

IESNA LM79: 2008 Photometric Test Report

Photometric Testing and Evaluation in Accordance with LM 79-2008

Report Prepared For

Alex Truong

Product Manager

MaxLite

Description of Sample: 12.5W 4-FT LED T8 BYPASS 5000K - GLASS - UL TYPE B Model L12.5T8SE450-G ; L12.5T8SE450-G10.

The Sample (s) was (were) tested in accordance with the following applied standards/regulations:

IESNA LM79: 2008 Approved for Electrical and Photometric Measurements of Solid-State Lighting Products.

ANSI NEMA C78.377: 2011 Specification of the Chromaticity of Solid State Lighting Products.

ANSI C82.77:2002 Harmonic Emissions Limits – Related Power Quality Requirement for Light Equipment.

CITL Test Number: CITL0001741

Sample Arrival Date: 8/4/2016

Date of Test: 11/29/2016

Report Issue Date: 11/30/2016

Report Prepared By:

Report Reviewed By:

Report Approved By:



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Lab Assistant



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Test Engineer



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Lab Manager

Sample Number: 1681

Manufacturer: MaxLite

Notes: Tested in intended orientation



Equipment Used:

Description	Model #	Serial #	Calibration Date	Calibration Due Date
Goniophotometer	GO-R5000	G116930CS1341112	03/03/16	02/07/17
EVERFINE AC POWER SUPPLY	DPS1060	G1174227A8341115	-	-
YOKOGAWA POWER ANALYZER	WT310	C2QJ22012V	10/22/16	10/31/17
DC POWER SUPPLY	WY12010	G115909TM5341117	-	-
EVERFINE AC POWER SUPPLY	DSP1005	G119890CJ7341122	-	-
DC POWER SUPPLY	WY305	G115986TA8341112	-	-
INTERGRATING SPHERE	2 METER	CITL 0018	06/07/16	12/07/16
YOKOGAWA POWER ANALYZER	WT310	C2QJ22011V	11/14/16	11/30/17
FLUKE DIGITAL THERMOMETER	51II	29390172WS	03/04/16	03/31/17
TEMPERATURE AND HUMIDITY LOGGER	UX100-023	10683270	03/22/16	03/31/17

LM-79 Test Summary:

Manufacture:	MaxLite
Fixture Model Number:	L12.5T8SE450-G; L12.5T8SE450-G10
Driver Model Number:	No Driver Model Number Information Available
LED Model Number:	No LED Model Number Information Available

Electrical Measurement:

Input Voltage:	120VAC	277VAC
Input Current:	0.1117A	0.0524A
Input Frequency:	60 HZ	60 Hz
Input Power:	13.07W	13.272W
Power Factor:	0.9747	0.9127
Total Harmonic Distortion:	19.485 ATHD	14.658 ATHD

Lumen Output:

Lumens:	1806 Lm
Efficacy:	138Lm/W
Color Rendering Index *(CRI)	Ra: 83.2 R ₉ : 9.0
Correlated Color Temperature (K):	5023K
Chromaticity Coordinate x:	0.3449
Chromaticity Coordinate y:	0.3563
Ambient Temperature (°C):	25°C
Stabilization Time (Hours):	60 Mins
Total Operation Time (Hours):	3 Hrs.
u/u':	0.2095
V':	0.4869
Duv:	0.00240
Center Beam Candle Power (cd):	320.03
Max Candela(cd):	324.8 at Horizontal: 285°, Vertical: 12.5°
Spacing Criteria (0-180)	1.24
Spacing Criteria (90-270)	1.38
Zonal Lumens in the 0°-60° Zone	810.3Lm – 44.9%
Zonal Lumens in the 60°-90° Zone	497.5Lm – 27.6%
Zonal Lumens in the 0°-90° Zone	1,307.8Lm – 72.4%
Zonal Lumens in the 90°-120° Zone	317.3Lm – 17.6%
Zonal Lumens in the 90°-180° Zone	498.0Lm – 27.6%

Test Methods:

Photometric Measurements – Goniophotometer:

An Everfine 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 60 minutes and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measure using the listed equipment.

