LCTECH

NVLAP TESTING
NVLAP LAB CODE 500080-0

Ref. No.: LCZP25030062
Version: 1.0
Date of issue: Apr. 1, 2025
Total pages: 9

Test report of

IES LM-79-08

Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Rendered to:

Beyond LED Technology
1939 Parker Court, Stone Mountain, GA 30087

For products:

Horizontal Refrigerated Case Luminaires

Models No.:

ZS-T8V1532T-57

Test Date:	Mar. 26, 2025
Test Lab.:	**LCTECH Guangdong Testing Services Co., Ltd.** 1/F., Building I, & 2, 3, 4/F., Building II, Technology and Enterprise Development Center, Guangyuan Road, Xiaolan, Zhongshan, Guangdong, China Tel:+86-760-22833366 E-mail:Service@lccert.com http://www.lccert.com
Test Sites:	1/F., Building I, Technology and Enterprise Development Center, Guangyuan Road, Xiaolan, Zhongshan, Guangdong, China
Template No.:	LC-RT-PL-051 Rev.1.4
Test Note:	

Compiled by:		**Reviewed by:**	
Pengkang Liang	Pengkang Liang	**Lin Qiu**	Lin Qiu
Apr. 1, 2025		**Apr. 1, 2025**	

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1. General

1.1 Product Information

Brand Name	-
Category	Indoor
General Application	Case Lighting
Primary Use	Horizontal Refrigerated Case Luminaires
Model Number	ZS-T8V1532T-57
Rated Inputs	AC100-277V, 50/60Hz
Rated Power	32W
Rated Light output	4160lm
Declared CCT	5700K
Power Supply	ZY-TQN36-ZA
LED Package, Array or Module	HL-AS-2835DW-3C-S1-08-PCT-HR3(R9), Hongli Zhihui Group Co.,Ltd. Guangzhou Branch
Dimming	Continuous Dimming
Integral Controls	No
Controls Controllability	No
Receipt Samples	1 unit
Sample Code of lab.	250311107001
Date of Receipt Samples	Mar. 11, 2025
Note	-

1.2 Standards or methods

The following standards are partly or totally used or referenced for test:

No.	Name
ANSI/NEMA/ ANSLG C78.377- 2017	Specifications for the Chromaticity of Solid State Lighting Products
ANSI/IES TM-30-18[1]	IES Method for Evaluating Light Source Color Rendition
ANSI C82.77-2002	Harmonic Emission Limits—Related Power Quality Requirements for Lighting Equipment
CIE Pub. No. 13.3-1995	Method of Measuring and Specifying Color Rendering of Light Sources
CIE Pub. No. 15:2004	Colorimetry
IES LM-79-08	Electrical and Photometric Measurements of Solid-State Lighting Products

Note:

1, For reference only and not in the scope of NVLAP.

1.3 Equipment list

Instrument	ID	Model name	Cal. date	Next cal. Date
AC Power supply	LC-I-989	APW-120N	2024-12-09	2025-12-08
Power analyzer	LC-I-PL-024	WT310E	2024-12-11	2025-12-10
Multimeter	LC-I-972	Fluke	2024-06-26	2025-06-25
Photometric colorimetric electric system[2]	LC-I-956	HAAS-2000	Before use	Before use
Standard lamp[3]	LC-I-963	24V50W	2024-06-26	2025-06-25
Luminous Flux Lamp[4]	LC-I-PL-043	D204	2024-11-29	2025-11-28
Wireless temperature transmitter	LC-I-PL-009	DWLR-DLR	2024-12-12	2025-12-11

Note:

2, Bandwidth of spectroradiometer is 1 nm.

3, Halogen lamp, 50W, omni-directional type, and its traceability to NIM.

4, Incandescent lamp, 80W, omni-directional type, and its traceability to NIM.

2. Test conducted and method

The luminaire was operated at least 2 hours to reach stabilization and temperature equilibrium before test.

2.1 Ambient Condition

The ambient temperature in which measurements are being taken was maintained at 25°C ± 1°C; the air flow around the sample(s) being tested did not affect the performance.

2.2 Power Supply Characteristics

The AC power supply had a sinusoidal voltage wave shape at the prescribed frequency (60 Hz) such that the RMS summation of the harmonic components does not exceed 3 percent of the fundamental during operation of the test item.

The voltage of AC power supply (RMS voltage) applied to the device under test was regulated to within±0.2 percent under load.

2.3 Seasoning and Stabilization

No seasoning was performed in accordance with IESNA LM-79-08. And before the measurement, the sample was stabilized until the light output and power variations were less than 0.5% in 30 minutes intervals (3 readings, 15 minutes apart).

