

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: 7W DIM PAR20 2700K N.FLOOD G2 Model 7P20DLED27NFG2.

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: CITL0001464

Sample Arrival Date: 2/8/2016

Date of Test: 2/12/2016

Report Issue Date: 2/24/2016

Report Prepared By:



Franklin Navarro
Lab Technician

Report Approved By:



Juan Xiang
Lab Manager

Sample Number: 1395

Manufacturer: MaxLite

Notes: Tested in intended orientation



Equipment Used:

Description	Model #	Serial #	Calibration Date	Calibration Due Date
Goniophotometer	GO-R5000	G116930CS1341112	09/03/15	03/03/16
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:	7P20DLED27NF/G2
Driver Model Number:	No Driver Information Available
LED Model Number:	SSC 3030

Electrical Measurement:

Input Voltage:	120VAC	
Input Current:	0.0644A	
Input Frequency:	60 HZ	
Input Power:	6.976W	
Power Factor:	0.9030	
Total Harmonic Distortion:	36.46 ATHD	

Lumen Output:

Lumens:	624.73 Lm	
Efficacy:	89.55 Lm/W	
Color Rendering Index *(CRI)	Ra: 81.2 Rg: 4	
Correlated Color Temperature (K):	2795K	
Chromaticity Coordinate x:	0.4487	
Chromaticity Coordinate y:	0.4020	
Ambient Temperature (°C):	25°C	
Stabilization Time (Hours):	45 Mins	
Total Operation Time (Hours):	1 Hrs.	
u/u':	0.2591	
V':	0.5223	
Duv:	-2.20e-03	
Max Candela:	2,015.7 at Horizontal: 292.5°, Vertical: 2°	
Spacing Criteria (0-180)	0.42	
Spacing Criteria (90-270)	0.46	
Zonal Lumens in the 0°-60° Zone	609.7 lm – 97.7%	
Zonal Lumens in the 60°-90° Zone	14.5 lm – 2.3%	
Zonal Lumens in the 0°-90° Zone	624.2 lm – 100.0%	
Zonal Lumens in the 90°-120° Zone	0.0 lm – 0.0%	
Zonal Lumens in the 90°-180° Zone	0.1 lm – 0.0%	

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

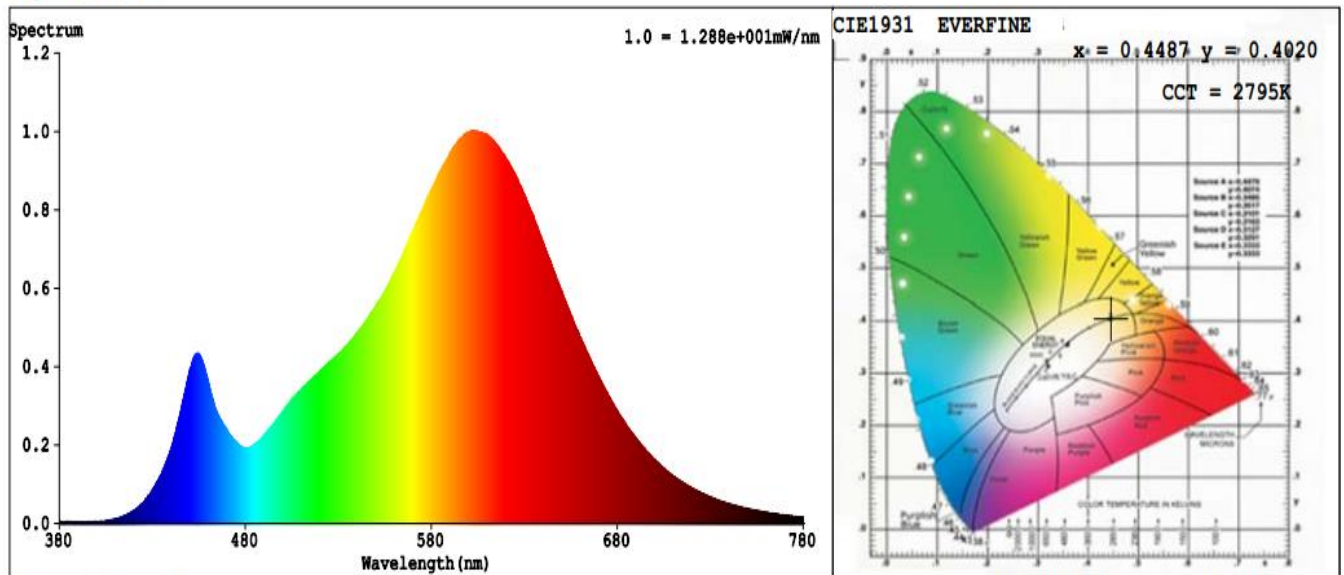
A sensing Spectrometer HASS-2000, in conjunction with Everfine 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature (CCT) and the color rendering index (CRI) for each sample. Test Geometry Configuration 4 π.

