

VISUAL COMFORT & COMPANY TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

700PRTKAR**-LED927

PROJECT NUMBER

G104349704

REPORT NUMBER

104349704CHI-018

ISSUE DATE

8/24/2020

REVISED DATE

None

TEST DATES

08/19/2020.

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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REPORT NUMBER

104349704CHI-018

MODEL NUMBER(s)

700PRTKAR**-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
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Reviewer:



Jeff Davis
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Lighting Division

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SAMPLE INFORMATION

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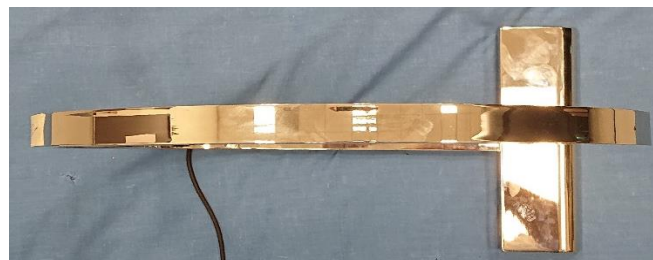
ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	AH08122020093108	700PRTKAR**-LED927	KARLA TABLE LAMP	Production	8/12/2020

TESTED SAMPLE CONFIGURATIONS

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

SAMPLE PHOTOS - TESTED CONFIGURATIONS



SUMMARY

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PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	700PRTKAR**-LED927
Product Description:	KARLA TABLE LAMP
LED Model No.:	LUMINUS MP-3030-1100-27-90
Driver Model No.:	XINSPower A122.1201000ID
Light Source:	LED

Criteria	Results	
	Goniophotometer	Integrating Sphere
Light Output (lumens)	434.4	441.5
Input Power (W) @ 120VAC (Vac)	9.42	9.41
Lumen Efficacy (lm/W)	46.1	46.9
Input Power Factor (I) @ 120VAC (Vac)	0.855	0.857

Criteria	Results
Input ATHD (%) @ 120VAC (Vac)	58.13
Correlated Color Temperature (K)	2636
Color Rendering Index - Ra (I)	92.6
Color Rendering Index - R9 (I)	62.2
Duv (I)	-0.0033
Chromaticity Coordinate (x)	0.459
Chromaticity Coordinate (y)	0.402
Chromaticity Coordinate (u')	0.266
Chromaticity Coordinate (v')	0.524

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	700PRTKAR**-LED927	NA

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

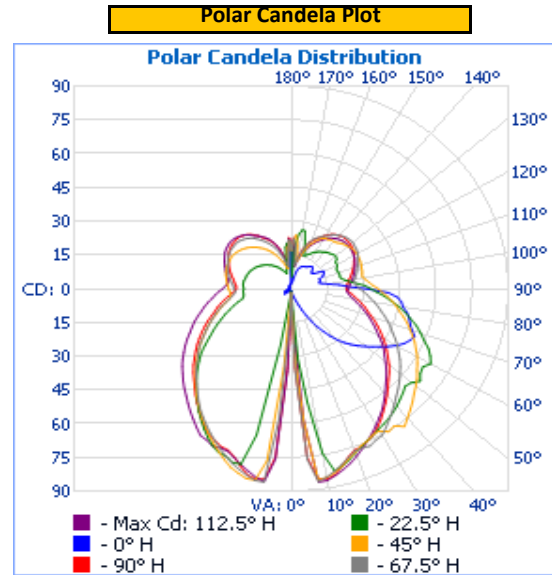
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()
Up	120.0	91.8	9.42	0.855

