LIGHT LABORATORY INC.
8165 E Kaiser Blvd. Anaheim, CA 92808
p. 714.282.2270
f. 714.676.5558

Test #: L11125510R01
Date: 12/20/2012

NVLAP LAB CODE 200927-0

Test Report: **L11125510R01**

Model Number: **MLVT14D4535**

Report Prepared For: MaxLite
12 York Ave. West Caldwell, NJ. 07006

Test: Electrical and Photometric tests as required by the IESNA test standards.

Standards Used: Appropriate part or all test guidelines were used for test performed:
IESNA LM79: 2008 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI NEMA ANSLG C78.377: 2008 Specification of the Chromaticity of Solid State Lighting Products

Description of Sample: Client submitted the sample. Fixture catalog number is MLVT14D4535. Received in working and undamaged condition. No modifications were necessary.

Sample Arrival Date: 12/18/12

Date of Tests: 12/19/12 - 12/20/12

Seasoning of Sample SSL: No seasoning was performed in accordance with IESNA LM-79.

Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S1	01/04/13
Xitron Power Analysis System	2503AH	MT-EL01	01/09/13
Fluke Digital Thermometer	52k/J	MT-TP02-GC	01/04/13
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

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LM-79 Test Summary	
Manufacturer:	MaxLite
Model Number:	MLVT14D4535
LAMPCAT:	N/A
Driver Model Number:	HIGH PERFECTION TECH. LF1048-36-C1100-010V (IR)
Total Lumens:	3286.62
Input Voltage (VAC):	120.00
Input Current (Amp):	0.36
Input Power (W):	42.77
Input Power Factor:	0.9954
Total Harmonic Distortion @ 120V(%):	7.2%
Total Harmonic Distortion @ 277V(%):	19.8%(0.16A, 41.97W, 0.9370PF)
Efficacy:	76.84
Color Rendering Index (CRI):	85.89
Correlated Color Temperature (CCT):	3897
Chromaticity Coordinate x:	0.3809
Chromaticity Coordinate y:	0.3652
Ambient Temperature (°F):	77.0
Stabilization Time (Hours):	0:50
Total Operating Time (Hours):	1:25

