

VISUAL COMFORT & CO.

TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

KWPD21227CNB

PROJECT NUMBER

G106149824

REPORT NUMBER

106149824CHI-003

ISSUE DATE

4/15/2025

REVISED DATE

None

TEST DATES

3/18/25-3/24/25

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

© 2017 INTERTEK



PAGES

10

REPORT NUMBER

106149824CHI-003

MODEL NUMBER(s)

KWPD21227CNB

REPORT RENDERED TO:

VISUAL COMFORT & CO.
7400 LINDER AVENUE
SKOKIE, IL 60077
USA

STATEMENT OF LIMITATION

NVLAP Lab Code 600186-0. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

AUTHORIZATION

The testing performed was authorized by signed quote number Qu-01387083-0.

TEST STANDARDS

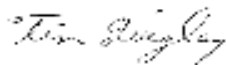
IES LM-79 - 2008: Electrical and Photometric Measurements of Solid State Lighting

ANSI/IES LM-79-19 Optical and Electrical Measurements of Solid-State Lighting Products

ANSI NEMA ANSLG C78.377: 2017: Specifications for the Chromaticity of Solid State Lighting (SSL) Products

ANSI/IES TM-30-18: IES Method for Evaluating Light Source Color Rendition

In Charge of Testing:



T. Quigley
Engineer
Lighting Division

Reviewer:



Jeff Davis
N.A. Technical Lead
Lighting Division

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

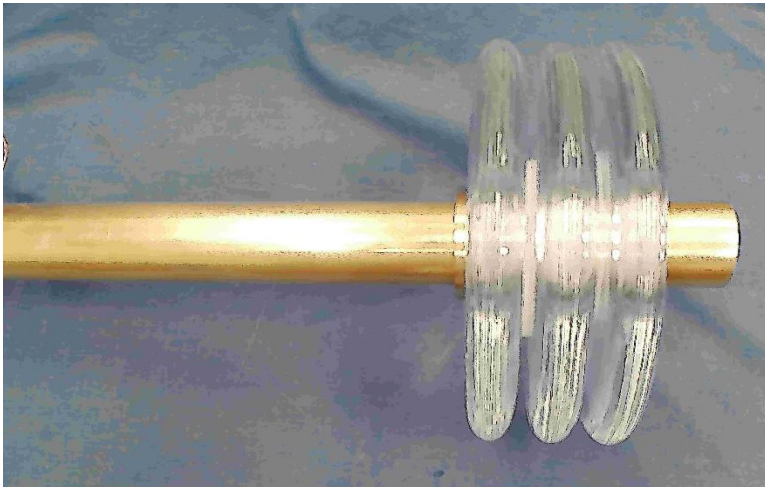
ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	AH04012025110132-001	KWPD21227CNB	LAUREL LG PEND 27 CLR NB	Surface Ceiling Mount LED Luminaire	4/1/2025

TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	KWPD21227CNB	1

SAMPLE PHOTOS - TESTED CONFIGURATIONS



PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	KWPD21227CNB
Product Description:	LAUREL LG PEND 27 CLR NB
LED Model No.:	GL-N283527-36-CV-200-LJ84 (2700K)
Driver Model No.:	EPT PVD11-C030V33-UNV3-HE-P (AA8514)
Light Source:	LED

Criteria	Results	
	Goniophotometer	Integrating Sphere
Light Output (lumens)	624.2	636.6
Input Power (W) @ 120 (Vac)	11.08	11.08
Lumen Efficacy (lm/W)	56.3	57.5
Input Power Factor @ 120 (Vac)	0.988	0.989

Criteria	Results
Input ATHD (%) @ 120 (Vac)	13.27
Correlated Color Temperature (K)	2599
Color Rendering Index - Ra	95.8
Color Rendering Index - R9	74.9
Duv	-0.0012
Chromaticity Coordinate (x)	0.466
Chromaticity Coordinate (y)	0.408
Chromaticity Coordinate (u')	0.267
Chromaticity Coordinate (v')	0.527
Input Power (W) @ 277 (Vac)	11.82
Input Power Factor (I) @ 277 (Vac)	0.910
Input ATHD (%) @ 277 (Vac)	19.82

TEST METHODS

SEASONING IN SAMPLE ORIENTATION - LED PRODUCTS

No seasoning was performed in accordance with IESNA LM-79.