2.4 Electrical Instrumentation

The calibration uncertainties of the instruments for AC voltage and current were less than 0.2 percent, and the calibration uncertainty of the AC power meter was less than 0.5 percent(95 % confidence interval, k=2).

2.5 Color Measurement Method

Spectral radiant flux was measured by a sphere (2 meter)-spectroradiometer system, and the color characteristics (Color rendering index, correlated color temperature, chromaticity coordinate) were calculated from these by software automatically.

2.6 Total Luminous Flux Measurement Method

Total luminous flux was measured by sphere-spectroradiometer system.

Spectral radiant flux was measured by a sphere (2 meter)-spectroradiometer system, and the total luminous flux was calculated from these by software automatically.

2.7 Spatial Non-uniformity of Chromaticity

The customer did not require this measurement.

3. Test Result Summary

3.1 Electrical data

Criteria Item	Result(Sphere)
Input Voltage & Frequency	119.97 V~60Hz
Input Current(A)	0.278
Total Power(W)	32.04
Power Factor	0.960
I-THD	24.12%
Off-state Power(W)	-

3.2 Photometric data

Criteria Item	Result(Sphere)
Total Lumens(lm)	4669.53[1]
Luminaire Efficacy(lm/W)	145.74
Correlated Color Temperature (CCT)(K)	5698
Color Rendering Index (CRI)	83.2
R9	14
R_f	83
R_g	96
$R_{cs,h1}$	-12%
Chromaticity Coordinate (x,y)	x = 0.3280 y = 0.3394
Chromaticity Coordinate (u',v')	u' = 0.2045 v' = 0.4760
Duv	0.0011

Note:

1, Self-absorption is 1.

3.3 Color Rendering Details

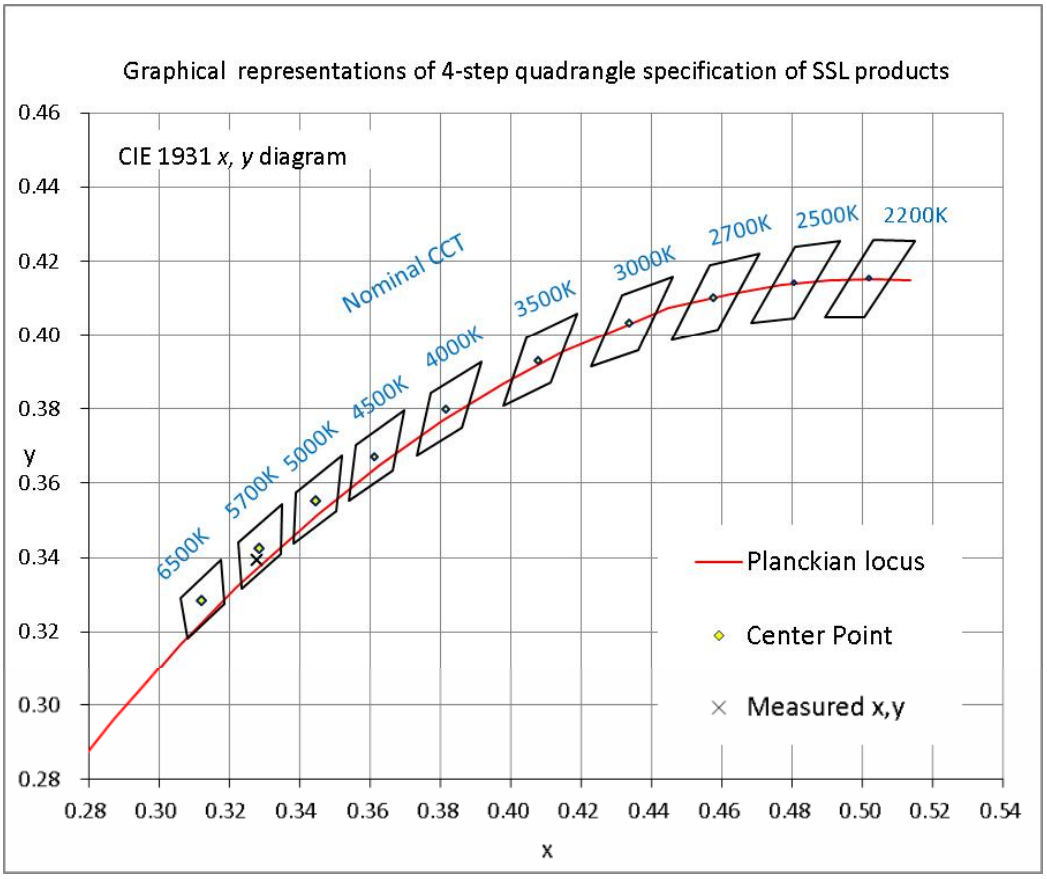
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
82	87	89	84	83	82	88	71	14	68	82	57	84	94	79

