

VISUAL COMFORT & COMPANY TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

700PRTKLE43**-LED927

PROJECT NUMBER

G104349704

REPORT NUMBER

104349704CHI-013

ISSUE DATE

8/24/2020

REVISED DATE

None

TEST DATES

08/12/2020 through 08/18/2020.

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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REPORT NUMBER

104349704CHI-013

MODEL NUMBER(s)

700PRTKLE43**-LED927

REPORT RENDERED TO:

VISUAL COMFORT & COMPANY
7400 LINDER AVE
SKOKIE, IL 60077

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-01080748-1.

TEST STANDARDS

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

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

In Charge of Testing:



Ian Smith
Engineer
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Reviewer:



Jeff Davis
NA Technical Lead
Lighting Division

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SAMPLE INFORMATION

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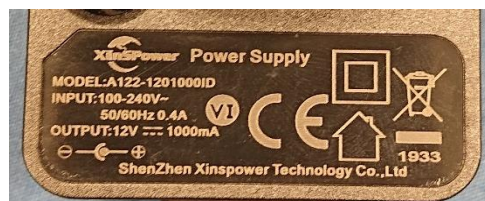
ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	AH08062020034718-013	700PRTKLE43**-LED927	KLEE 43 FLOOR LAMP	Production	8/6/2020

TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	700PRTKLE43**-LED927	1

SAMPLE PHOTOS - TESTED CONFIGURATIONS



SUMMARY

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PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	700PRTKLE43**-LED927
Product Description:	KLEE 43 FLOOR LAMP
LED Model No.:	SAMSUNG SPMWH1228FD5WWS2
Driver Model No.:	XINSPower A122.1201000ID
Light Source:	LED

Criteria	Results	
	Goniophotometer	Integrating Sphere
Light Output (lumens)	661.5	694.9
Input Power (W) @ 120VAC (Vac)	10.14	10.17
Lumen Efficacy (lm/W)	65.2	68.3
Input Power Factor (I) @ 120VAC (Vac)	0.852	0.852

Criteria	Results
Input ATHD (%) @ 120VAC (Vac)	49.89
Correlated Color Temperature (K)	2931
Color Rendering Index - Ra (I)	93.3
Color Rendering Index - R9 (I)	61.4
Duv (I)	-0.0026
Chromaticity Coordinate (x)	0.438
Chromaticity Coordinate (y)	0.398
Chromaticity Coordinate (u')	0.254
Chromaticity Coordinate (v')	0.519

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.

TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

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Test Configuration	Tested Model No.	Pass/Fail/NA
1	700PRTKLE43**-LED927	NA

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

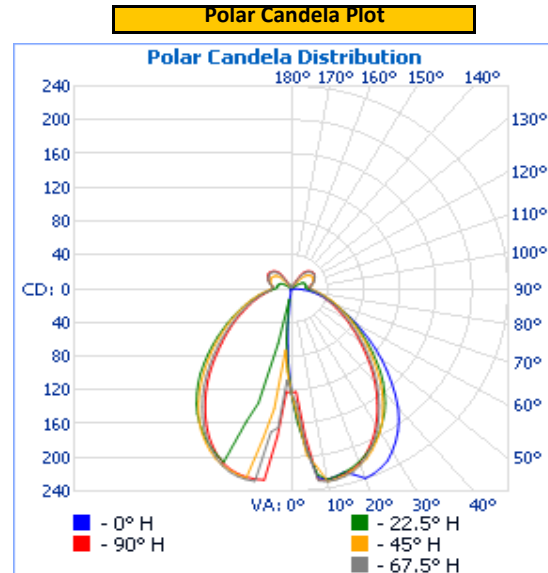
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()
Up	120.0	99.2	10.14	0.852

