

# GENERATION BRANDS, LLC TEST REPORT

## SCOPE OF WORK

LED Performance Testing

## MODEL NUMBER

700OWVEX93012BUDUNV

## PROJECT NUMBER

G104349704

## REPORT NUMBER

104349704CHI-029

## ISSUE DATE

8/18/2020

## REVISED DATE

None

## TEST DATES

08/17/2020.

## DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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**REPORT NUMBER**

104349704CHI-029

**MODEL NUMBER(s)**

700OWVEX93012BUDUNV

**REPORT RENDERED TO:**

GENERATION BRANDS, LLC  
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-01080748-3.

**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  
Lighting Division

Reviewer:



Jeff Davis  
NA Technical Lead  
Lighting Division

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## SAMPLE INFORMATION

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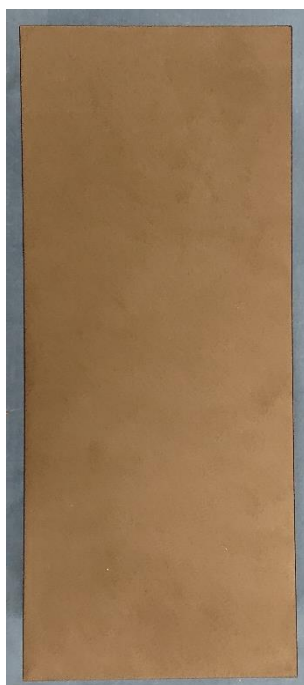
### ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	AH08122020093108-029	7000WVEX93012BUDU NV	VEX 12 OUTDOOR WALL UP AND DOWNLIGHT	Production	8/12/2020

### TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	7000WVEX93012BUDUNV	1

### SAMPLE PHOTOS - TESTED CONFIGURATIONS



Top Down



Bottom Up



## SUMMARY

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### PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	7000WVEX93012BUDUNV
Product Description:	VEX 12 OUTDOOR WALL UP AND DOWNLIGHT
LED Model No.:	LUMINUS: CXM-6-30-90-18-AC40-F5-3
Driver Model No.:	ERP ESS020W-0450-42
Light Source:	LED

Criteria	Results	
	Goniophotometer	Integrating Sphere
Light Output (lumens)	476.6	497.9
Input Power (W) @ 120VAC (Vac)	15.13	15.10
Lumen Efficacy (lm/W)	31.5	33.0
Input Power Factor (I) @ 120VAC (Vac)	0.973	0.974

Criteria	Results
Input ATHD (%) @ 120VAC (Vac)	21.97
Correlated Color Temperature (K)	3030
Color Rendering Index - Ra (I)	93.9
Color Rendering Index - R9 (I)	68.6
Duv (I)	-0.0004
Chromaticity Coordinate (x)	0.434
Chromaticity Coordinate (y)	0.402
Chromaticity Coordinate (u')	0.250
Chromaticity Coordinate (v')	0.520

## 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	7000WVEX93012BUDUNV	NA

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

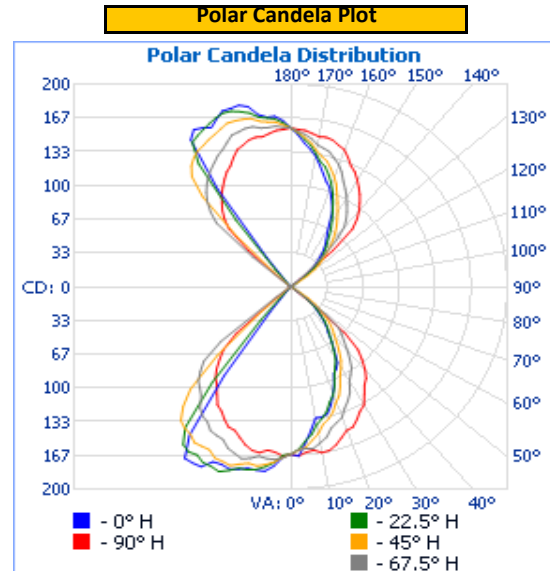
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ( )
Up	120.1	129.5	15.13	0.973

