3933 US RT 11
Cortland, NY 13045
Telephone: (607) 753-6711
www.intertek.com

APOGEE LIGHTING

TEST REPORT

SCOPE OF WORK
LED Performance Testing

MODEL NUMBER
Light Scape

PROJECT NUMBER
G103802715

REPORT NUMBER
103802715CRT-018

REPORT ISSUE DATE
January 24, 2020

REPORT REVISION DATE
None

PAGES
7

Total Quality. Assured.

FOR THE SCOPE OF
ACCREDITATION UNDER NVLAP LAB
CODE 100402-0.

REPORT NUMBER
103802715CRT-018

TEST OF (1) 2' X 2' LIGHT SCAPE FIXTURE 6500K

MODEL NUMBER
LIGHT SCAPE

REPORT RENDERED TO:
APOGEE LIGHTING
593 ACORN ST
DEER PARK, NY 11729

STATEMENT OF LIMITATION

NVLAP Lab Code 100402-0. 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-00945597.

TEST STANDARDS

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

TEST DATES

January 24, 2020

In Charge of Testing:

Gerald Gray
Associate Engineer
Lighting Division

Reviewer:

Melanie Brittain
Senior Associate Engineer
Lighting Division

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REPORT NO.: 103802715CRT-018
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SAMPLE INFORMATION

Control No.	Model No.	Description	Type	Received
CRT2001231150-001	Light Scape	2' x 2' Light Scape fixture 6500K	Production	1/23/2020

SAMPLE PHOTOS

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SUMMARY OF DATA

Product Model No.:	Light Scape
Product Description:	2' x 2' Light Scape fixture 6500K
LED Model No.:	Apogee HE Module
Driver Model No.:	ELDOLED Dual Drive
Light Source:	LED

Criteria	Results
Light Output (lumens)	1661.6
Input Power (W) @ 120 (Vac)	16.95
Lumen Efficacy (lm/W)	98.1
Input Power Factor () @ 120 (Vac)	0.982

TEST METHODS

SEASONING IN SAMPLE ORIENTATION - LED PRODUCTS

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

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - DISTRIBUTION METHOD

A Type C Mirror Goniometer was used to measure the intensity (candela) 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.

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

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

Fixture Model No.	Light Scape	Fixture Control No.	CRT2001231150-001

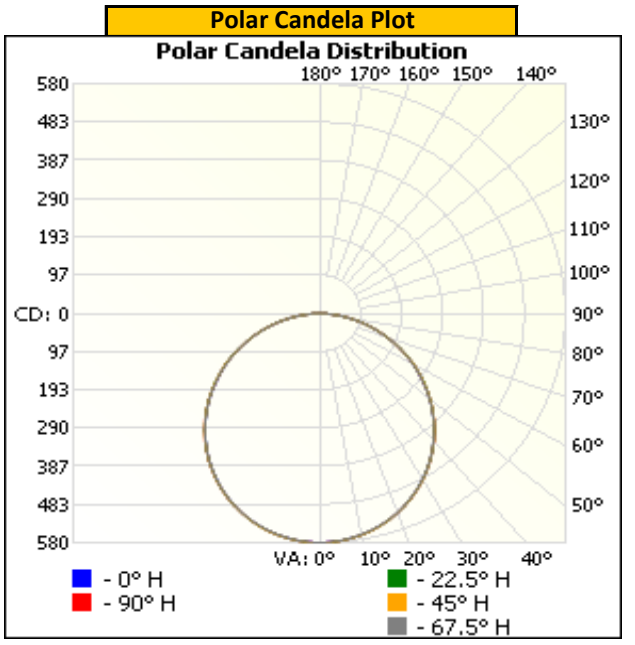
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()
Up	120.06	143.7	16.95	0.982

Light Output (lm)	Lumen Efficacy (lm/W)
1661.6	98.1

INTENSITY SUMMARY - CANDELA

Angle	0	22.5	45	67.5	90
0	580	580	580	580	580
5	577	577	577	576	577
10	568	568	569	568	568
15	555	555	555	555	555
20	536	537	537	536	537
25	513	513	514	513	514
30	485	486	486	485	486
35	453	454	454	454	454
40	418	419	419	418	420
45	380	381	381	380	381
50	340	341	341	340	341
55	296	299	298	296	297
60	254	255	255	253	255
65	209	209	209	209	209
70	163	164	164	163	164
75	118	119	119	119	119
80	75	75	75	75	75
85	33	34	33	33	34
90	0	0	0	0	0
95	0	0	0	0	0
100	0	0	0	0	0
105	0	0	0	0	0
110	0	0	0	0	0
115	0	0	0	0	0
120	0	0	0	0	0
125	0	0	0	0	0
130	0	0	0	0	0
135	0	0	0	0	0
140	0	0	0	0	0
145	0	0	0	0	0
150	0	0	0	0	0
155	0	0	0	0	0
160	0	0	0	0	0
165	0	0	0	0	0
170	0	0	0	0	0
175	0	0	0	0	0
180	0	0	0	0	0

