CALDWELL
INDEPENDENT TESTING LABORATORIES
12 YORK AVE, WEST CALDWELL, NJ 07006 ■ PH: 973-244-7300 ■ F: 973-244-7300

NVLAP
NVLAP LAB CODE 201064-0

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: 5W LED G9 NON-DIMMABLE 2700K Model SKG0905LED27.

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 ANSLG C78.377: 2008 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: CITL0001504

Sample Arrival Date: 03/08/2016

Date of Test: 03/09/2016

Report Issue Date: 03/10/2016

Report Prepared By:

Franklin Navarro
Lab Technician

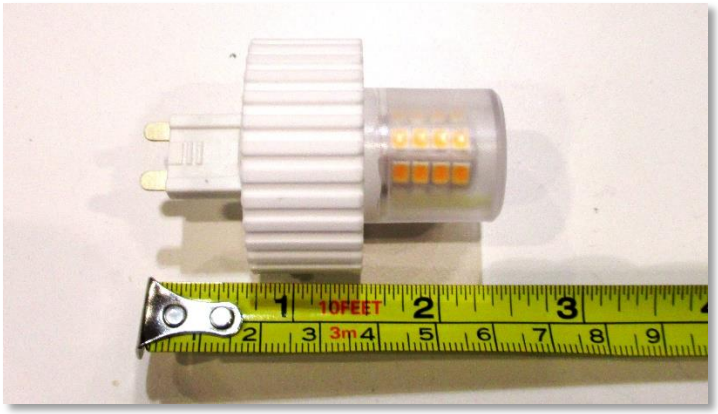
Report Approved By:

Juan Xiang
Lab Manager

CALDWELL
INDEPENDENT TESTING LABORATORIES
12 YORK AVE, WEST CALDWELL, NJ 07006 ■ PH: 973-244-7300 ■ F: 973-244-7300

NVLAP LAB CODE 201064-0

Sample Number: 1444
Manufacturer: MaxLite
Notes: Tested in intended orientation



Equipment Used:

Description	Model #	Serial #	Calibration Date	Calibration Due Date
Goniophotometer	GO-R5000	G116930CS1341112	03/03/16	09/03/16
EVERFINE AC POWER SUPPLY	DPS1060	G1174227A8341115	-	-
YOKOGAWA POWER ANALYZER	WT310	C2QJ09027V	10/24/15	10/24/16
DC POWER SUPPLY	WY12010	G115909TM5341117	-	-
EVERFINE AC POWER SUPPLY	DSP1005	G119890CJ7341122	-	-
DC POWER SUPPLY	WY305	G115986TA8341112	-	-
INTERGRATING SPHERE	2 METER	CITL 0018	12/08/15	06/07/16
YOKOGAWA POWER ANALYZER	WT310	C2QJ22012V	11/09/15	11/09/16
FLUKE DIGITAL THERMOMETER	51II	29390172WS	04/09/15	04/09/16
TEMPERATURE AND HUMIDITY LOGGER	MX1101	10689441	03/20/15	03/20/16
TEMPERATURE AND HUMIDITY LOGGER	UX100-023	10683270	03/20/15	03/20/16

LM-79 Test Summary:

Manufacture:	MaxLite
Fixture Model Number:	SKG0905LED27
Driver Model Number:	No Information Available
LED Model Number:	No Information Available

Electrical Measurement:

Input Voltage:	120VAC	
Input Current:	0.071 A	
Input Frequency:	60 HZ	
Input Power:	5.02 W	
Power Factor:	0.5903	
Total Harmonic Distortion:	63.5 ATHD	

Lumen Output:

Lumens:	492.43 Lm	
Efficacy:	97.98 Lm/W	
Color Rendering Index *(CRI)	Ra: 81.9 R_9: 10	
Correlated Color Temperature (K):	2685 K	
Chromaticity Coordinate x:	0.4639	
Chromaticity Coordinate y:	0.4159	
Ambient Temperature (°C):	25°C	
Stabilization Time (Hours):	45 Mins	
Total Operation Time (Hours):	1 Hrs.	
u/u':	0.2627	
V':	0.5299	
Duv:	duv=1.59e-03	
Max Candela:	54.8 at Horizontal: 247.5°, Vertical: 75°	
Spacing Criteria (0-180)	2.28	
Spacing Criteria (90-270)	2.26	
Zonal Lumens in the 0°-60° Zone	151.5 lm – 30.8%	
Zonal Lumens in the 60°-90° Zone	164.0 lm – 33.3%	
Zonal Lumens in the 0°-90° Zone	315.5 lm – 64.1%	
Zonal Lumens in the 90°-120° Zone	140.5 lm – 28.5%	
Zonal Lumens in the 90°-180° Zone	177.0 lm – 35.9%	