Light Output (lm)	Lumen Efficacy (lm/W)
476.6	31.5

**INTENSITY SUMMARY - CANDELA**

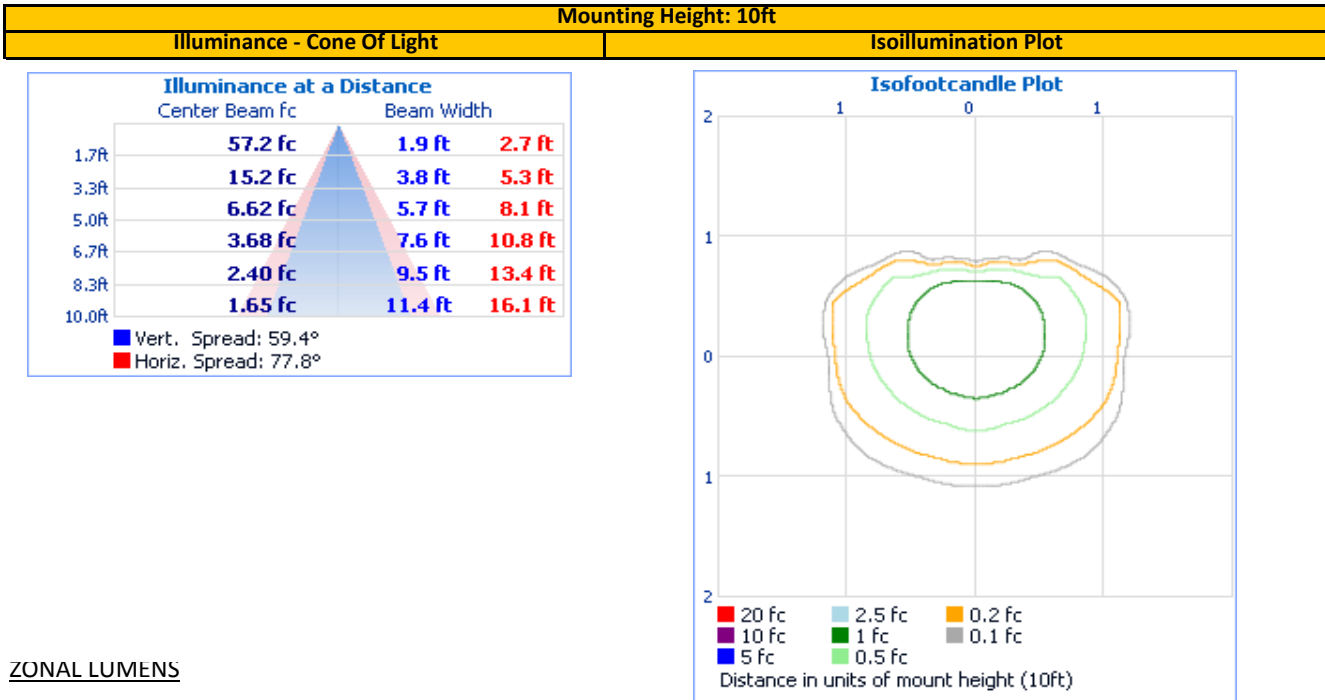
Angle	0	22.5	45	67.5	90
0	165	165	165	165	165
5	155	153	159	160	164
10	132	138	147	157	166
15	130	128	135	145	162
20	114	114	122	138	151
25	94	95	108	125	145
30	86	83	93	108	135
35	65	65	78	98	119
40	51	53	62	81	107
45	37	39	50	66	88
50	24	23	36	41	16
55	5	5	20	2	1
60	4	4	2	1	1
65	2	2	1	1	1
70	1	1	1	0	0
75	1	1	0	0	0
80	1	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0
95	0	0	0	0	0
100	0	0	0	0	0
105	1	1	0	0	0
110	1	1	1	1	1
115	2	2	1	1	1
120	3	3	2	1	1
125	4	7	19	2	2
130	17	28	35	7	11
135	33	40	47	41	80
140	47	51	61	77	98
145	57	62	74	90	111
150	71	76	86	103	122
155	90	92	101	115	132
160	104	109	117	129	144
165	116	122	129	138	150
170	131	133	137	142	150
175	142	146	148	151	155
180	157	157	157	157	157

