
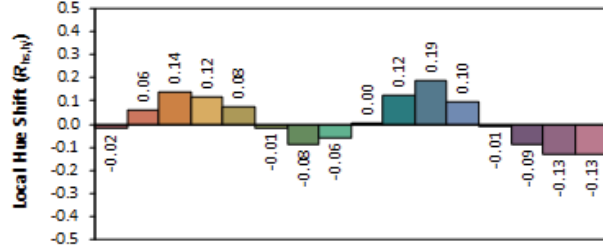
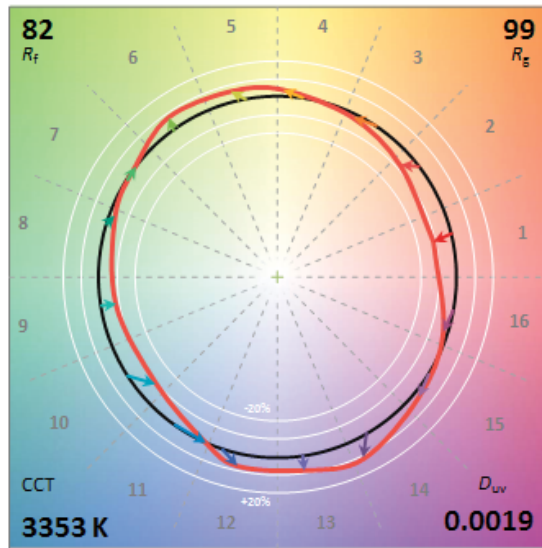
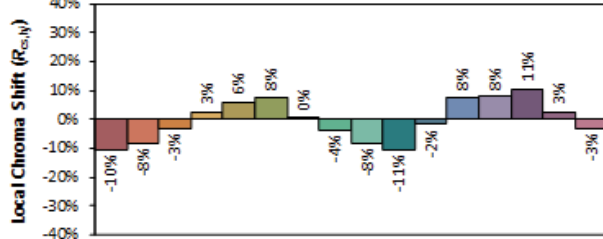
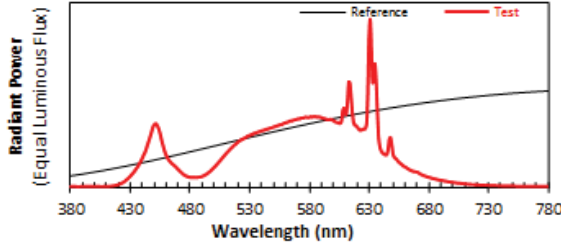
Ra			
81.4			
R1	R2	R3	R4
81	85	87	82
R5	R6	R7	R8
79	79	88	71
R9	R10	R11	R12
23	63	79	52
R13	R14	R15	
81	92	77	



ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD
 Date: 2023/8/4

Manufacturer: RENO LED LIGHTING INC
 Model: RENO-LSN8-DV-MW-MCCT-MS



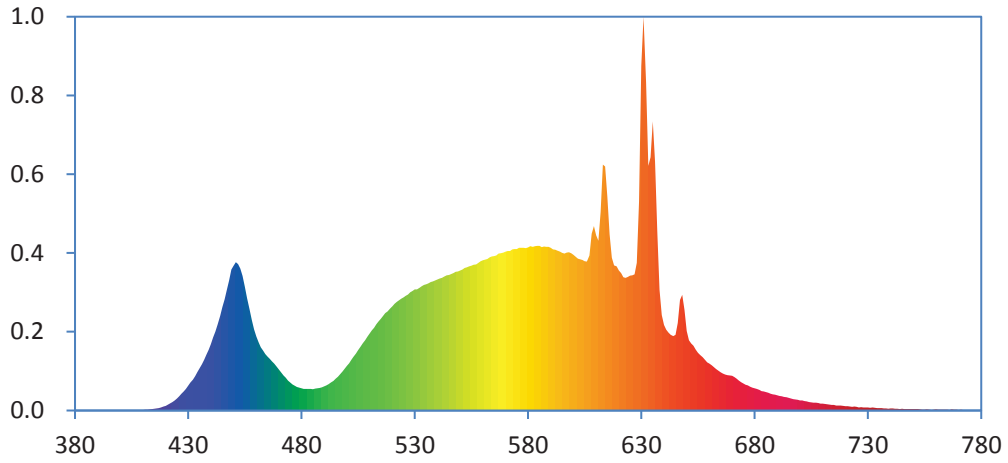
Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4160
 y 0.4002
 u' 0.2387
 v' 0.5167