INTEGRATING SPHERE TESTING

A spectroradiometer and integrating sphere were used to measure the spectral distribution for each EUT resulting in photometric and colorimetric data. Electrical measurements of the unit were measured using a power analyzer. Each EUT was operated at the rated input voltage of the system in its designated orientation. The ambient temperature was measured at a position inside the sphere and stabilization procedures to LM-79 were followed.

TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

A Type C Mirror Goniophotometer system was used to measure the luminous intensity (candela) at each angle of distribution for the EUT. Electrical measurements of the unit were measured using a power analyzer. Each EUT was operated at the rated input voltage of the system in its designated orientation. The ambient temperature was measured at a position near the EUT at equal height and stabilization procedures to LM-79 were followed.

*ANSI/IES Technical Memorandums (TM) reported are not NVLAP accredited

Test Configuration	Tested Model No.	Pass/Fail/NA
1	KWPD21227CNB	NA

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS (25°C +/- 1°C)

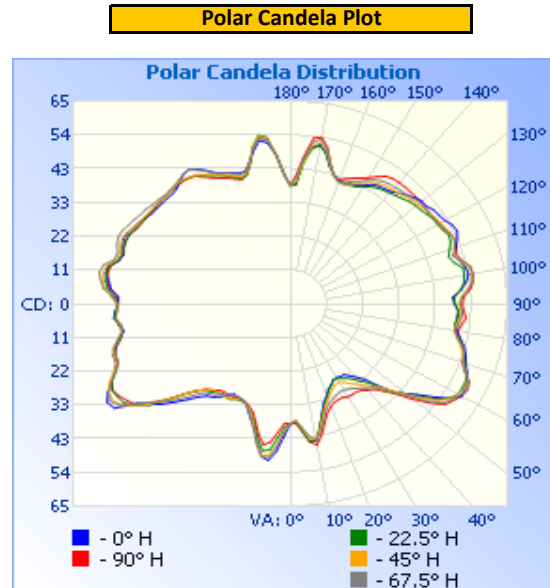
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()
Up	120.04	93.4	11.08	0.988

