

# GENERATION BRANDS, LLC

## TEST REPORT

### SCOPE OF WORK

Electrical and Photometric tests as required to the IESNA test standard.

**MODEL NUMBER**  
700GMBMP7CS-LED927

**REPORT NUMBER**  
103643585CHI-107

**ISSUE DATE**  
May 31, 2019

**REVISION DATE**  
None

**DOCUMENT CONTROL NUMBER**  
TBD  
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**REPORT NO.:103643585CHI-107**

**REPORT DATE: May 31, 2019**

**TEST REPORT**

**TEST OF ONE LED PENDANT**

**MODEL NO. 700GMBMP7CS-LED927**

**RENDERED TO:**

**GENERATION BRANDS, LLC  
7400 LINDER AVE.  
SKOKIE, IL 60077**

**AUTHORIZATION**

The testing performed was authorized by signed quote number Qu-00912313-2 .

**STANDARDS USED**

IESNA LM-79 - 2008: Electrical and Photometric Measurements of Solid State Lighting  
ANSI NEMA ANSLG C78.377: 2015: Specifications of the Chromaticity of Solid State Lighting Products

**DESCRIPTION OF SAMPLE**

The client submitted one production sample of model number 700GMBMP7CS-LED927. The sample was received by Intertek on May 15, 2019 in undamaged condition and one sample was tested as received. The sample designation was AH05152019114818-107.

**DATE OF TESTS**

May 30, 2019 through May 30, 2019.

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**REPORT DATE: May 31, 2019**

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**SUMMARY**

<b>MODEL NO:</b>	700GMBMP7CS-LED927
<b>DESCRIPTION:</b>	LED Pendant

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	1290.9	1235.8
Input Power (W) @ 120 (VAC)	15.19	15.23
Lumen Efficacy (lm/W)	85.0	81.1
Input Power Factor @ 120 (VAC)	0.951	0.951

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	32.28
Correlated Color Temperature (K)	2757
Color Rendering Index - Ra	91.6
Color Rendering - R9	52.1
DUV	0.0016
Chromaticity Coordinate (x)	0.458
Chromaticity Coordinate (y)	0.415
Chromaticity Coordinate (u')	0.259
Chromaticity Coordinate (v')	0.529

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**EQUIPMENT LIST**

<b>EQUIPMENT USED</b>	<b>MODEL NO.</b>	<b>CONTROL NO.</b>	<b>LAST CAL DATE</b>	<b>CAL DUE DATE</b>
Yokogawa Power Meter	WT210	146919	7/9/2018	7/9/2019
Omega Newport Thermometer	DPI8-C24	146920	10/4/2018	10/4/2019
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU
Newport Thermohygrometer	iServer	146957	12/11/2018	12/11/2019
Pacific, AC power supply	118-ACX	CHI0358	VBU	VBU
Labsphere 2M Sphere & Spectroradiometer	CDS1100	146137	VBU	VBU
Elgar AC Power Supply	CW1251M	146113	VBU	VBU
Sorenson DC Power Supply	XFR150-8	146847	VBU	VBU
Yokogawa Power Analyzer	WT1600	146767	4/3/2019	4/3/2020
Omega Temperature	MDSi8	146873	7/10/2018	7/10/2019
Newport Thermohygrometer	iTHX-M	146961	7/23/2018	7/23/2019

**TEST REPORT**

**TEST METHODS**

**SEASONING IN SAMPLE ORIENTATION - LED PRODUCTS**

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

**PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - INTEGRATING SPHERE METHOD**

A Spectroradiometer and integrating sphere was used to measure correlated color temperature, chromaticity coordinates, and the color rendering index for each SSL unit.

Ambient temperature was measured at a position inside the sphere. Each SSL unit was operated on the client provided driver at the rated input voltage in its designated orientation. Each SSL unit was allowed to stabilize for at least thirty minutes before measurements were made. Stabilization procedures to LM-79 were followed. Electrical measurements including voltage, current, and power were measured using a power analyzer.

The calibration of the sphere photometer-spectroradiometer system is traceable to the National Institute of Standards and Technology.

**PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - DISTRIBUTION METHOD**

A Type C Mirror Goniometer was used to measure the intensity (candelas) at each angle of distribution for the SSL sample.

Ambient temperature was measured equal to the height of the sample mounted on the goniometer equipment. The SSL sample was operated on the client provided driver at rated input volts in its designated orientation. The SSL sample was allowed to stabilize for at least thirty minutes before measurements were made. Stabilization procedures to LM-79 were followed. Electrical measurements including voltage, current, and power were measured using a power analyzer.

