

PURE EDGE LIGHTING

TEST REPORT

SCOPE OF WORK

Electrical and Photometric tests as required to the IESNA LM-79 test standard.

MODEL NUMBER

SS5N-12MM-24VDC-C-27WD-TL

REPORT NUMBER

104373788CHI-020

ISSUE DATE

August 24, 2020

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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REPORT NO.:104373788CHI-020

REPORT DATE: August 24, 2020

TEST REPORT

TEST OF ONE LED STRIP

MODEL NO. SS5N-12MM-24VDC-C-27WD-TL
LED MODEL NO. LEDWISE/NICHIA
DRIVER MODEL NO. HUARUI/DR-24V-2000-60D

RENDERED TO:

PURE EDGE LIGHTING
1718 W. FULLERTON AVE.
CHICAGO, IL 60614

STATEMENT OF LIMITATIONS

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-01087644-1.

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 SS5N-12MM-24VDC-C-27WD-TL. The sample was received by Intertek on August 4, 2020 in undamaged condition and one sample was tested as received. The sample designation was AH08042020023951-020.

DATE OF TESTS

August 5, 2020 through August 20, 2020.

REPORT NO.:104373788CHI-020

REPORT DATE: August 24, 2020

TEST REPORT

SUMMARY

MODEL NO:	SS5N-12MM-24VDC-C-27WD-TL
DESCRIPTION:	LED STRIP

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	1894.4	1821.3
Input Power (W) @ 120 (VAC)	18.42	18.24
Lumen Efficacy (lm/W)	102.8	99.9
Input Power Factor () @ 120 (VAC)	0.981	0.980

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	14.09
Correlated Color Temperature (K)	2789
Color Rendering Index - Ra	92.3
Color Rendering - R9	53.1
DUV	0.0029
Chromaticity Coordinate (x)	0.448
Chromaticity Coordinate (y)	0.400
Chromaticity Coordinate (u')	0.259
Chromaticity Coordinate (v')	0.522

REPORT NO.:104373788CHI-020

REPORT DATE: August 24, 2020

TEST REPORT

EQUIPMENT LIST

EQUIPMENT USED	MODEL NO.	CONTROL NO.	LAST CAL DATE	CAL DUE DATE
Yokogawa Power Meter	WT210	146919	7/1/2020	7/1/2021
Omega Thermometer	DPI8-C24	146920	10/3/2019	10/3/2020
LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU
Newport Thermohygrometer	iServer	146957	12/2/2019	12/2/2020
Pacific, AC Power Supply	118-ACX	CHI0153	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	4/6/2020	4/6/2021
Omega Temperature	MDSi8	146873	7/2/2020	7/2/2021
Newport Humidity Recorder	iTHX-SD	CHI0452	10/11/2019	10/11/2020

REPORT NO.:104373788CHI-020

REPORT DATE: August 24, 2020

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

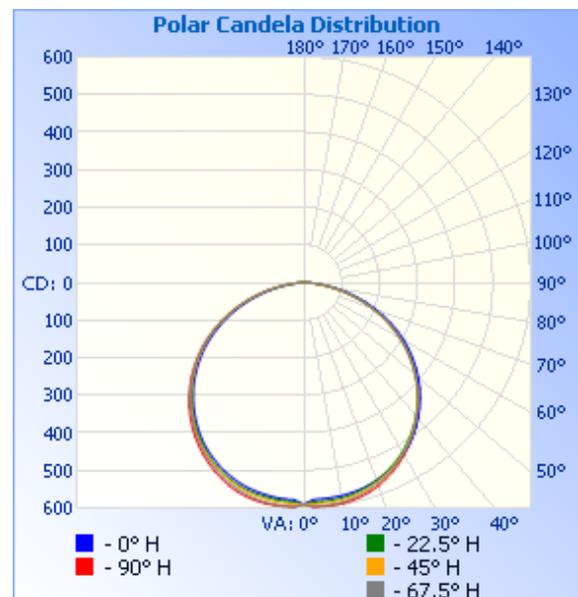
RESULTS OF TESTS

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)
AH08042020023951-020	Base Up	120.0	155.0	18.24	0.980	1821.3	99.9

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	590	590	590	590	590
5	577	584	589	596	598
10	575	582	587	593	596
15	570	573	579	584	589
20	560	560	565	569	575
25	545	542	546	550	555
30	526	520	524	526	530
35	502	493	496	498	501
40	470	461	463	465	467
45	435	425	426	427	429
50	395	385	385	386	387
55	351	341	340	341	342
60	304	293	292	292	293
65	253	241	240	241	241
70	198	187	186	186	186
75	143	131	131	130	131
80	88	77	77	78	77
85	38	31	32	33	33
90	5	5	7	8	8
95	0	0	1	1	1