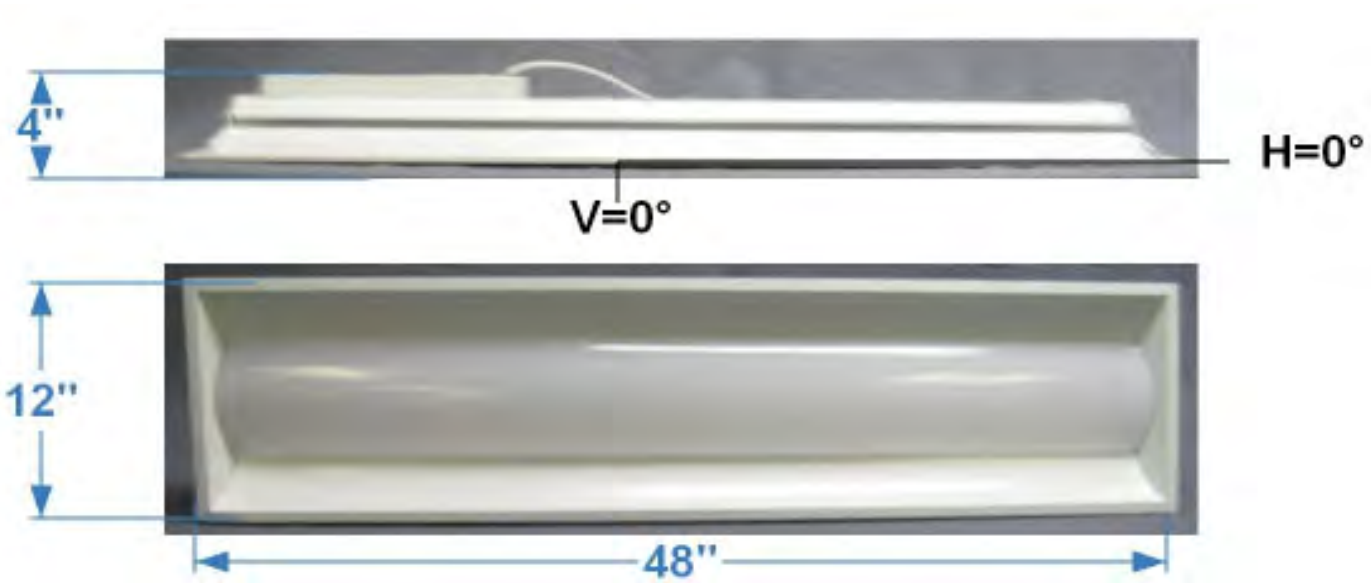

FIG. 1 LUMINAIRE

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

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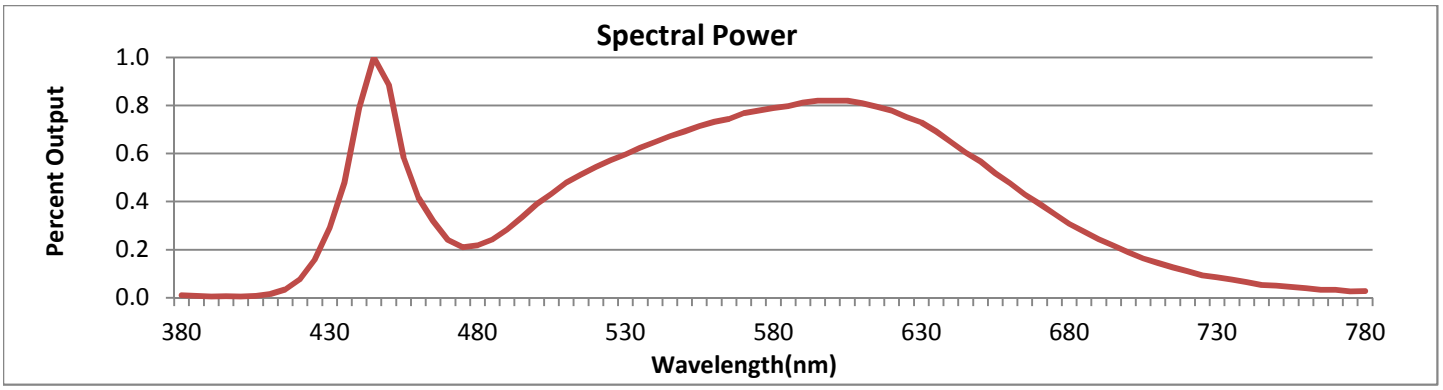


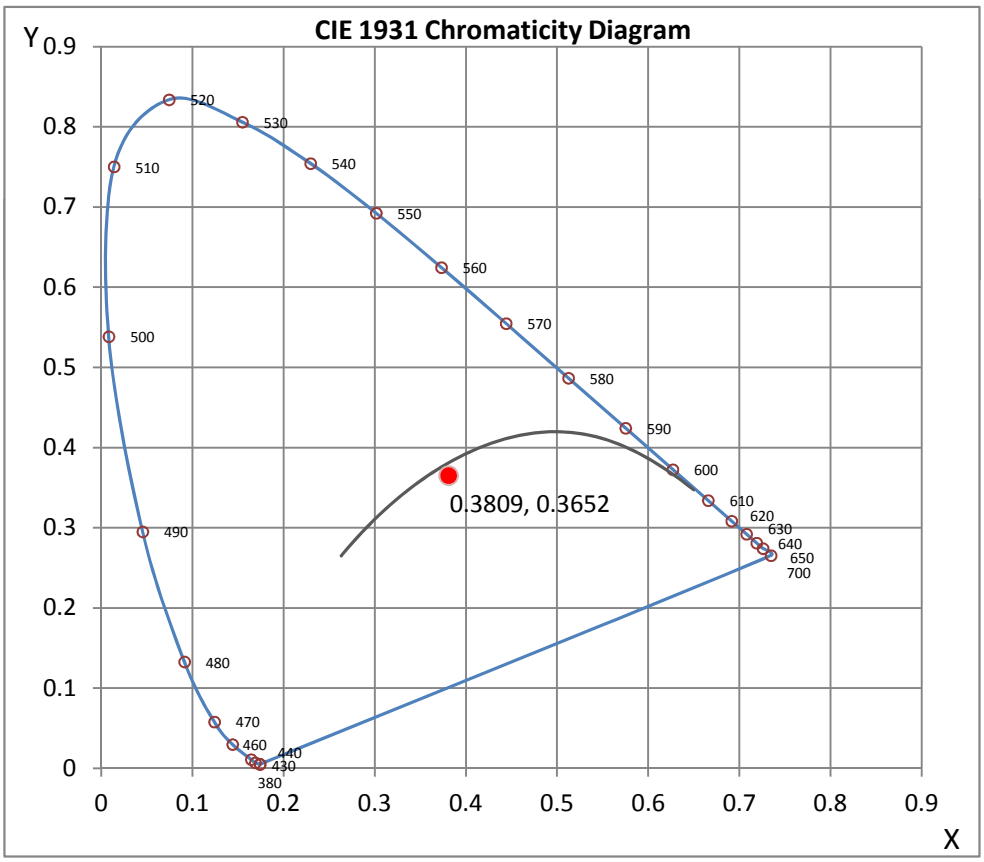
Wavelength	W/m²nm	440	0.2900	510	0.1760	580	0.2900	650	0.2080	720	0.0405
380	0.0036	450	0.3250	520	0.2000	590	0.2980	660	0.1750	730	0.0311
390	0.0019	460	0.1530	530	0.2190	600	0.3010	670	0.1430	740	0.0240
400	0.0017	470	0.0883	540	0.2380	610	0.2970	680	0.1130	750	0.0184
410	0.0058	480	0.0798	550	0.2540	620	0.2860	690	0.0893	760	0.0146
420	0.0282	490	0.1040	560	0.2690	630	0.2680	700	0.0695	770	0.0122
430	0.1070	500	0.1430	570	0.2820	640	0.2380	710	0.0533	780	0.0099