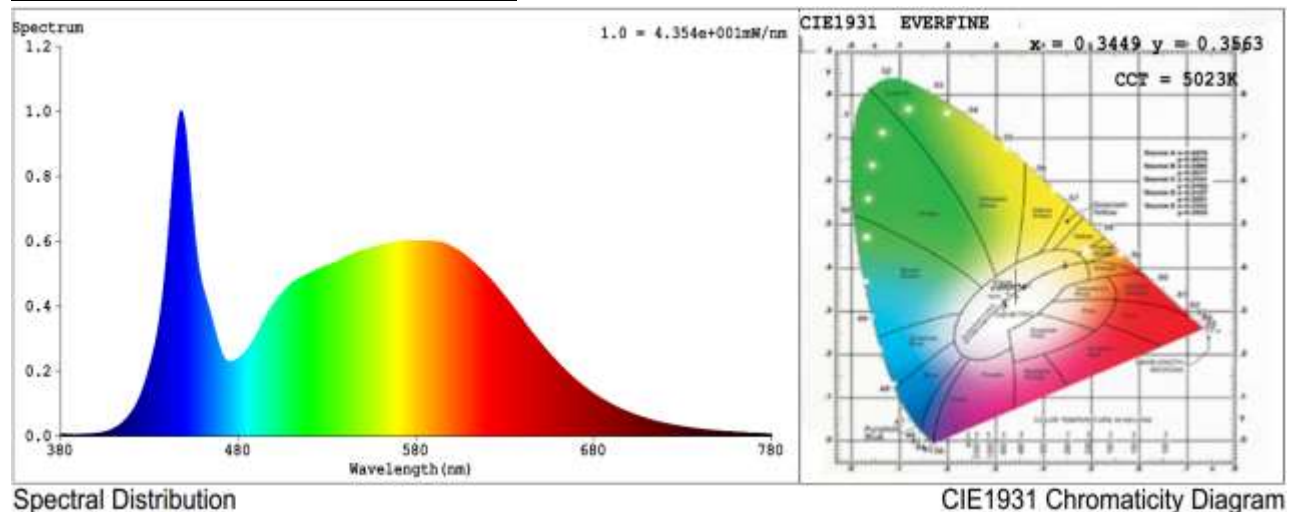
Spectral Measurements – Integrating Sphere

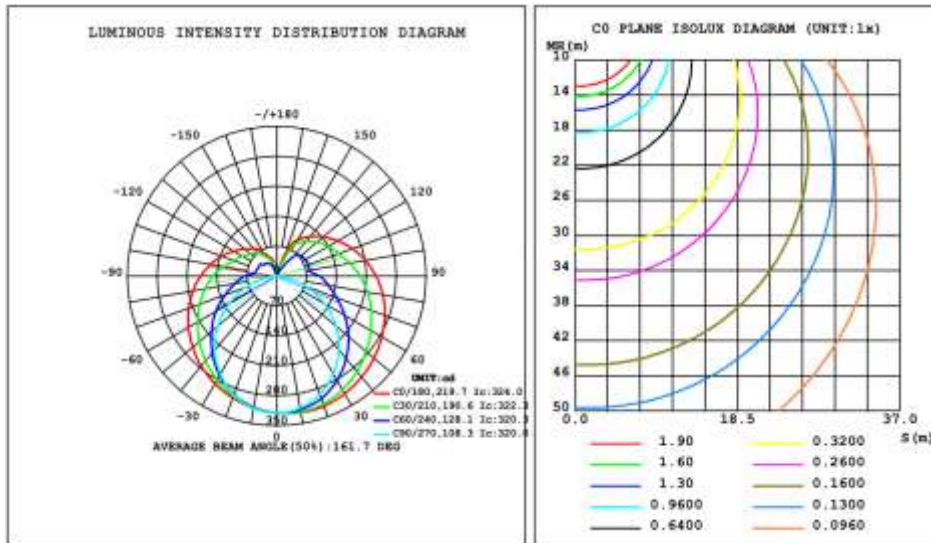
A sensing Spectrometer HASS-2000, in conjunction with Everfine 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature (CCT) and the color rendering index (CRI) for each sample. Test Geometry Configuration 4 π.

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 30 min and longer if necessary for the sample to achieve stabilization

Electrical measurements are measured using the listed equipment.