Light Output (lm)	Lumen Efficacy (lm/W)
661.5	65.2

INTENSITY SUMMARY - CANDELA

Angle	0	22.5	45	67.5	90
0	123	123	123	123	123
5	191	191	199	188	175
10	230	230	232	232	229
15	225	225	229	230	227
20	239	218	222	222	220
25	234	208	211	208	206
30	223	195	196	191	187
35	206	180	177	169	166
40	184	160	156	148	144
45	157	140	133	125	121
50	130	117	112	105	100
55	105	97	93	87	83
60	83	80	77	72	68
65	64	64	63	58	55
70	48	51	52	47	45
75	36	40	42	38	36
80	25	31	33	30	28
85	14	23	26	24	23
90	5	18	22	22	21
95	3	16	21	21	20
100	3	16	23	23	22
105	3	17	24	25	24
110	3	16	26	27	26
115	3	16	27	29	28
120	4	14	27	30	30
125	4	6	26	30	31
130	4	4	24	30	30
135	3	4	21	28	29
140	3	3	11	25	27
145	3	3	3	18	23
150	4	3	3	5	10
155	4	3	2	2	2
160	4	3	2	2	2
165	2	2	2	2	2
170	1	2	2	2	2
175	0	1	2	2	2
180	2	2	2	2	2

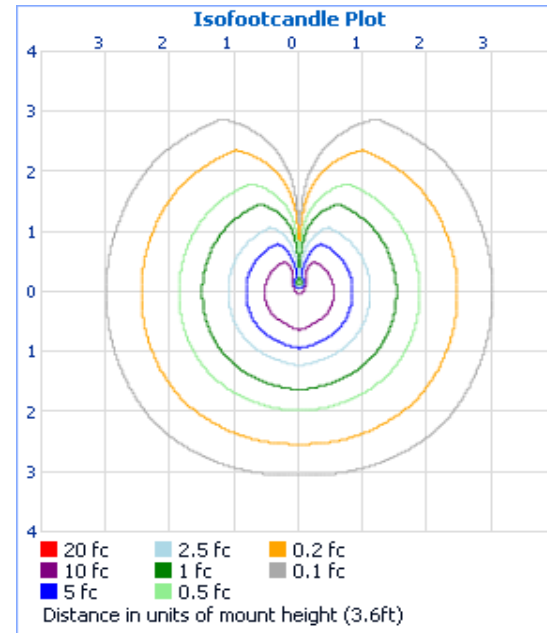
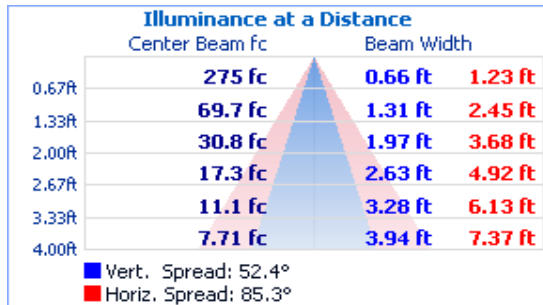
Entire luminous intensity matrix found in .IES file



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ILLUMINANCE SUMMARY

Mounting Height: 3.6ft	
Illuminance - Cone Of Light	Isoillumination Plot



ZONAL LUMENS

Zonal Lumen Summary

Zone	Lumens	Luminaire
0-30	163.1	24.7%
0-40	266.5	40.3%
0-60	441.3	66.7%
60-90	121.7	18.4%
70-100	83.3	12.6%
90-120	60.4	9.1%
0-90	562.9	85.1%
90-180	98.6	14.9%
0-180	661.5	100.0%

Zone	Lumens	Total	Zone	Lumens	Total
0-10	15.3	2.3%	90-100	19.2	2.9%
10-20	56.9	8.6%	100-110	20.5	3.1%
20-30	90.9	13.7%	110-120	20.7	3.1%
30-40	103.4	15.6%	120-130	17.4	2.6%
40-50	96.7	14.6%	130-140	12.7	1.9%
50-60	78.1	11.8%	140-150	5.8	0.9%
60-70	57.5	8.7%	150-160	1.3	0.2%
70-80	39.4	6.0%	160-170	0.7	0.1%
80-90	24.8	3.7%	170-180	0.2	0.0%