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

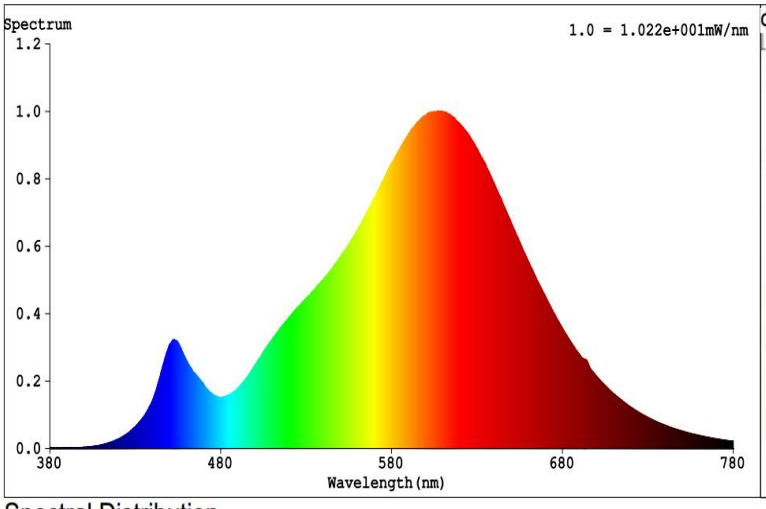
A sensing Spectrometer HASS-2000, in conjunction with Everfine 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature (CCT) and the color rendering index (CRI) for each sample. Test Geometry Configuration 4 π.

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

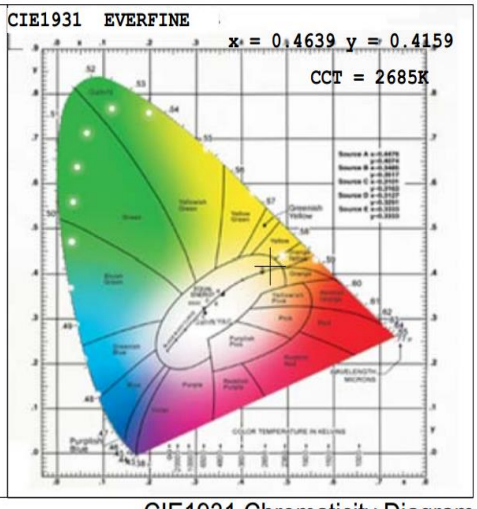
Electrical measurements are measured using the listed equipment.

LUMINAIRE PHOTOMETRIC TEST REPORT:

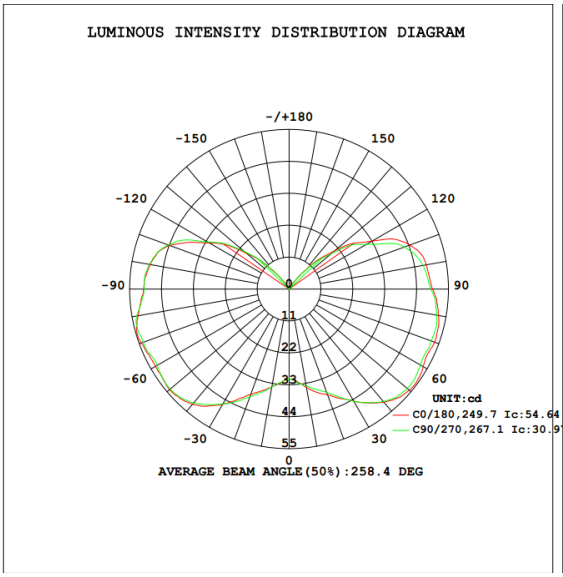
Spectrum

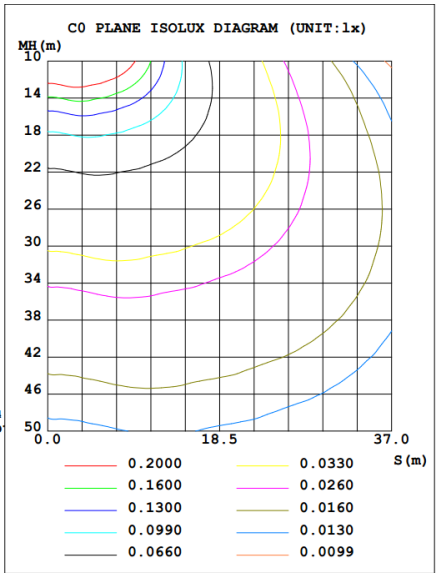


Spectral Distribution



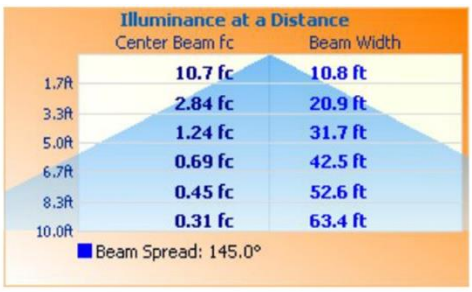
CIE1931 Chromaticity Diagram





ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	34.40	33.95	33.87	33.56	34.19	34.18	34.24	33.71	0- 10	3.124	3.124	0.63,0.63
20	38.76	37.73	37.84	38.04	38.62	39.16	39.40	38.68	10- 20	10.33	13.45	2.73,2.73
30	44.53	43.06	44.64	45.53	45.85	45.58	45.64	45.34	20- 30	19.40	32.86	6.67,6.67
40	50.92	48.90	50.52	51.15	51.79	51.40	51.24	50.39	30- 40	30.26	63.12	12.8,12.8
50	54.20	52.04	53.15	53.25	53.85	54.03	53.57	53.54	40- 50	40.62	103.7	21.1,21.1
60	53.43	51.83	52.23	51.57	53.28	53.04	52.58	52.62	50- 60	47.77	151.5	30.8,30.8
70	53.49	52.32	52.23	51.85	54.28	54.32	53.57	53.25	60- 70	52.26	203.8	41.4,41.4
80	52.42	51.69	51.80	51.16	52.99	53.25	53.36	52.69	70- 80	56.20	260.0	52.8,52.8
90	49.49	49.19	49.04	48.15	50.20	50.47	50.03	49.88	80- 90	55.54	315.5	64.1,64.1
100	47.99	47.48	46.99	46.46	48.56	49.26	48.96	48.83	90-100	53.33	368.8	74.9,74.9
110	44.27	43.15	42.32	42.14	43.90	44.42	44.40	44.54	100-110	48.95	417.8	84.8,84.8
120	33.00	33.20	30.86	30.07	31.81	32.23	32.56	32.27	110-120	38.18	456.0	92.6,92.6
130	20.67	20.93	18.87	18.60	19.15	18.99	20.17	19.62	120-130	23.75	479.7	97.4,97.4
140	7.725	8.618	7.599	6.750	6.774	6.819	7.565	7.283	130-140	10.66	490.4	99.6,99.6
150	0.7159	0.9322	0.7116	0.5616	0	0	0	0	140-150	2.007	492.4	100,100
160	0	0	0	0	0	0	0	0	150-160	0.0442	492.4	100,100
170	0	0	0	0	0	0	0	0	160-170	0	492.4	100,100
180	0	0	0	0	0	0	0	0	170-180	0	492.4	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