LUMINAIRE PHOTOMETRIC TEST REPORT:



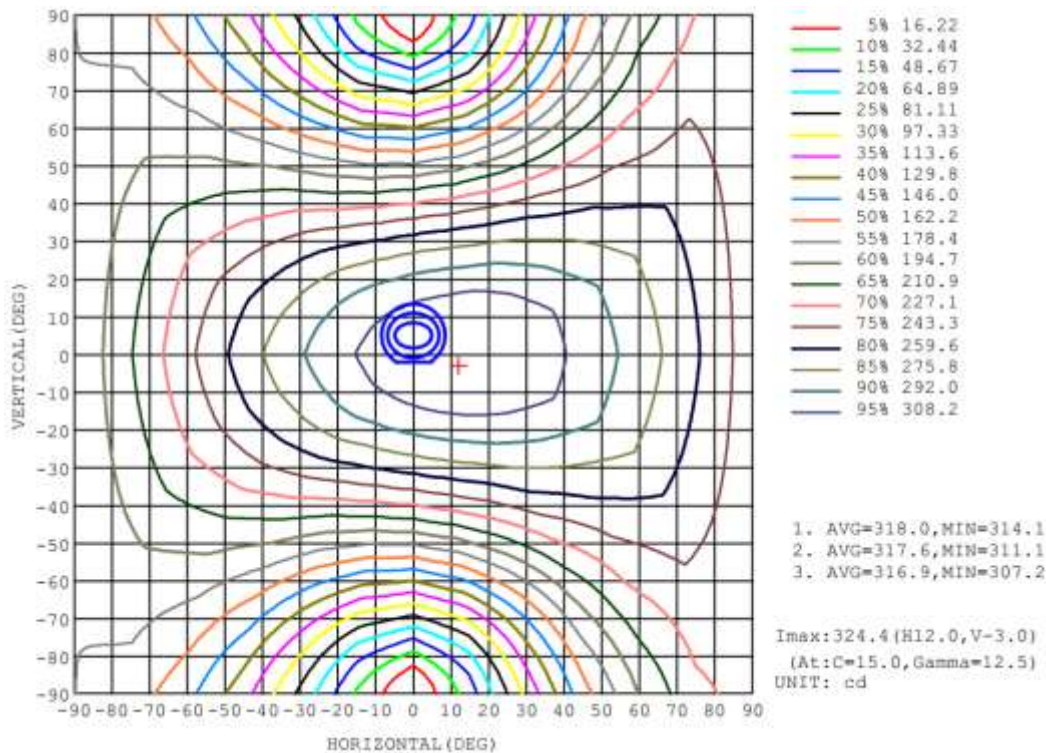

ZONAL FLUX DIAGRAM:

y	C0	C45	C90	C135	C180	C225	C270	C315	y	zone	total	flux, lamp
10	324.0	319.9	313.5	311.9	313.3	311.8	313.8	320.3	0- 10	30.36	30.36	1.68,1.68
20	323.3	311.5	294.7	296.7	303.3	296.4	295.0	312.5	10- 20	87.87	118.2	6.55,6.55
30	317.8	295.5	264.9	275.4	290.4	275.2	265.0	296.8	20- 30	136.3	254.5	14.1,14.1
40	308.7	274.5	226.2	249.0	275.5	249.0	226.7	274.9	30- 40	171.1	425.6	23.6,23.6
50	297.4	250.0	180.3	221.0	257.9	221.2	180.7	249.1	40- 50	190.4	616.0	34.1,34.1
60	284.1	223.5	129.8	192.8	239.1	192.4	130.1	222.6	50- 60	194.4	810.4	44.9,44.9
70	269.5	198.2	76.50	165.4	219.9	164.9	77.20	198.0	60- 70	185.2	995.6	55.1,55.1
80	252.2	176.0	26.61	141.0	199.6	140.0	27.60	177.1	70- 80	166.9	1163	64.4,64.4
90	232.8	156.0	0.0039	119.8	178.6	118.5	0	159.4	80- 90	145.4	1308	72.4,72.4
100	211.3	130.9	0	97.77	157.9	93.29	0	134.1	90-100	122.6	1431	79.2,79.2
110	188.7	120.3	0	84.08	137.4	80.68	0	122.6	100-110	105.0	1536	85,85
120	165.7	112.0	0	74.89	117.3	72.37	0	114.1	110-120	89.57	1625	90,90
130	142.9	102.1	0	66.80	98.80	65.99	0	104.5	120-130	72.20	1697	94,94
140	121.4	89.49	0	53.98	83.56	53.59	0	92.71	130-140	53.64	1751	97,97
150	98.65	56.08	0	39.09	62.48	40.13	0	61.76	140-150	34.40	1785	98.9,98.9
160	50.56	12.29	0	32.86	46.89	33.55	0.0003	14.95	150-160	16.41	1802	99.8,99.8
170	0	0	0	7.029	23.46	7.353	0.0684	0	160-170	3.792	1806	100,100
180	0	0	0	0	0	0	0.0684	0	170-180	0.1566	1806	100,100
ORG	LUMINOUS INTENSITY:cd								UNIT:lm			