CRI & CCT

x	0.3809
y	0.3652
u'	0.2301
v'	0.4964
CRI	85.89
CCT	3897
Duv	-0.00564

R Values

R1	86.42
R2	89.45
R3	90.24
R4	86.08
R5	86.14
R6	84.67
R7	87.84
R8	76.24
R9	39.18
R10	74.05
R11	85.72
R12	70.36
R13	86.69
R14	94.15



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Test Methods

Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Test Report Released by:

Joseph Shin
Engineering Manager

Test Report Reviewed by:

Steve Kang
Quality Assurance

**Attached are photometric data reports. Total number of pages: 10*

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Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L11125510R01.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L11125510R01
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 12/20/2012
[MANUFAC] MAXLITE
[LUMCAT] MLVT14D4535
[LUMINAIRE] 48"L. X 12"W. X 4"H. LED ROAD LUMINAIRE
[MORE] 3 MODULES WITH 44 4000K LEDS WITH FROSTED ACRYLLIC LENS
[MORE] WHITE ALUMINUM REFLECTOR
[BALLASTCAT] HIGH PERFECTION TECH. LF1048-36-C1100-010V (IR)
[BALLAST] INPUT: 100-277VAC, 0.8A, 47-63HZ, OUTPUT: 30-39.6VDC, 1.1A
[LAMPPOSITION] 0,0
[LAMPCAT] N/A
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[_INPUT] 120VAC, 42.77W
[_TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3287
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	77
Total Luminaire Watts	42.77
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.26
Spacing Criterion (Diagonal)	1.36
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.88 ft
Luminous Width (90-270)	0.88 ft
Luminous Height	0.00 ft

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L11125510R01.IES

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3301	3443	3545
55	3075	3273	3399
65	2847	3130	3003
75	2288	2458	2251
85	1301	1048	867

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L11125510R01.IES

CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1210	1210	1210	1210	1210
5	1198	1199	1207	1213	1190
10	1177	1179	1188	1195	1174
15	1144	1146	1157	1165	1147
20	1099	1103	1116	1125	1112
25	1043	1048	1063	1075	1066
30	978	985	1002	1015	1011
35	905	913	932	947	947
40	826	835	855	872	876
45	741	752	773	790	796
50	652	664	686	703	710
55	560	573	596	612	619
60	470	485	507	516	512
65	382	398	420	409	403
70	285	304	311	295	287
75	188	209	202	188	185
80	101	117	105	94	91
85	36	39	29	25	24
90	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L11125510R01.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	439.67	N.A.	13.40
0-30	928.12	N.A.	28.20
0-40	1509.56	N.A.	45.90
0-60	2634.13	N.A.	80.10
0-80	3241.86	N.A.	98.60
0-90	3286.62	N.A.	100.00
10-90	3172.36	N.A.	96.50
20-40	1069.9	N.A.	32.60
20-50	1664.49	N.A.	50.60
40-70	1522.71	N.A.	46.30
60-80	607.73	N.A.	18.50
70-80	209.59	N.A.	6.40
80-90	44.76	N.A.	1.40
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	3286.62	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	114.26
10-20	325.40
20-30	488.45
30-40	581.44
40-50	594.60
50-60	529.97
60-70	398.14
70-80	209.59
80-90	44.76
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L11125510R01.IES