Polar Candela Plot



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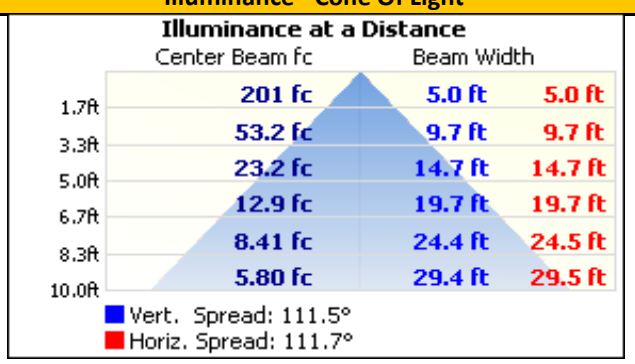
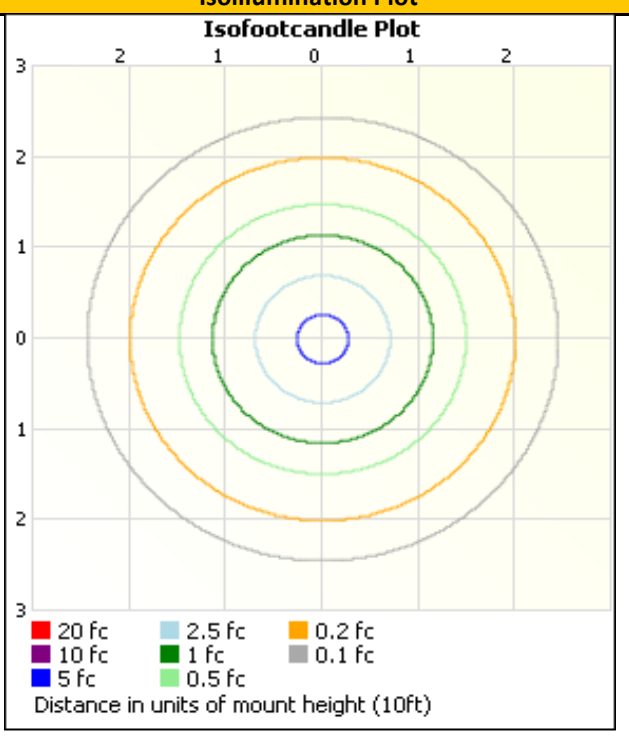
ILLUMINANCE SUMMARY

Mounting Height: 10ft

Illuminance - Cone Of Light



Isoillumination Plot



ZONAL LUMENS

Zonal Lumen Summary

Zone	Lumens	Luminaire
0-30	447.8	26.9%
0-40	731.6	44.0%
0-60	1,291.5	77.7%
60-90	370.2	22.3%
70-100	163.4	9.8%
90-120	0.0	0.0%
0-90	1,661.6	100.0%
90-180	0.0	0.0%
0-180	1,661.6	100.0%

Zone	Lumens	Total	Zone	Lumens	Total
0-10	54.8	3.3%	90-100	0.0	0.0%
10-20	156.6	9.4%	100-110	0.0	0.0%
20-30	236.4	14.2%	110-120	0.0	0.0%
30-40	283.9	17.1%	120-130	0.0	0.0%
40-50	293.7	17.7%	130-140	0.0	0.0%
50-60	266.2	16.0%	140-150	0.0	0.0%
60-70	206.8	12.4%	150-160	0.0	0.0%
70-80	125.6	7.6%	160-170	0.0	0.0%
80-90	37.7	2.3%	170-180	0.0	0.0%

Test Equipment Used:	1 through 10				
Ambient Temp (ºC):	24.4	**Relative Hum (%):**	NA	**Test Completion Date**	1/24/2020

See last page for equipment details

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EQUIPMENT LIST

#	Equipment	Model No	Control No.	Last Cal	Cal Due
1	LSI High Speed Mirror Goniometer	6440	---	1/14/2020	2/14/2020
2	Elgar AC Power Supply	CW1251	---	VBU	VBU
3	Sorenson DC Power Supply	XG 150-10	---	VBU	VBU
4	Yokogawa Power Analyzer	WT210	E464	5/7/2019	5/7/2020
5	Omega Thermometer	DPi8-C24	M263	5/7/2019	5/7/2020
6	M-D Building Products Digital Level	Smart Tool	L112	5/1/2019	5/1/2020
7	NIST Luminous Intensity Standard Source	NBS10322	N1427	2/11/2019	2/11/2021
8	NIST Luminous Intensity Standard Source	NBS10332	N1435	2/11/2019	2/11/2021
9	NIST Luminous Intensity Standard Source	NBS10265	N1437	2/11/2019	2/11/2021
10	NIST Luminous Flux Standard Source	NBS10428	N1424	1/3/2019	1/3/2021