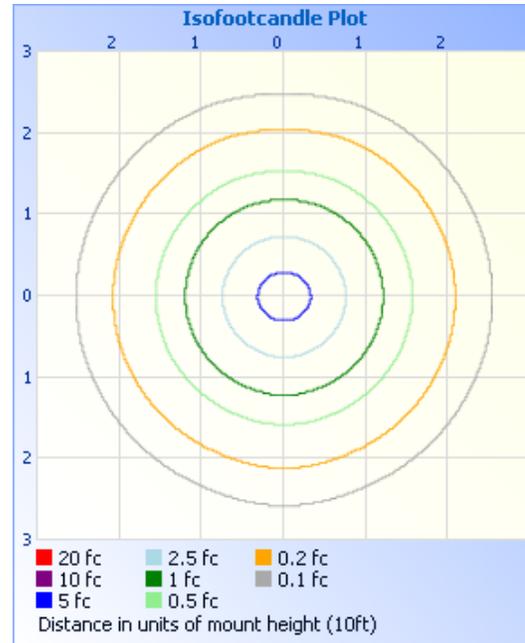
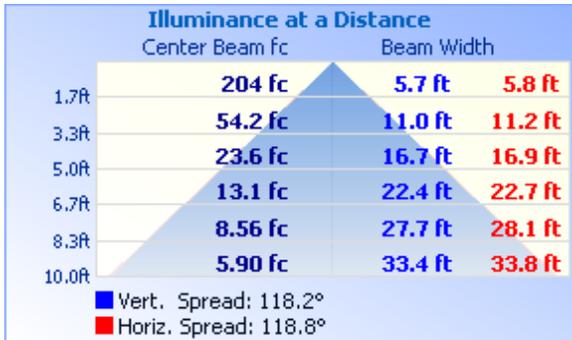
TEST REPORT

RESULTS OF TESTS

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

MOUNTING HEIGHT: 10ft

ILLUMINANCE - CONE OF LIGHT	ISOILLUMINATION PLOT
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ZONAL LUMEN SUMMARY AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	471.1	25.9
0-40	780.3	42.8
0-60	1410.4	77.4
60-90	409.3	22.5
70-100	175.1	9.6
90-120	1.6	0.1
0-90	1819.8	99.9
90-180	1.6	0.1
0-180	1821.3	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	56.1	3.1
10-20	163.3	9.0
20-30	251.6	13.8
30-40	309.2	17.0
40-50	327.3	18.0
50-60	302.8	16.6
60-70	235.8	12.9
70-80	136.0	7.5
80-90	37.5	2.1
90-100	1.6	0.1