Light Output (lm)	Lumen Efficacy (lm/W)
624.2	56.3

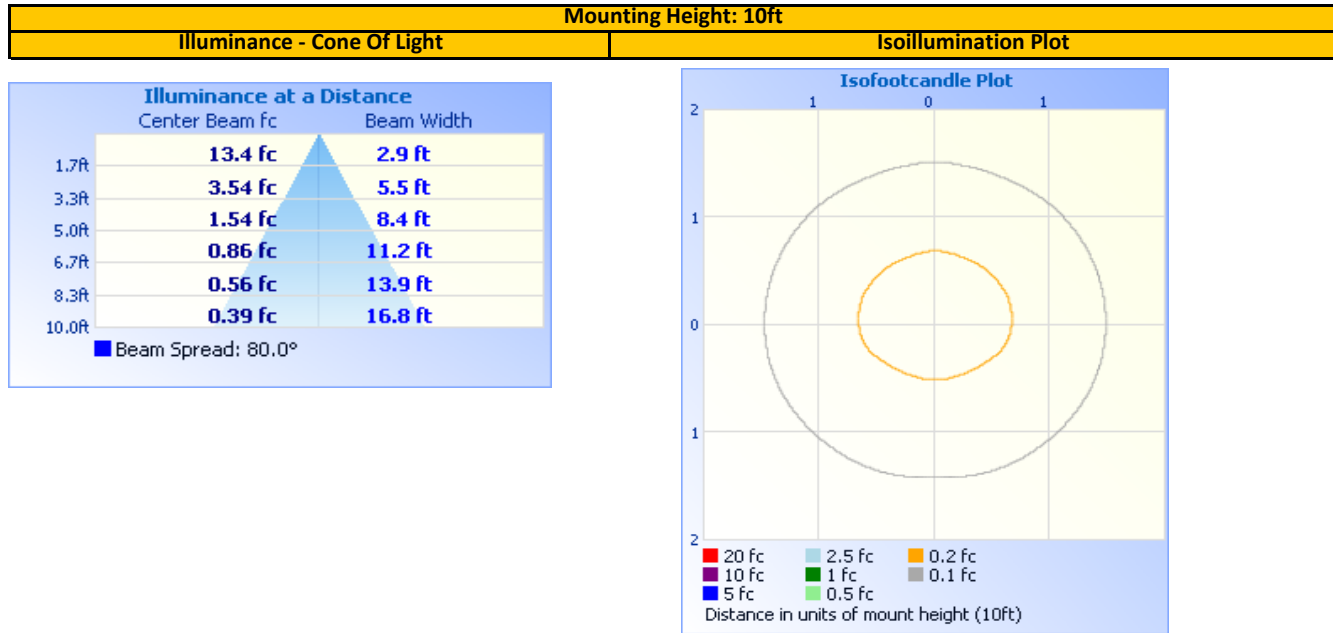
INTENSITY SUMMARY - CANDELA

Angle	0	22.5	45	67.5	90
0	39	39	39	39	39
5	40	41	40	40	41
10	45	45	44	44	46
15	37	37	38	39	40
20	32	32	33	34	35
25	29	29	30	32	34
30	27	28	29	32	34
35	28	29	31	33	35
40	31	32	34	35	36
45	37	38	38	39	40
50	45	45	45	46	48
55	52	54	54	56	57
60	59	58	58	59	59
65	59	58	59	59	59
70	56	56	55	55	55
75	54	53	53	54	54
80	51	50	50	50	51
85	50	50	51	51	53
90	49	49	51	51	52
95	51	51	53	54	54
100	54	53	55	55	55
105	53	51	53	53	53
110	53	51	52	52	53
115	55	52	53	53	53
120	53	51	52	51	52
125	52	50	51	51	51
130	51	49	50	51	51
135	49	48	49	49	51
140	47	46	48	49	51
145	46	45	47	48	50
150	44	43	45	46	47
155	43	42	42	43	44
160	42	42	42	42	42
165	46	46	46	47	47
170	52	52	53	54	54
175	47	46	46	47	48
180	38	38	38	38	38

Entire luminous intensity matrix found in .IES file



ILLUMINANCE SUMMARY



ZONAL LUMENS

Zonal Lumen Summary					
Zone	Lumens	Luminaire	Zone	Lumens	Total
0-30	30.5	4.9%	0-10	4.2	0.7%
0-40	51.7	8.3%	10-20	11.1	1.8%
0-60	132.1	21.2%	20-30	15.1	2.4%
60-90	170.4	27.3%	30-40	21.1	3.4%
70-100	171.0	27.4%	40-50	31.2	5.0%
90-120	168.0	26.9%	50-60	49.2	7.9%
0-90	302.5	48.5%	60-70	57.8	9.3%
90-180	321.7	51.5%	70-80	56.5	9.1%
0-180	624.2	100.0%	80-90	56.0	9.0%
			90-100	58.4	9.4%
			100-110	56.9	9.1%
			110-120	52.7	8.4%
			120-130	46.0	7.4%
			130-140	38.7	6.2%
			140-150	30.6	4.9%
			150-160	20.5	3.3%
			160-170	13.2	2.1%
			170-180	4.7	0.8%

Test Configuration	Tested Model No.	Pass/Fail/NA
1	KWPD21227CNB	NA

PHOTOMETRIC, COLORIMETRIC, AND ELECTRICAL MEASUREMENTS (25°C +/- 1°C)