3.4 Electrical data on 277V

Criteria Item	Result(Sphere)
Input Voltage & Frequency	277.02 V~60Hz
Power Factor	0.933
I-THD	19.12%

4. Test Data

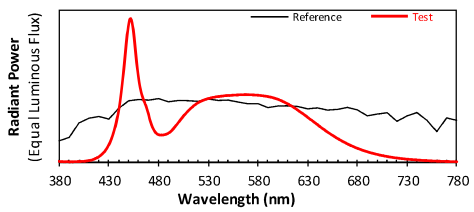
4.1 ANSI Chromaticity Quadrangles Diagram

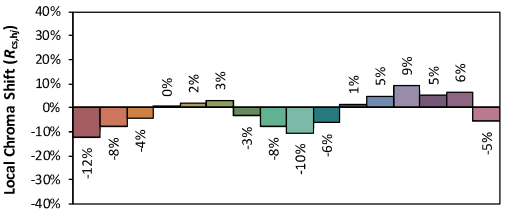


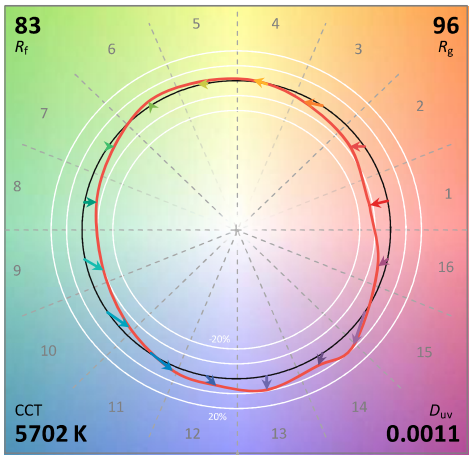
4.2 ANSI/IES TM-30-18 Full Report

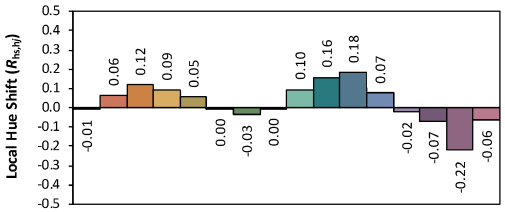
ANSI/IES TM-30-18 Color Rendition Report

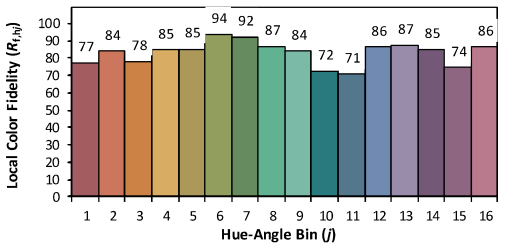
Source: SPD
Manufacturer: Huizhou Zenith Technology Co Ltd
Date: 2025/4/1
Model: ZS-T8V1532T-57

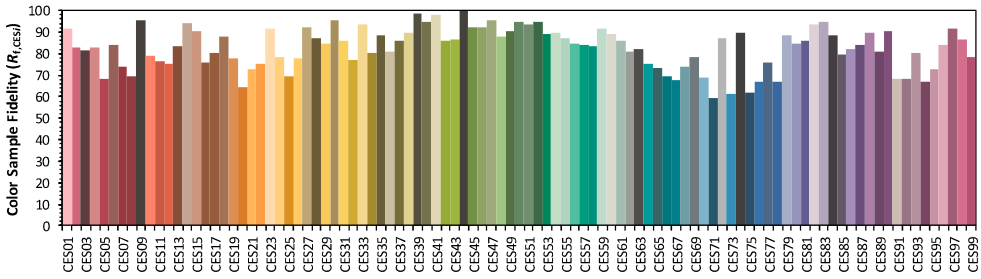












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3280
y	0.3392
u'	0.2045
v'	0.4759

CIE 13.3-1995 (CRI)

R_a	83
R_9	14

Note:

This is a recommended method for displaying ANSI/IES TM-30-18 information, Created with the IES TM-30-18 Calculator Version 2.00.

Appendix A Product Photo

Picture 1

Picture 2

****End of test report****