**TEST REPORT**

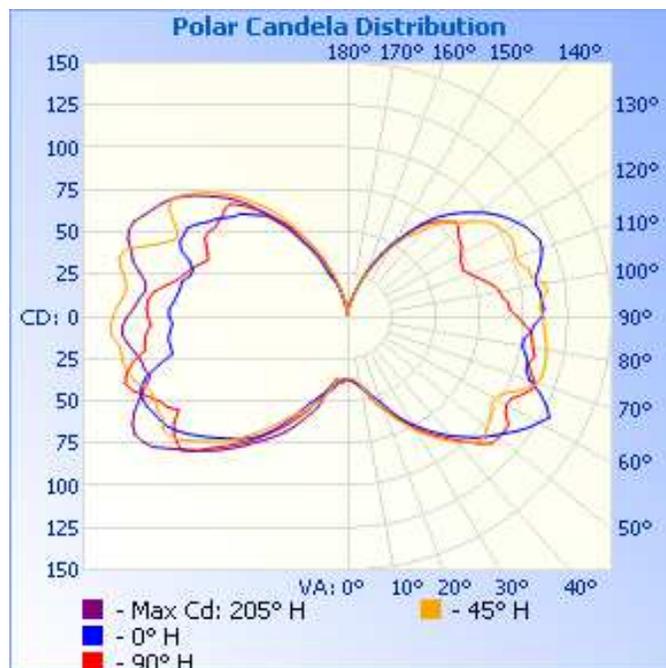
**RESULTS OF TESTS**

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

INTERTEK CONTROL NO.	BASE POSITION	INPUT VOLTAGE (VAC)	INPUT CURRENT (mA)	INPUT POWER (W)	INPUT POWER FACTOR	LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)
AH05152019114818-107	Base Up	120.1	133.4	15.23	0.951	1235.8	81.1

**INTENSITY SUMMARY - CANDELAS**

Angle	0	90	180	270	360
0	37	38	37	38	37
5	39	38	38	39	39
10	42	42	42	38	42
15	47	50	46	45	47
20	54	57	52	56	54
25	64	66	60	66	64
30	74	76	74	77	74
35	83	86	86	88	83
40	92	95	95	99	92
45	101	106	102	110	101
50	109	112	110	123	109
55	118	112	118	120	118
60	126	104	123	111	126
65	125	109	126	118	125
70	110	113	125	129	110
75	106	106	111	130	106
80	101	107	102	117	101
85	104	105	101	115	104
90	110	96	101	114	110
95	110	92	99	114	110
100	109	87	97	105	109
105	113	81	93	96	113
110	118	74	95	90	118
115	116	72	105	88	116
120	111	74	105	94	111
125	104	78	98	92	104
130	96	82	91	93	96
135	86	79	86	94	86
140	76	73	78	84	76
145	61	60	68	71	61
150	48	46	51	58	48
155	35	33	38	45	35
160	22	22	23	29	22
165	14	13	15	18	14
170	8	7	8	8	8
175	3	3	2	2	3
180	1	2	1	2	1



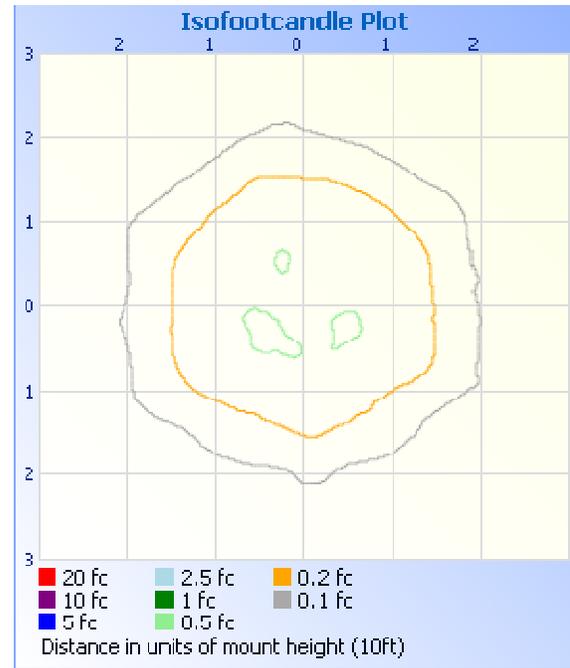
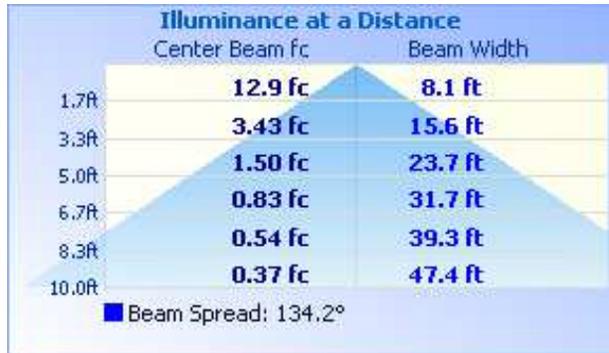
**TEST REPORT**