INTEGRATING SPHERE TESTING

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Test Configuration	Tested Model No.	Pass/Fail/NA
1	700PRTKLE43**-LED927	NA

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

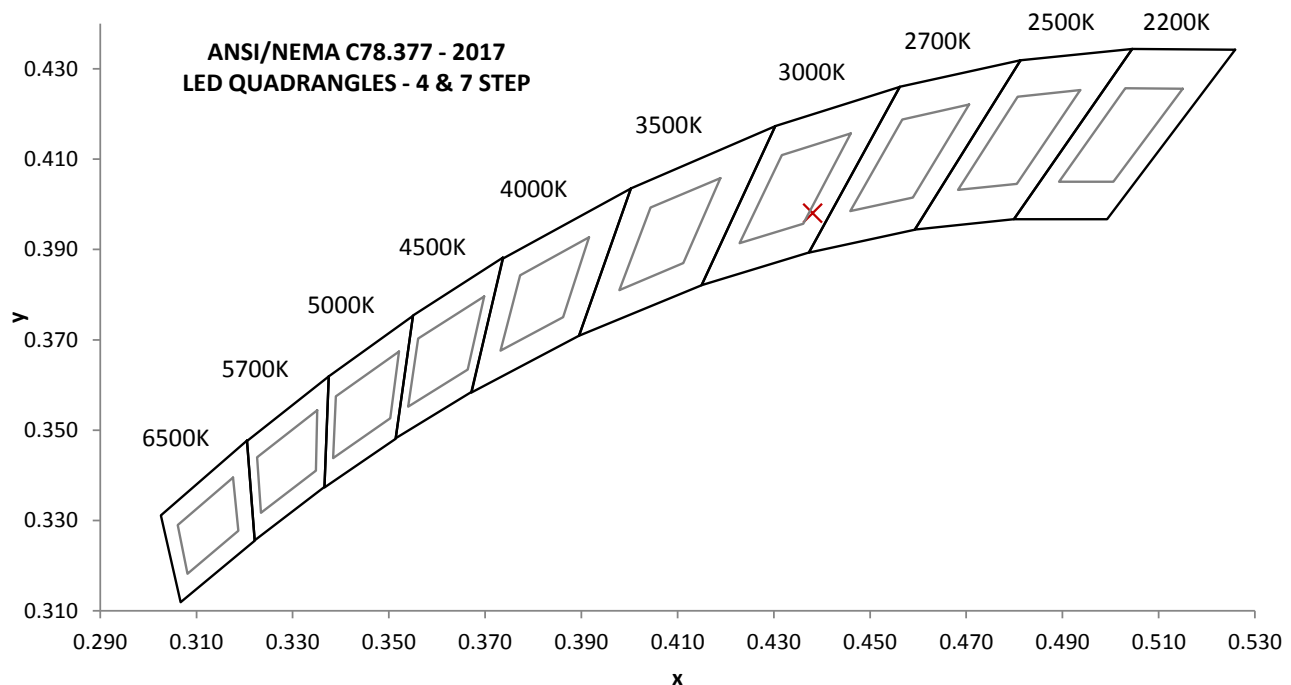
Base Orientation
Up

Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()	Input ATHD (%)
120.02	99.5	10.17	0.852	49.89

Measured at 120.02(Vac)

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra ()	CRI - R9 ()
694.9	68.3	2931	93.3	61.4

Duv ()	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
-0.0026	0.438	0.398	0.254	0.519