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	126.7	26.6%	90-100	0.2	0.0%
0-40	197.1	41.4%	100-110	0.5	0.1%
0-60	248.0	52.0%	110-120	1.0	0.2%
60-90	1.5	0.3%	120-130	5.5	1.2%
70-100	0.8	0.2%	130-140	37.1	7.8%
90-120	1.7	0.4%	140-150	64.4	13.5%
0-90	249.5	52.4%	150-160	61.5	12.9%
90-180	227.1	47.6%	160-170	42.2	8.8%
0-180	476.6	100.0%	170-180	14.7	3.1%

# **INTEGRATING SPHERE TESTING**

**REPORT NO. 104349704CHI-029**

Test Configuration	Tested Model No.	Pass/Fail/NA
1	7000WVEX93012BUDUNV	NA

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

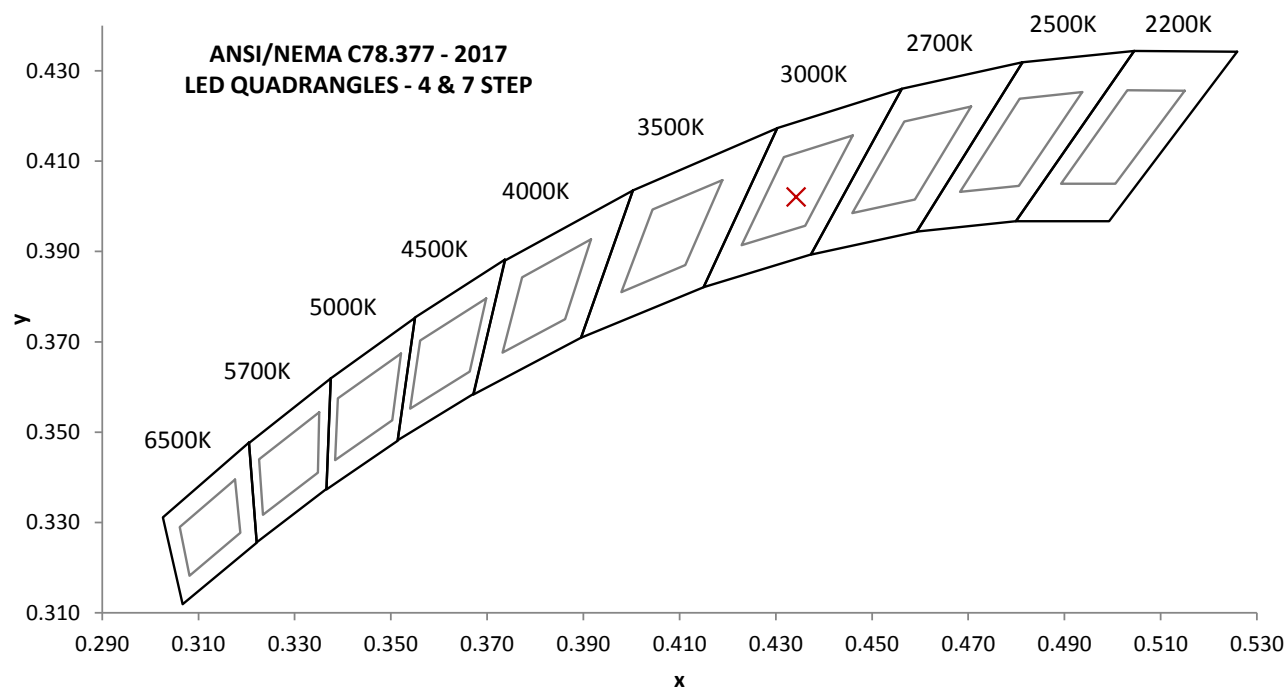
Base Orientation
Up

Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ( )	Input ATHD (%)
120.00	129.3	15.10	0.974	21.97

Measured at 120(Vac)

Light Output (lm)	Lumen Efficacy (lm/W)	CCT (K)	CRI - Ra ( )	CRI - R9 ( )
497.9	33.0	3030	93.9	68.6