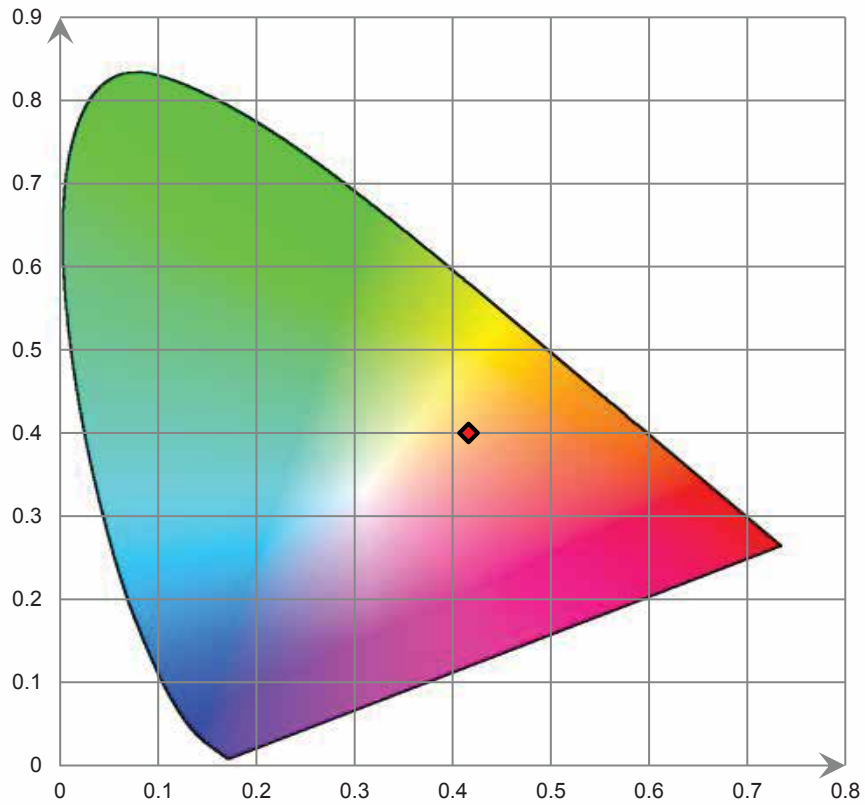
CIE 13.3-1995 (CRI)
 R_a 81
 R_g 24

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

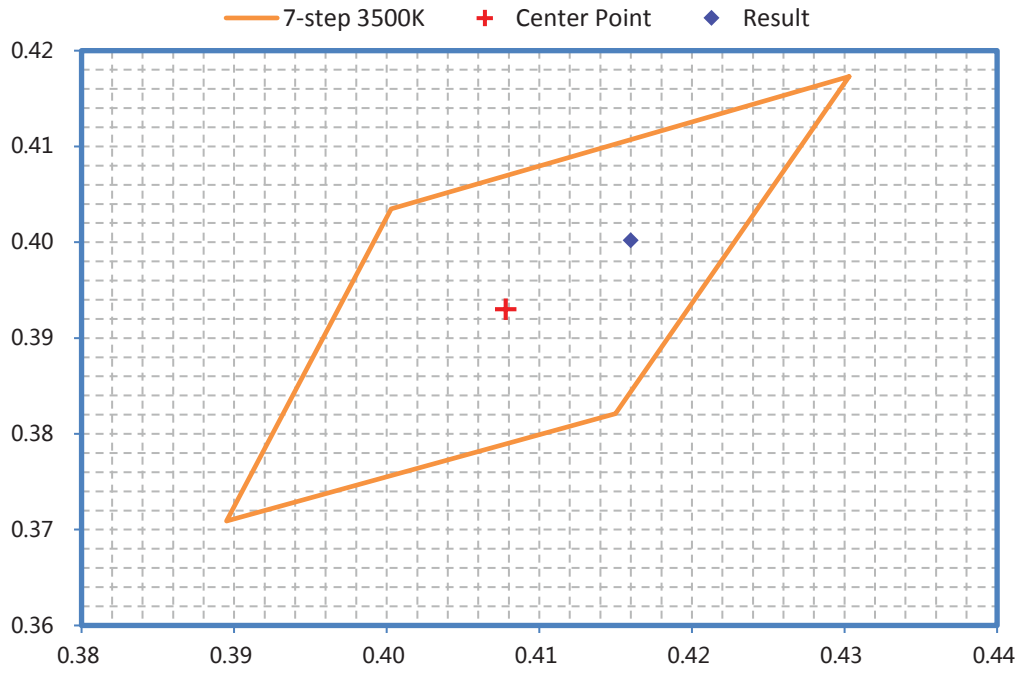
Relative Spectral Power Distribution



CIE 1931 x y Chromaticity Diagram



ANSI C78.377-2017 Chromaticity Quadrangles



6. Description of Test Equipment

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
Integrating Sphere	INVENTFINE	Dia 1.5m	JWWCV090112	2023-05-19	2024-05-18
Power Meter	INVENTFINE	WT500	GSJWQ20009	2022-11-03	2023-11-02
Spectral photometer	INVENTFINE	CMS-3S	GSGSE100017	2023-05-19	2024-05-18
AC Power Supply	INVENTFINE	CHP500	JWJSD010071	2023-05-19	2024-05-18
Standard Light Source	Osram	24V/50W	JWWCR020104	2021-09-15	2023-09-14
Thermal Meter	ANYMETRE	TH-20E	N/A	2022-11-11	2023-11-10
DC Power Supply	INVENTFINE	WL3005	JWWCP020069	2023-05-19	2024-05-18
Digital Multimeter	FLUKE	115C	37840512WS	2023-05-22	2024-05-21
Hybrid Recorder	YOKOGAWA	DR230	47JH0903	2023-05-22	2024-05-21
Power Supply	SC	SC/BP-11003	1608110030553	2023-05-19	2024-05-18
Variable-Voltage Transformer	Guangfa	TDGC2-1KVA	N/A	N/A	N/A

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Kunshan) attested that all calibration has been performed using suitable standards traceable to National Primary Standards and International System of Units (SI).

7. Test Method

Product was tested with no seasoning. All stabilization and measurements were made in compliance with IES LM-79-19. The ambient temperature of the sample was maintained at 25°C±1°C during measurement. And relative humidity is less than 65%. The product was operated in its intended orientation in application during all testing.

Integrating Sphere System

The system includes AC power source, digital power meter, DC power supply, Spectroradiometer, and integrating sphere. The integrating sphere system is calibrated by standard spectrum light source before measurement. 4π geometry was used during measurement.

ISTMT Test

The LED which has the highest temperature was measured at the location of LED case which is specified by LED source manufacturer and detailed by LM-80 report. The drive current of LED package/module/ array was calculated as the total output current of the driver measured by multimeter, divided by the number of branches in parallel of LEDs.

Directions

1. The information marked "superscript #" is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report.
2. This report may contain data that are not covered by the accreditation scope and shall be marked with an asterisk "★"
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