Light Output (lm)	Lumen Efficacy (lm/W)
434.4	46.1

INTENSITY SUMMARY - CANDELA

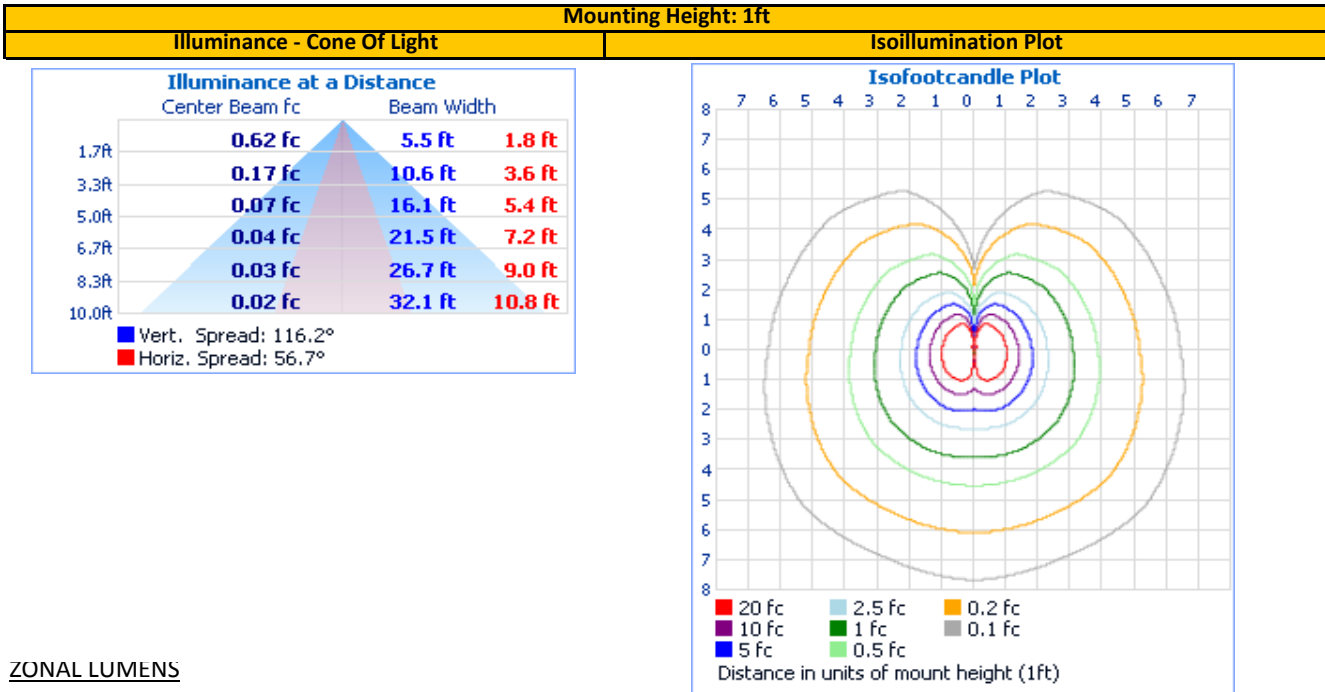
Angle	0	22.5	45	67.5	90
0	2	2	2	2	2
5	1	31	59	76	75
10	2	74	85	85	86
15	4	82	82	81	82
20	6	78	78	77	76
25	10	74	75	77	75
30	17	72	73	75	71
35	23	70	74	71	66
40	30	68	75	67	62
45	35	66	71	63	57
50	40	65	67	59	53
55	45	65	64	55	48
60	50	67	60	51	44
65	54	63	56	46	40
70	53	57	52	43	35
75	51	51	48	39	32
80	47	45	44	35	28
85	44	39	40	32	25
90	31	33	36	28	23
95	20	27	32	27	23
100	13	22	30	27	24
105	12	21	30	28	26
110	12	21	31	29	27
115	15	21	31	31	29
120	16	22	31	32	30
125	12	23	31	32	31
130	11	23	30	33	32
135	12	22	29	32	32
140	13	21	27	31	31
145	12	20	27	29	29
150	11	19	26	27	27
155	11	17	23	25	24
160	10	16	20	22	22
165	8	22	16	18	18
170	4	26	12	13	13
175	3	20	24	20	14
180	17	17	17	17	17