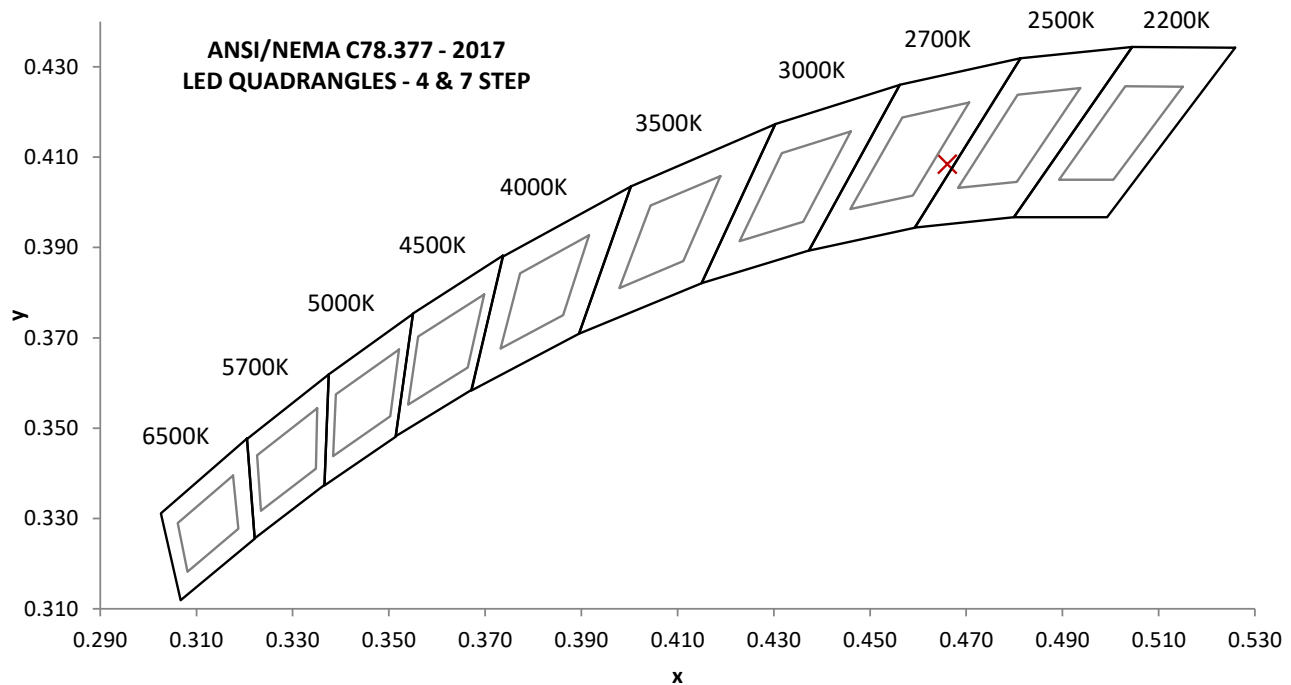
Base Orientation
Up

Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (I)	Input ATHD (%)
120.00	93.4	11.08	0.989	13.27
276.99	46.9	11.82	0.910	19.82

Measured at 120(Vac)

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra	CRI - R9
636.6	57.5	2599	95.8	74.9

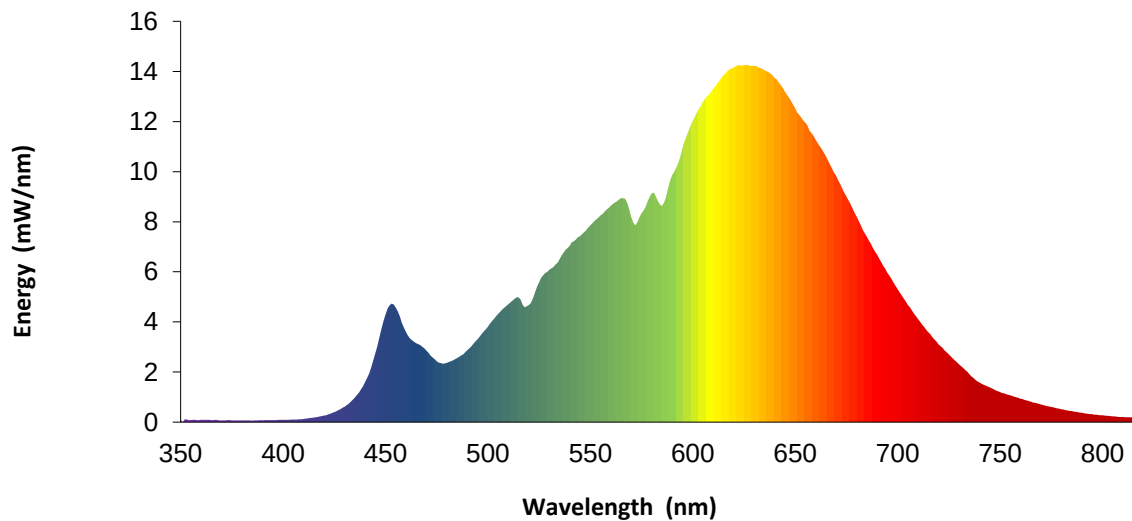
Duv	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
-0.0012	0.466	0.408	0.267	0.527



SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	0.1		460	3.6		570	8.2		680	8.2
355	0.1		465	3.2		575	8.3		685	7.4
360	0.1		470	2.9		580	9.1		690	6.7
365	0.1		475	2.4		585	8.6		695	6.0
370	0.1		480	2.4		590	9.9		700	5.3
375	0.1		485	2.6		595	10.9		705	4.7
380	0.1		490	2.9		600	12.0		710	4.1
385	0.1		495	3.3		605	12.8		715	3.6
390	0.1		500	3.8		610	13.3		720	3.1
395	0.1		505	4.3		615	13.9		725	2.7
400	0.1		510	4.7		620	14.2		730	2.3
405	0.1		515	5.0		625	14.3		735	1.9
410	0.1		520	4.7		630	14.2		740	1.6
415	0.2		525	5.6		635	14.1		745	1.4
420	0.3		530	6.1		640	13.7		750	1.2
425	0.4		535	6.5		645	13.2		755	1.1
430	0.6		540	7.1		650	12.5		760	0.9
435	1.0		545	7.4		655	12.0		765	0.8
440	1.6		550	7.9		660	11.3		770	0.7
445	2.7		555	8.3		665	10.6		775	0.6
450	4.3		560	8.6		670	9.8		780	0.5
455	4.6		565	8.9		675	9.0		---	---

Without correction of sample absorption.



Portrayed color in graphic is estimated by wavelength (nm) and may not be exact - it is a visual representation only



Total Quality. Assured.

545 E Algonquin Rd
Arlington Heights, IL 60005
Telephone: (847) 439-5667
www.intertek.com

EQUIPMENT LIST

REPORT NO. 106149824CHI-003

#	Equipment	Model No	Control No.	Last Cal	Cal Due
1	Yokogawa Power Meter	WT310E	CHI0664	3/27/2025	3/27/2026
2	Omega Thermometer	DPI8-C24	146920	3/26/2025	3/26/2026
3	LSI High Speed Mirror Goniometer	6440T	146928	VBUE	VBUE
4	Omega Thermohygrometer	OM-CP-RFPRHTEMP2000A	CHI0764	10/8/2024	10/8/2025
5	Chroma Power Supply	61604	CHI0371	VBUE	VBUE
8	Omega Thermohygrometer	OM-CP-RFPRHTEMP2000A	CHI0727	10/8/2024	10/8/2025
9	Labsphere Spectroradiometer	CDS2600	CHI0539	VBUE	VBUE
10	3 Meter Sphere	SPR600	CHI0088	VBUE	VBUE
11	Elgar AC Power Supply	CW1251	146112	VBUE	VBUE
12	Sorenson DC Power Supply	XFR150-8	146846	VBUE	VBUE
13	Yokogawa Power Meter	WT1600	146769	3/28/2025	3/28/2026
17	Omega thermometer	USB TC08	CHI0625	3/26/2025	3/26/2026
26	Xitron Power Analyzer	XT2640	CHI0611	4/1/2025	4/1/2026

Note: Standard sources listed above are traceable to NIST: National Institute of Standards and Technology

REVISION HISTORY

#	Revision Date	Updated By	Reviewed By	Description of Change
---	None	---	---	---
---	---	---	---	---
---	---	---	---	---