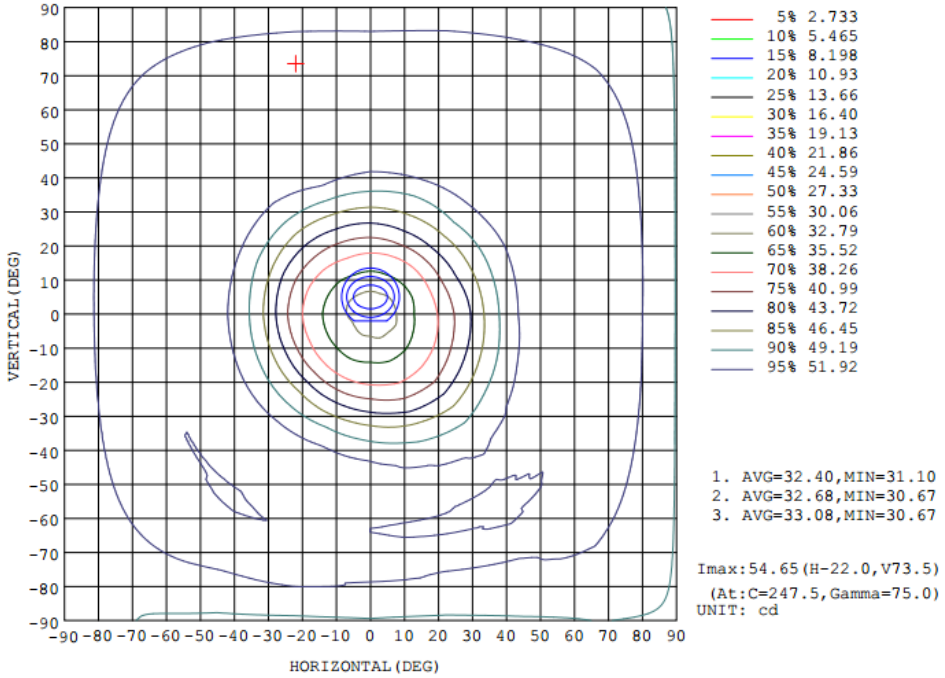
Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	32.9	6.7%
0-40	63.1	12.8%
0-60	151.5	30.8%
60-90	164.0	33.3%
70-100	165.1	33.5%
90-120	140.5	28.5%
0-90	315.5	64.1%
90-180	177.0	35.9%
0-180	492.5	100%

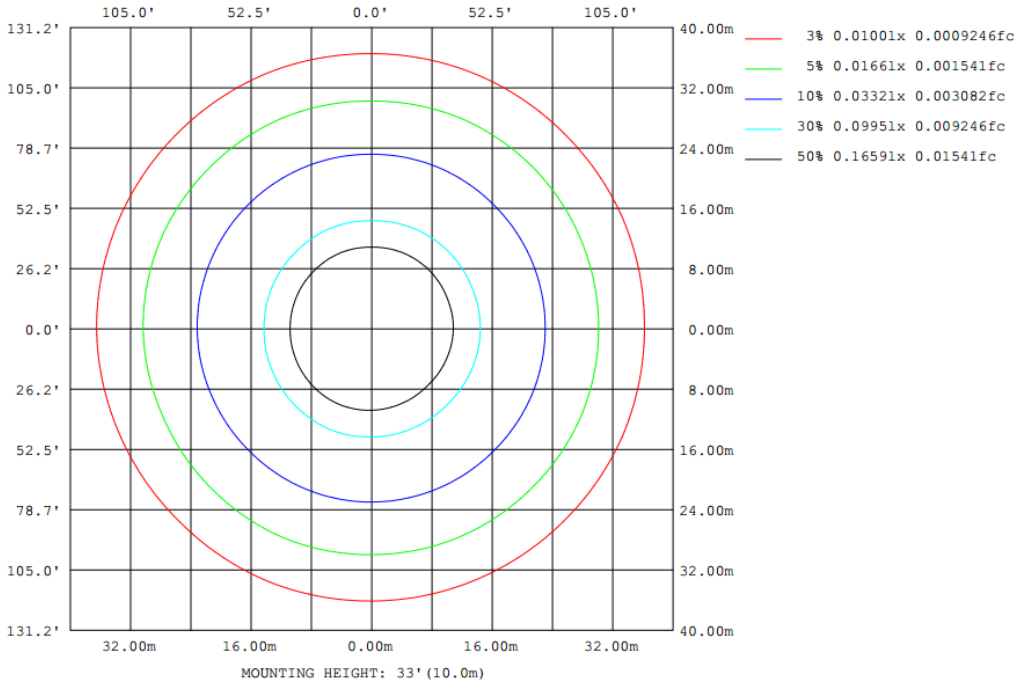
Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	3.1	0.6%	90-100	53.3	10.8%
10-20	10.3	2.1%	100-110	49.0	9.9%
20-30	19.4	3.9%	110-120	38.2	7.8%
30-40	30.3	6.1%	120-130	23.8	4.8%
40-50	40.6	8.2%	130-140	10.7	2.2%
50-60	47.8	9.7%	140-150	2.0	0.4%
60-70	52.3	10.6%	150-160	0.0	0%
70-80	56.2	11.4%	160-170	0	0%
80-90	55.6	11.3%	170-180	0	0%