Entire luminous intensity matrix found in .IES file



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ILLUMINANCE SUMMARY



ZONAL LUMENS

Zonal Lumen Summary					
Zone	Lumens	Luminaire	Zone	Lumens	Total
0-30	55.6	12.8%	90-100	26.2	6.0%
0-40	94.3	21.7%	100-110	24.7	5.7%
0-60	181.2	41.7%	110-120	24.2	5.6%
60-90	109.8	25.3%	120-130	22.3	5.1%
70-100	93.8	21.6%	130-140	18.5	4.3%
90-120	75.1	17.3%	140-150	13.6	3.1%
0-90	291.1	67.0%	150-160	8.4	1.9%
90-180	143.3	33.0%	160-170	4.0	0.9%
0-180	434.4	100.0%	170-180	1.4	0.3%

INTEGRATING SPHERE TESTING

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

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

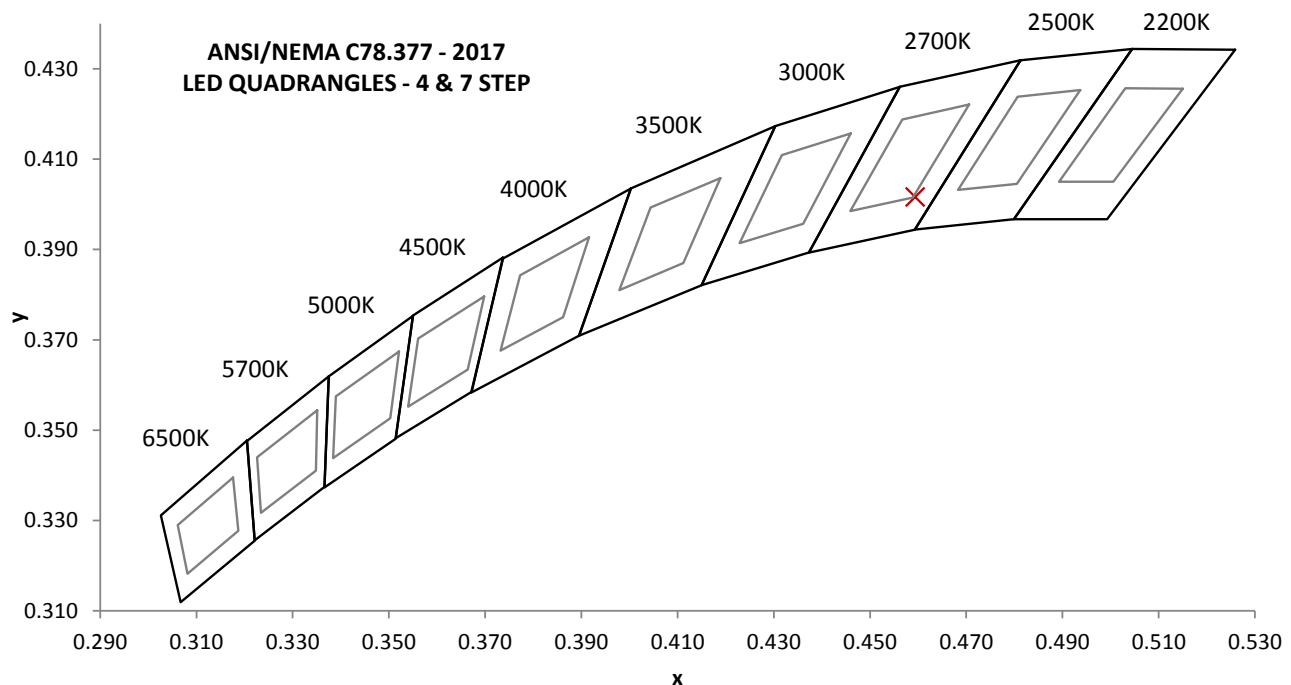
Base Orientation
Up

Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()	Input ATHD (%)
120.03	91.5	9.41	0.857	58.13

Measured at 120.03(Vac)