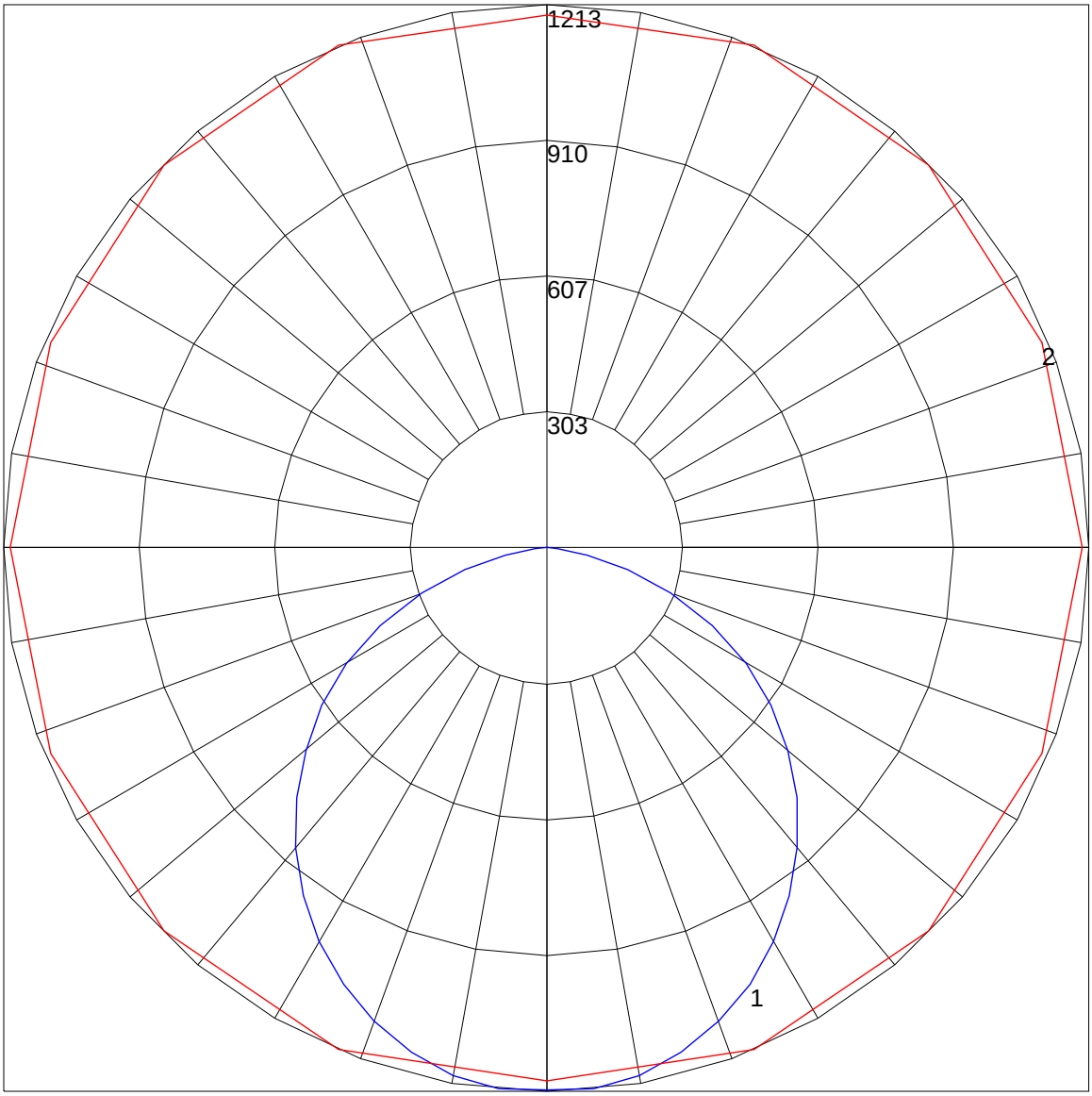
COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	63	57	53	51
5	76	63	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	43	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L11125510R01.IES

POLAR GRAPH



Maximum Candela = 1213 Located At Horizontal Angle = 67.5, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)