**RESULTS OF TESTS**

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

**MOUNTING HEIGHT: 10ft**

<b>ILLUMINANCE - CONE OF LIGHT</b>	<b>ISOILLUMINATION PLOT</b>
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**ZONAL LUMEN SUMMARY AND PERCENTAGES**

ZONE	LUMENS	% LUMINAIRE
0-30	48.1	3.9
0-40	102.4	8.3
0-60	290.5	23.5
60-90	369.1	29.9
70-100	374.9	30.3
90-120	345.5	28.0
0-90	659.6	53.4
90-180	576.2	46.6
0-180	1235.8	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	3.7	0.3
10-20	13.8	1.1
20-30	30.6	2.5
30-40	54.3	4.4
40-50	82.5	6.7
50-60	105.5	8.5
60-70	117.1	9.5
70-80	124.8	10.1
80-90	127.2	10.3
90-100	122.8	9.9
100-110	115.8	9.4
110-120	107.0	8.7
120-130	93.6	7.6
130-140	71.0	5.7
140-150	42.5	3.4
150-160	18.2	1.5
160-170	4.8	0.4
170-180	0.5	0.0

**TEST REPORT**

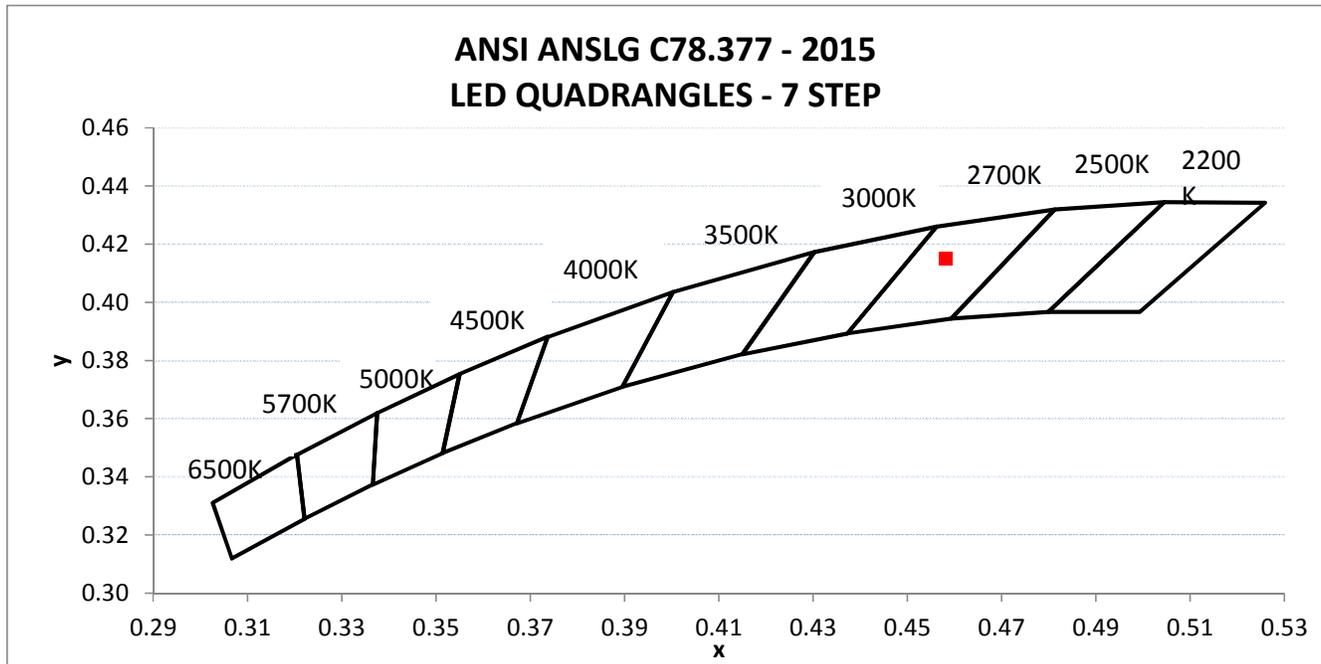
**RESULTS OF TESTS**

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

INTERTEK CONTROL NO.	BASE POSITION	INPUT VOLTAGE (VAC)	INPUT CURRENT (mA)	INPUT POWER (W)	INPUT POWER FACTOR	INPUT CURRENT ATHD (%)
AH05152019114818-107	Base Up	120.00	133.07	15.19	0.951	32.28