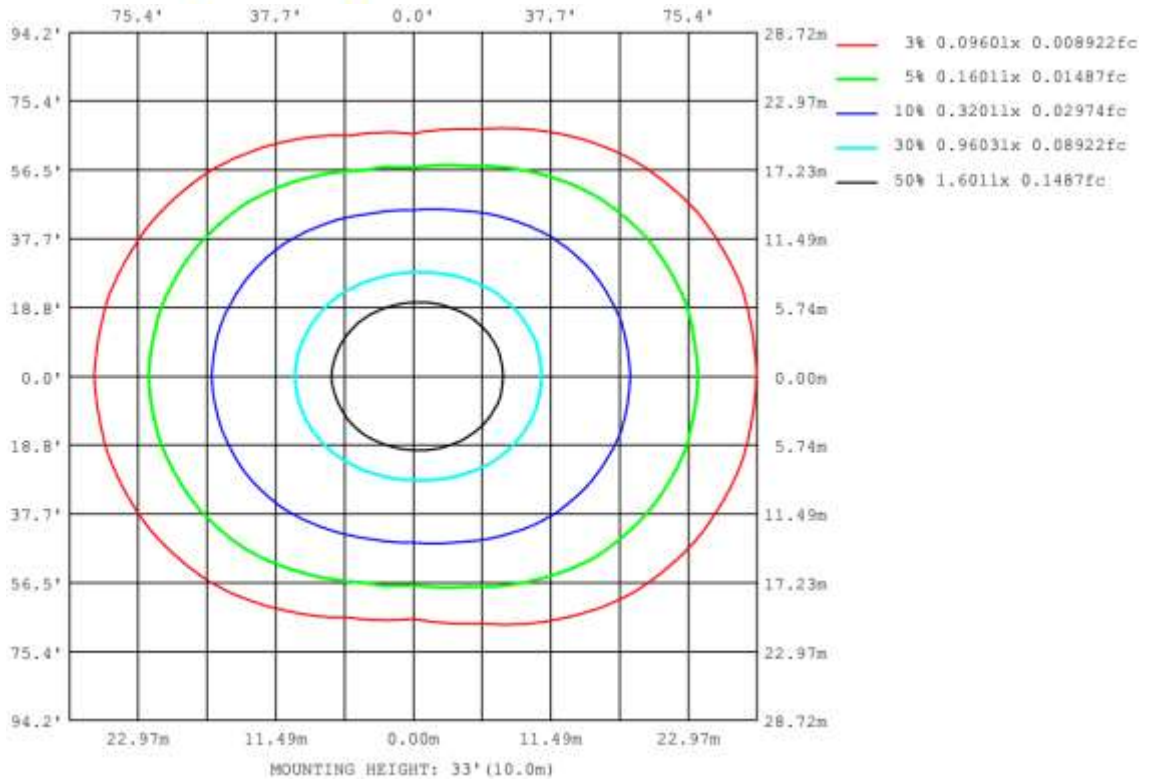
Illuminance at a Distance			Zonal Lumen Summary			Lumens Per Zone					
	Center Beam Fc	Beam Width	Zone	Lumens	% Luminaire	Zone	Lumens	% Total	Zone	Lumens	% Total
1.7R	111 fc	5.0 ft	0-30	254.4	14.1%	0-10	30.3	1.7%	90-100	122.7	6.8%
3.3R	29.4 fc	9.8 ft	0-40	425.5	23.6%	10-20	87.9	4.9%	100-110	105.1	5.8%
5.0R	12.8 fc	14.8 ft	0-60	810.3	44.9%	20-30	136.2	7.5%	110-120	89.6	5%
6.7R	7.13 fc	19.9 ft	60-90	497.5	27.6%	30-40	171.1	9.5%	120-130	72.2	4%
8.3R	4.65 fc	24.6 ft	70-100	435.0	24.1%	40-50	190.4	10.5%	130-140	53.6	3%
10.0R	3.20 fc	29.7 ft	90-120	317.3	17.6%	50-60	194.4	10.8%	140-150	34.4	1.9%
			0-90	1,307.8	72.4%	60-70	185.2	10.3%	150-160	16.4	0.9%
			90-180	498.0	27.6%	70-80	166.9	9.2%	160-170	3.8	0.2%
			0-180	1,805.8	100%	80-90	145.4	8.1%	170-180	0.2	0%