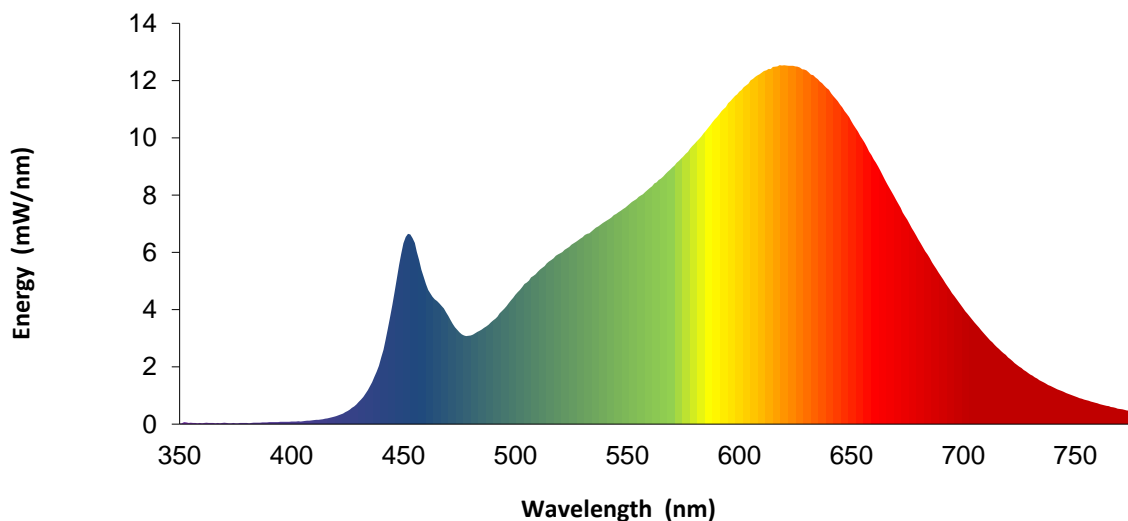


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SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	0.0		460	4.9		570	9.0		680	6.4
355	0.1		465	4.3		575	9.4		685	5.8
360	0.0		470	3.8		580	9.8		690	5.2
365	0.0		475	3.2		585	10.2		695	4.6
370	0.1		480	3.1		590	10.7		700	4.0
375	0.0		485	3.3		595	11.2		705	3.6
380	0.0		490	3.6		600	11.6		710	3.1
385	0.1		495	4.0		605	12.0		715	2.7
390	0.1		500	4.5		610	12.3		720	2.3
395	0.1		505	4.9		615	12.5		725	2.0
400	0.1		510	5.3		620	12.5		730	1.7
405	0.1		515	5.7		625	12.5		735	1.5
410	0.1		520	6.0		630	12.4		740	1.3
415	0.2		525	6.3		635	12.0		745	1.1
420	0.3		530	6.5		640	11.7		750	1.0
425	0.5		535	6.8		645	11.2		755	0.8
430	0.8		540	7.1		650	10.6		760	0.7
435	1.3		545	7.3		655	9.9		765	0.6
440	2.3		550	7.6		660	9.3		770	0.5
445	4.2		555	7.9		665	8.5		775	0.5
450	6.3		560	8.2		670	7.8		780	0.4
455	6.3		565	8.6		675	7.1		---	---

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

EQUIPMENT LIST

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#	Equipment	Model No	Control No.	Last Cal	Cal Due
1	Yokogawa Power Meter	WT210	146919	7/1/2020	7/1/2021
2	Omega Thermometer	DPI8-C24	146920	10/3/2019	10/3/2020
3	LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU
4	Newport Thermohygrometer	iServer	146957	12/2/2019	12/2/2020
5	Pacific AC Power Supply	118-ACX	CHI0153	VBU	VBU
6	Newport Humidity Recorder	iServer	CHI0456	10/11/2019	10/11/2020
7	Labsphere Spectroradiometer	CDS2600	CHI0539	VBU	VBU
8	3 Meter Sphere	SPR600	CHI0088	VBU	VBU
9	Elgar AC Power Supply	CW1251	146112	VBU	VBU
10	Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU
11	Yokogawa Power Meter	WT1600	146769	4/6/2020	4/6/2021
12	Extech K Temperature Meter	421502	CHI0476	10/1/2019	10/1/2020
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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
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