TEST REPORT

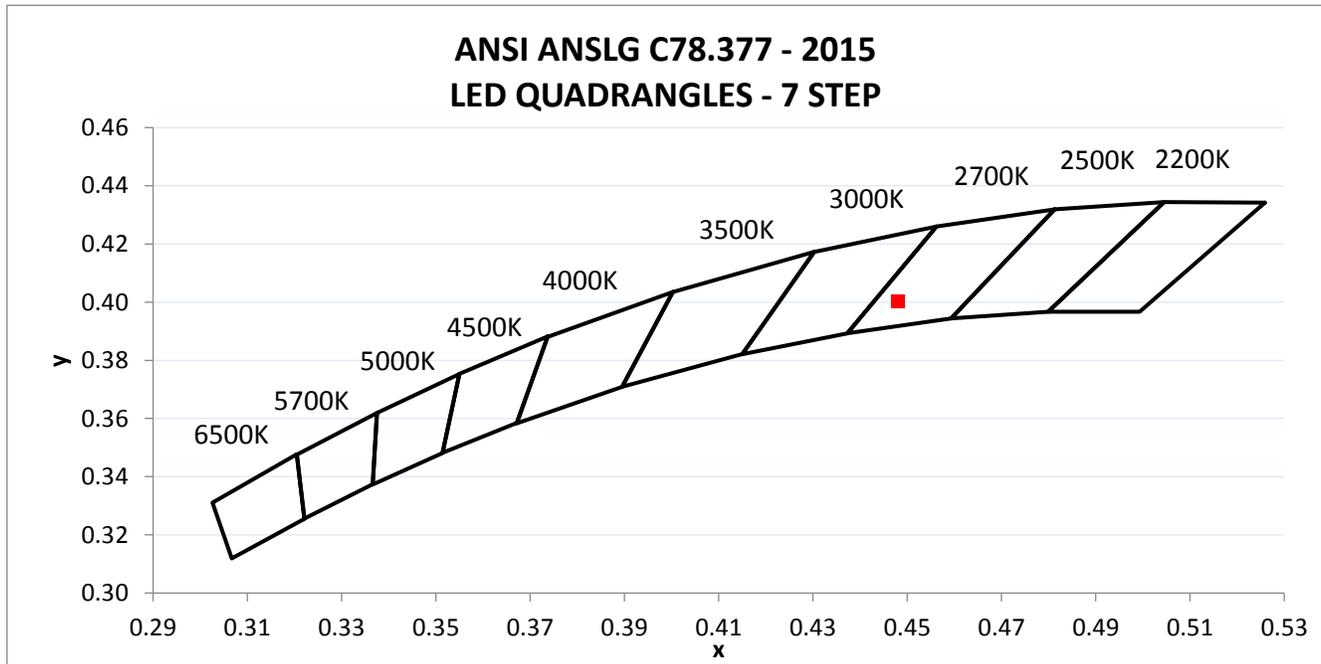
RESULTS OF TESTS

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 (%)
AH08042020023951-020	Base Up	120.00	156.51	18.42	0.981	14.09

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
1894.4	102.8	2789	92.3	53.1	0.0029

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.448	0.400	0.259	0.522



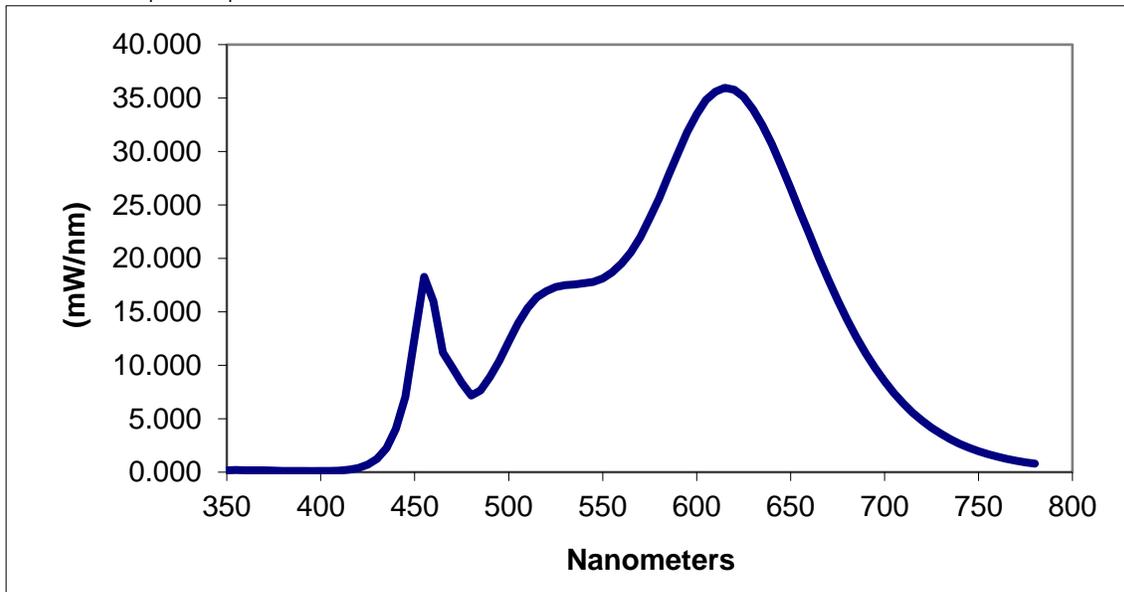
TEST REPORT

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	0.189	460	15.988	570	22.005	680	14.299
355	0.211	465	11.202	575	23.754	685	12.635
360	0.176	470	9.805	580	25.632	690	11.114
365	0.161	475	8.368	585	27.744	695	9.764
370	0.163	480	7.173	590	29.809	700	8.509
375	0.134	485	7.632	595	31.826	705	7.399
380	0.115	490	8.912	600	33.494	710	6.423
385	0.109	495	10.425	605	34.809	715	5.561
390	0.118	500	12.222	610	35.605	720	4.821
395	0.107	505	13.942	615	35.959	725	4.157
400	0.110	510	15.349	620	35.772	730	3.583
405	0.127	515	16.353	625	35.115	735	3.081
410	0.158	520	16.943	630	33.942	740	2.656
415	0.242	525	17.307	635	32.484	745	2.283
420	0.390	530	17.500	640	30.685	750	1.963
425	0.696	535	17.555	645	28.684	755	1.689
430	1.250	540	17.690	650	26.557	760	1.454
435	2.270	545	17.808	655	24.386	765	1.246
440	4.036	550	18.134	660	22.227	770	1.067
445	7.061	555	18.703	665	20.100	775	0.920
450	12.602	560	19.522	670	18.027	780	0.793
455	18.263	565	20.575	675	16.115		

*Without correction of sample absorption.



End Of Test Results

REPORT NO.:104373788CHI-020
REPORT DATE: August 24, 2020

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:

Timothy Quigley
Project Engineer
Lighting Division

Report Reviewed By:

Jeff Davis
N.A. Technical Lead
Lighting Division

Attachments: IES File

REVISION HISTORY

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