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
1290.9	85.0	2757	91.6	52.1	0.0016

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.458	0.415	0.259	0.529



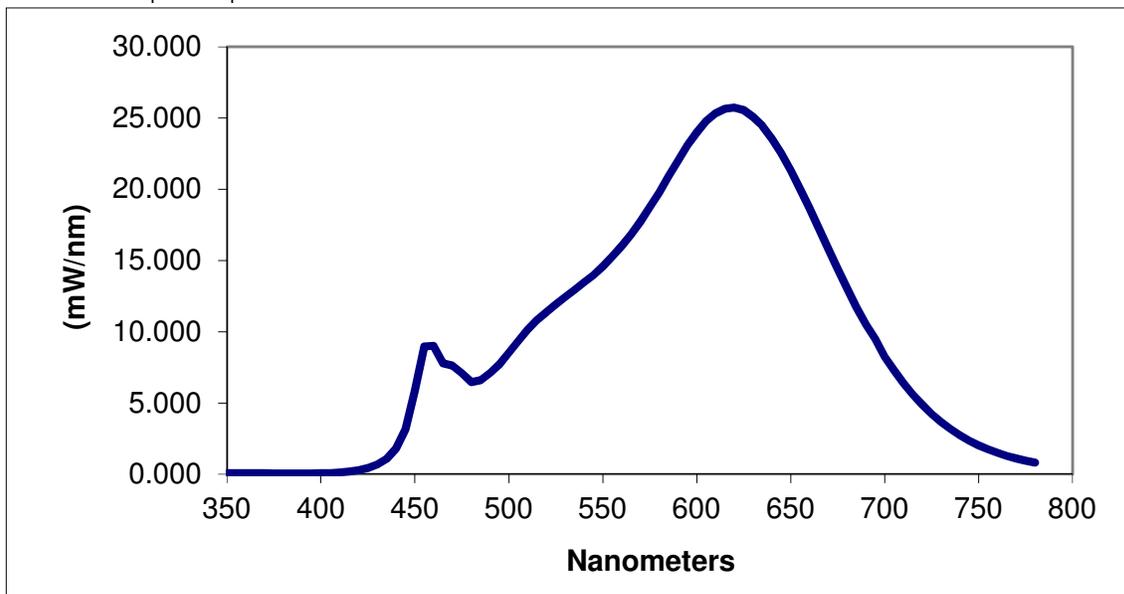
**TEST REPORT**

**RESULTS OF TESTS**

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

SPECTRAL DISTRIBUTION OVER VISIBLE WAVELENGTHS*							
nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.093	460	9.008	570	17.737	680	13.045
355	0.089	465	7.782	575	18.752	685	11.729
360	0.086	470	7.635	580	19.768	690	10.505
365	0.093	475	7.105	585	20.913	695	9.502
370	0.077	480	6.460	590	22.000	700	8.262
375	0.074	485	6.609	595	23.080	705	7.300
380	0.063	490	7.126	600	24.005	710	6.403
385	0.060	495	7.732	605	24.768	715	5.603
390	0.061	500	8.546	610	25.328	720	4.884
395	0.065	505	9.352	615	25.648	725	4.241
400	0.076	510	10.150	620	25.730	730	3.679
405	0.090	515	10.829	625	25.554	735	3.180
410	0.128	520	11.379	630	25.073	740	2.740
415	0.191	525	11.923	635	24.441	745	2.358
420	0.288	530	12.450	640	23.559	750	2.036
425	0.438	535	12.952	645	22.516	755	1.752
430	0.683	540	13.483	650	21.322	760	1.505
435	1.087	545	13.981	655	20.015	765	1.297
440	1.801	550	14.603	660	18.655	770	1.109
445	3.164	555	15.273	665	17.254	775	0.949
450	5.855	560	16.022	670	15.796	780	0.819
455	8.980	565	16.817	675	14.417		

\*Without correction of sample absorption.



**End Of Test Results**

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**TEST REPORT**

**PICTURES**



**CONCLUSION**

The results tabulated in this report are representative of the actual test samples submitted for this report only. The data is provided to the client for further evaluation. Compliance to the referenced specification requirements was not determined in this report.

In Charge Of Tests:

*Tess Gallagher*

Tess Gallagher  
Engineer  
Lighting Division

Report Reviewed By:

*Tim Quigley*

Timothy Quigley  
Project Engineer  
Lighting Division

Attachments: IES File

**REVISION HISTORY**

JOB NUMBER	DATE OF REVISION	PROJECT HANDLER	REVIEWED BY	REVISION NOTE
None				