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra ()	CRI - R9 ()
441.5	46.9	2636	92.6	62.2

Duv ()	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
-0.0033	0.459	0.402	0.266	0.524

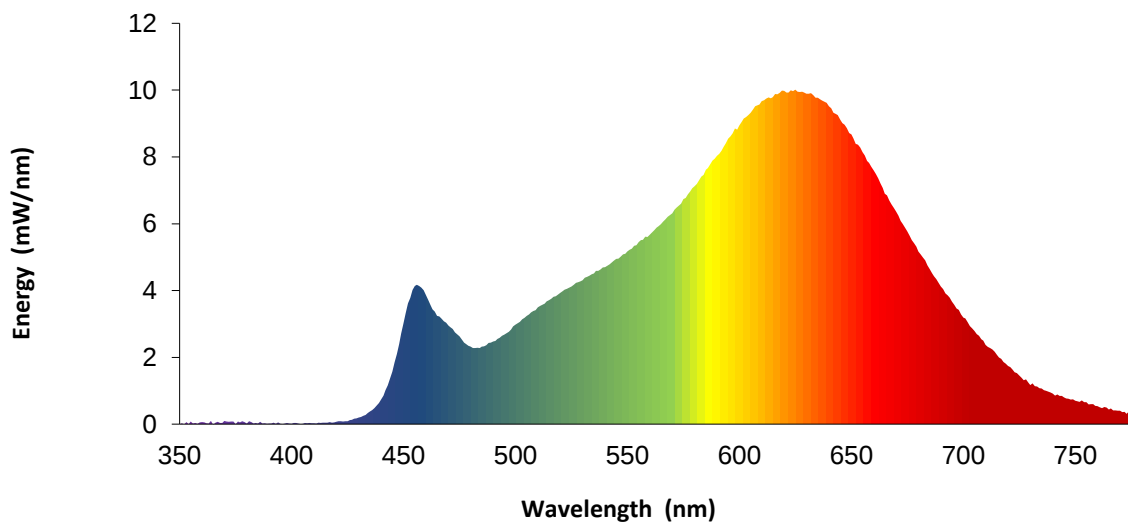


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SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	0.0		460	3.9		570	6.3		680	5.2
355	0.1		465	3.2		575	6.7		685	4.6
360	0.1		470	3.0		580	7.1		690	4.1
365	0.0		475	2.6		585	7.6		695	3.7
370	0.1		480	2.3		590	8.0		700	3.2
375	0.0		485	2.3		595	8.5		705	2.8
380	0.0		490	2.5		600	8.9		710	2.4
385	0.0		495	2.7		605	9.3		715	2.1
390	0.0		500	3.0		610	9.7		720	1.7
395	0.0		505	3.2		615	9.8		725	1.5
400	0.0		510	3.5		620	10.0		730	1.2
405	0.0		515	3.7		625	10.0		735	1.1
410	0.0		520	3.9		630	9.9		740	0.9
415	0.0		525	4.1		635	9.8		745	0.8
420	0.1		530	4.3		640	9.5		750	0.7
425	0.1		535	4.5		645	9.1		755	0.7
430	0.2		540	4.7		650	8.7		760	0.5
435	0.4		545	4.9		655	8.1		765	0.4
440	0.7		550	5.2		660	7.6		770	0.4
445	1.6		555	5.4		665	6.9		775	0.3
450	3.0		560	5.7		670	6.4		780	0.3
455	4.1		565	6.0		675	5.8		---	---

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	CDS-600	146923	VBU	VBU
8	2M Rotating Sphere	7660-ROT	146923	VBU	VBU
9	Omega thermometer	USB TC08	EQAH002615	4/7/2020	4/7/2021
10	Ametek DC Power Supply	XFR150-8	1468464	VBU	VBU
11	Yokogawa Power Meter	WT210	146880	10/2/2019	10/2/2020
12	Chroma Power Supply	61604	CHI0371	VBU	VBU
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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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