Duv ( )	1931 Chrom (x)	1931 Chrom (y)	1976 Chrom (u')	1976 Chrom (v')
-0.0004	0.434	0.402	0.250	0.520

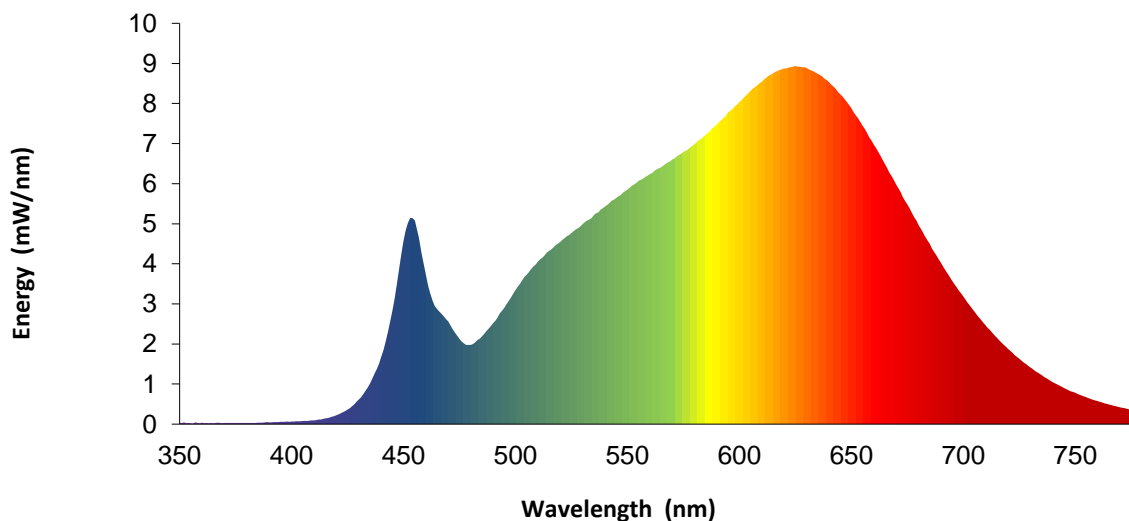


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SPECTRAL DISTRIBUTION OVER WAVELENGTHS

nm	mW/nm		nm	mW/nm		nm	mW/nm		nm	mW/nm
350	0.0		460	3.7		570	6.6		680	5.0
355	0.0		465	2.9		575	6.8		685	4.5
360	0.0		470	2.6		580	7.0		690	4.0
365	0.0		475	2.1		585	7.2		695	3.6
370	0.0		480	2.0		590	7.5		700	3.2
375	0.0		485	2.2		595	7.8		705	2.8
380	0.0		490	2.5		600	8.0		710	2.5
385	0.0		495	2.9		605	8.3		715	2.2
390	0.0		500	3.3		610	8.5		720	1.9
395	0.1		505	3.7		615	8.8		725	1.6
400	0.1		510	4.1		620	8.9		730	1.4
405	0.1		515	4.3		625	8.9		735	1.2
410	0.1		520	4.6		630	8.9		740	1.0
415	0.1		525	4.8		635	8.7		745	0.9
420	0.2		530	5.0		640	8.5		750	0.8
425	0.4		535	5.2		645	8.2		755	0.7
430	0.6		540	5.4		650	7.9		760	0.6
435	1.0		545	5.6		655	7.4		765	0.5
440	1.7		550	5.8		660	7.0		770	0.4
445	2.8		555	6.1		665	6.5		775	0.4
450	4.6		560	6.2		670	6.0		780	0.3
455	5.1		565	6.4		675	5.5		---	---

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	Multi Channel Spectroradiometer	OL770	CHI0092	VBU	VBU
7	Newport Humidity Recorder	iServer	CHI0456	10/11/2019	10/11/2020
8	Labsphere Spectroradiometer	CDS2600	CHI0539	VBU	VBU
9	3 Meter Sphere	SPR600	CHI0088	VBU	VBU
10	Elgar AC Power Supply	CW1251	146112	VBU	VBU
11	Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU
12	Yokogawa Power Meter	WT1600	146769	4/6/2020	4/6/2021
13	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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