■ Beam Spread: 112.0°

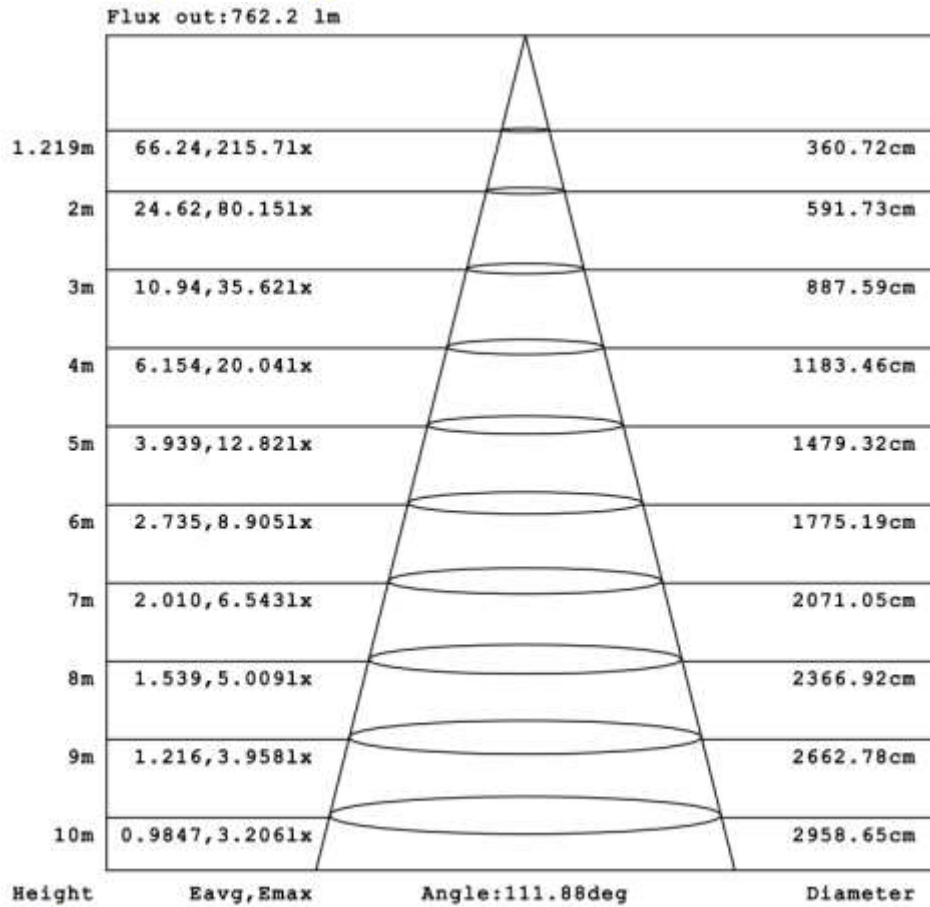
ISOCANDELA DIAGRAM:



ISOLUX DIAGRAM:



AAI FIGURE DIAGRAM:



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

End of Report