Test Configuration	Tested Model No.	Pass/Fail/NA
1	KWPD21227CNB	NA

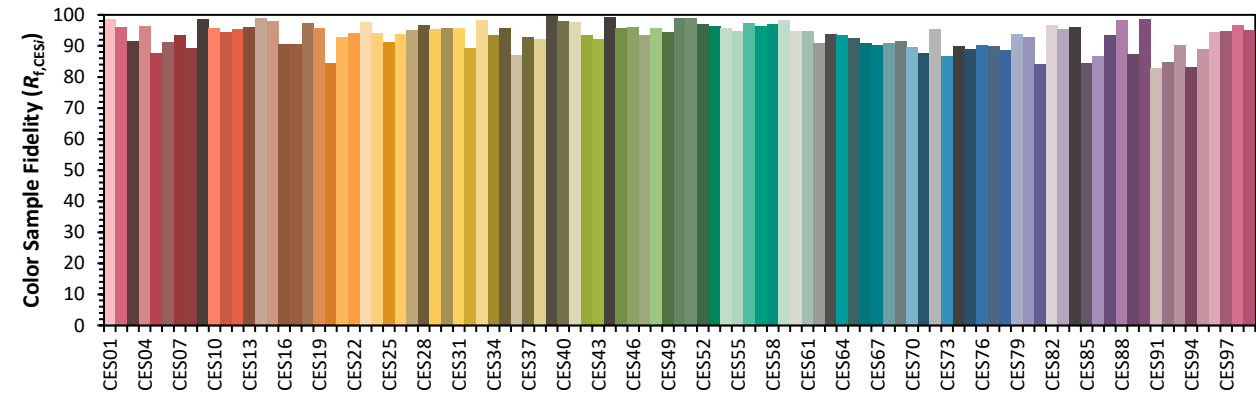
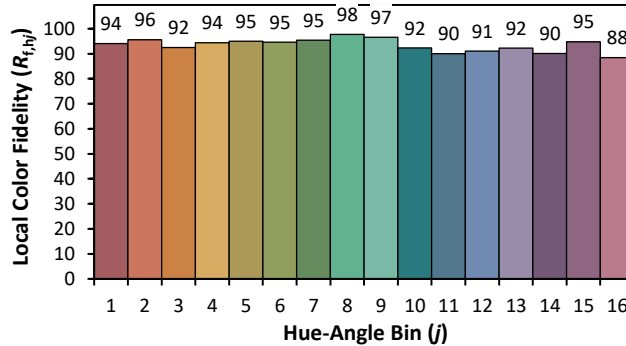
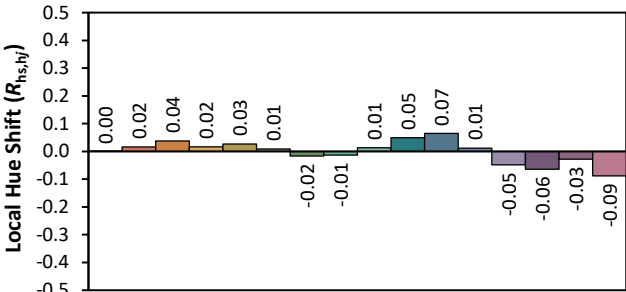
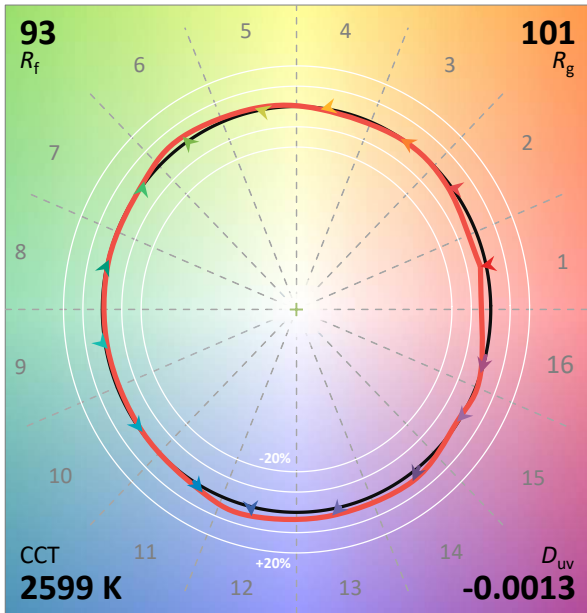
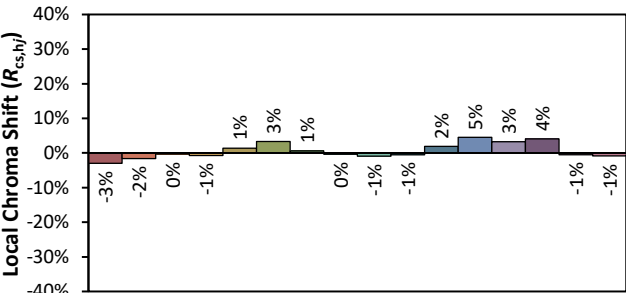
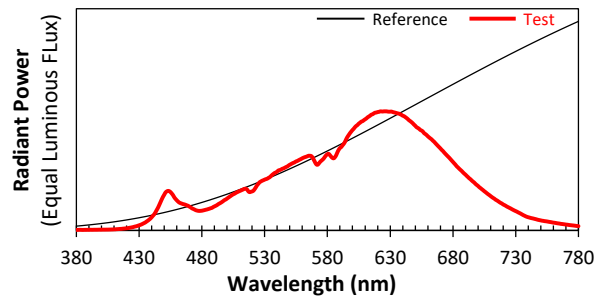
ANSI/IES TM-30-18 Color Rendition Report

Source: User SPD

Manufacturer: Visual Comfort & Co.

Date: 4/15/2025

Model: KWPD21227CNB



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

x 0.4661
y 0.4084
u' 0.2675
v' 0.5275