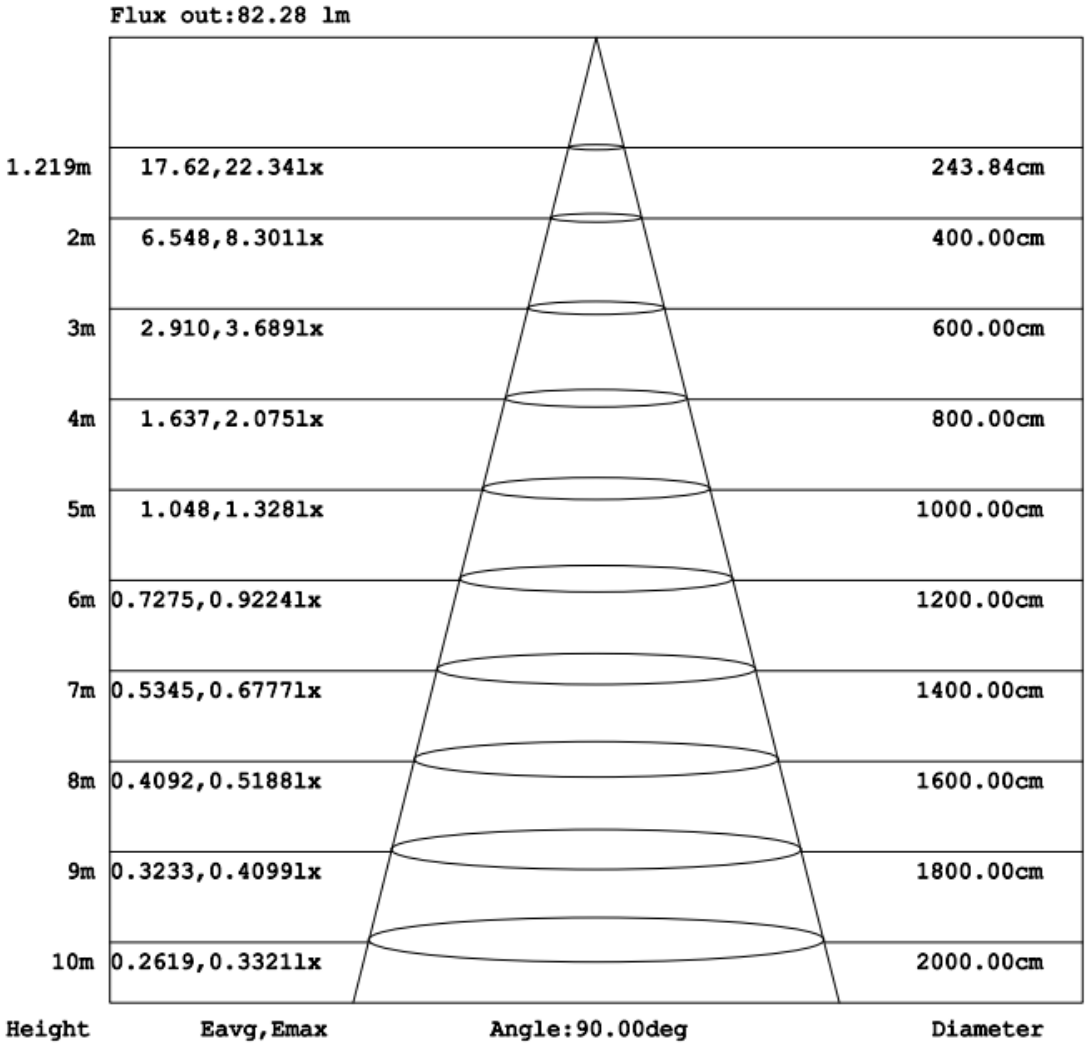
ISOCANDELA DIAGRAM:



ISOLUX DIAGRAM:



AAI FIGURE:



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

End of Report