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.

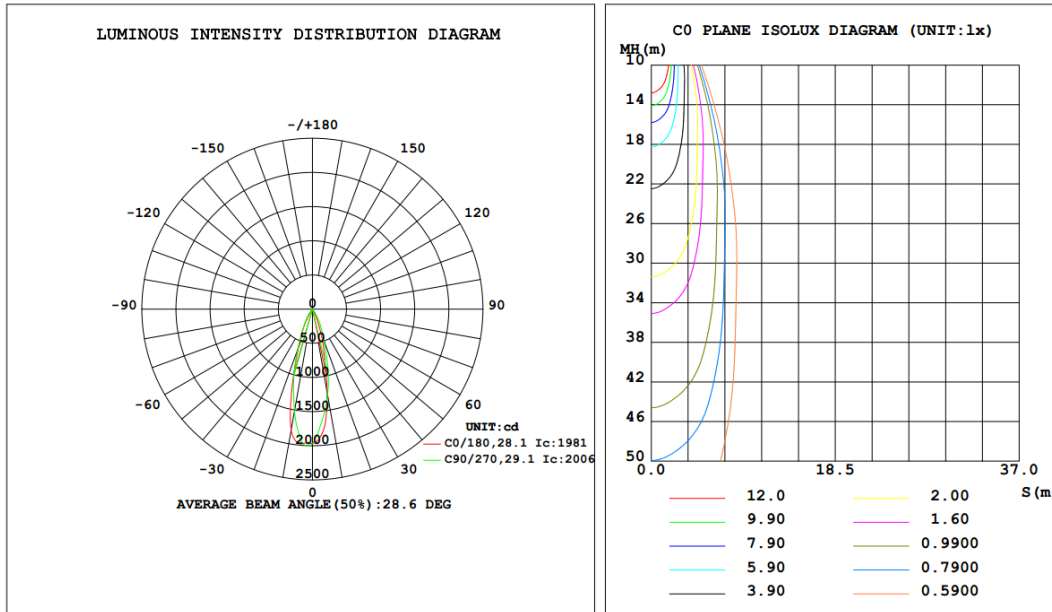
LUMINAIRE PHOTOMETRIC TEST REPORT:

Spectrum



Spectral Distribution

CIE1931 Chromaticity Diagram

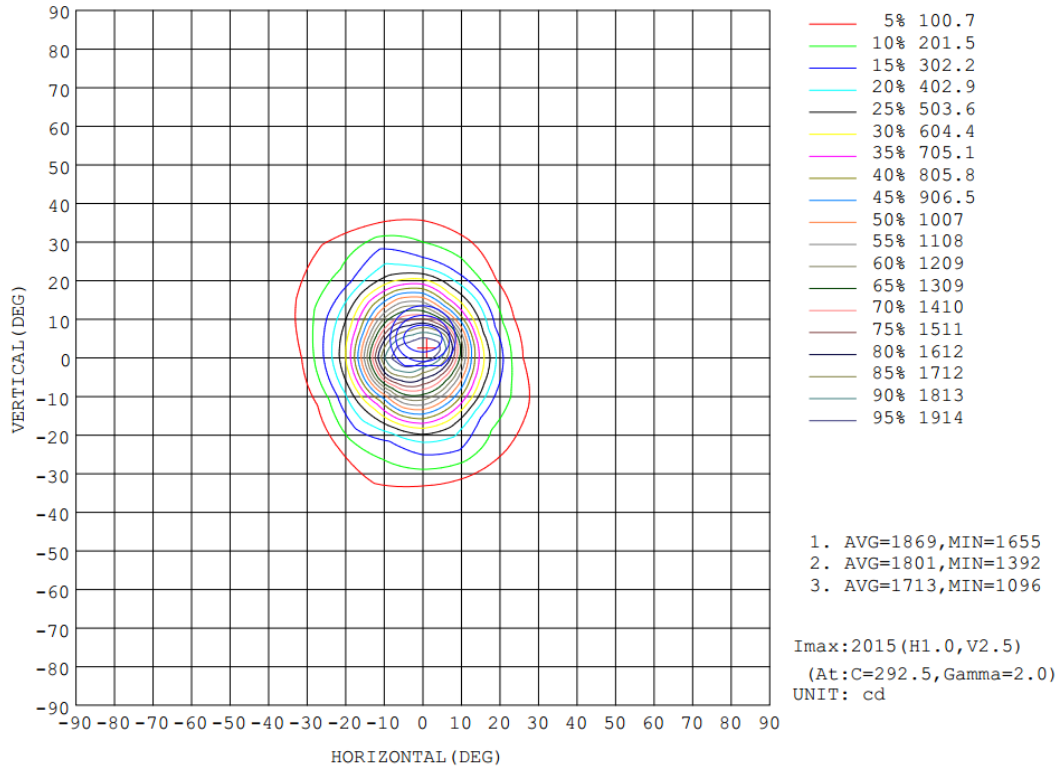


ZONAL FLUX DIAGRAM:

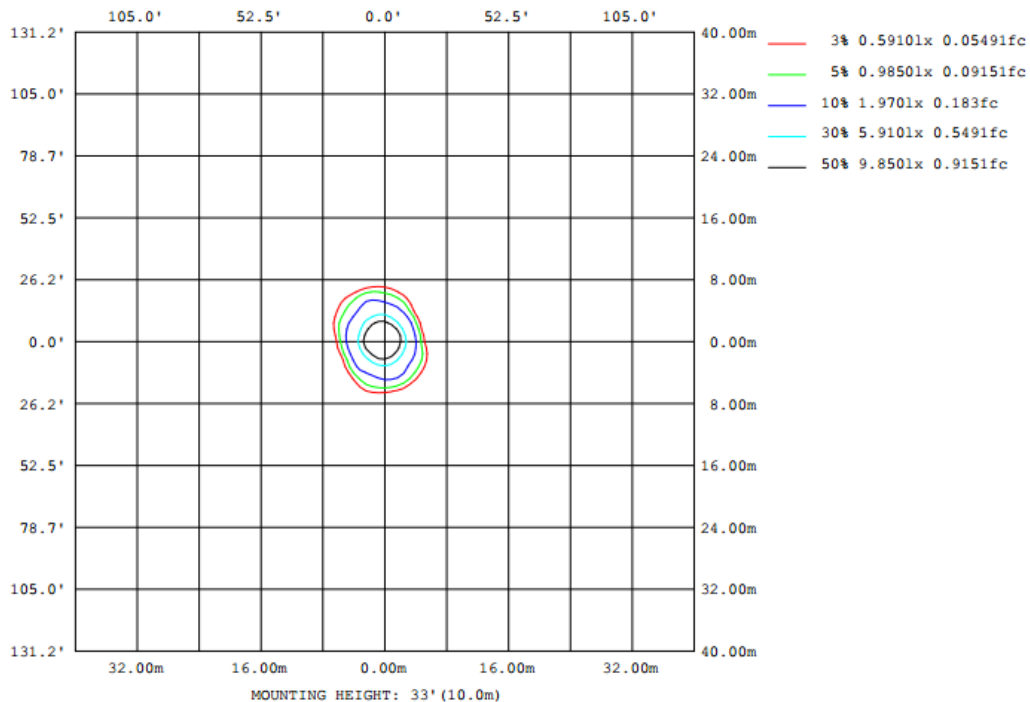
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	ℓlum, lamp
10	1245	1156	1275	1438	1802	1627	1520	1452	0- 10	162.5	162.5	26,26
20	346.5	363.3	494.0	502.3	605.0	708.6	635.5	415.3	10- 20	247.3	409.8	65.6,65.6
30	38.57	131.2	172.7	141.1	140.6	217.6	200.7	55.73	20- 30	129.8	539.6	86.4,86.4
40	15.00	23.44	28.97	23.84	19.51	78.55	39.28	16.53	30- 40	45.45	585.0	93.6,93.6
50	11.22	17.75	16.25	13.19	12.06	17.82	15.12	11.42	40- 50	14.06	599.1	95.9,95.9
60	8.090	13.45	13.03	10.45	9.122	15.72	14.00	8.341	50- 60	11.07	610.2	97.7,97.7
70	5.164	6.787	7.002	6.874	6.060	9.559	8.038	5.178	60- 70	8.793	618.9	99.1,99.1
80	1.680	2.034	2.383	2.878	2.718	3.491	2.862	1.537	70- 80	4.743	623.7	99.8,99.8
90	0	0	0	0	0	0	0	0	80- 90	0.9730	624.7	100,100
100	0	0	0	0	0	0	0	0	90-100	0.0031	624.7	100,100
110	0	0	0	0	0	0	0	0	100-110	0	624.7	100,100
120	0	0	0	0	0	0	0	0	110-120	0	624.7	100,100
130	0	0	0	0	0	0	0	0	120-130	0	624.7	100,100
140	0	0	0	0	0	0	0	0	130-140	0	624.7	100,100
150	0	0	0	0	0	0	0	0	140-150	0	624.7	100,100
160	0	0	0	0	0	0	0	0	150-160	0.0005	624.7	100,100
170	0.2091	0.2096	0.0698	0	0.3485	0.3494	0.4200	0.4206	160-170	0.0366	624.7	100,100
180	0.5576	0.4892	0.4900	0.4206	0.3485	0.3494	0.4200	0.4206	170-180	0.0321	624.7	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			

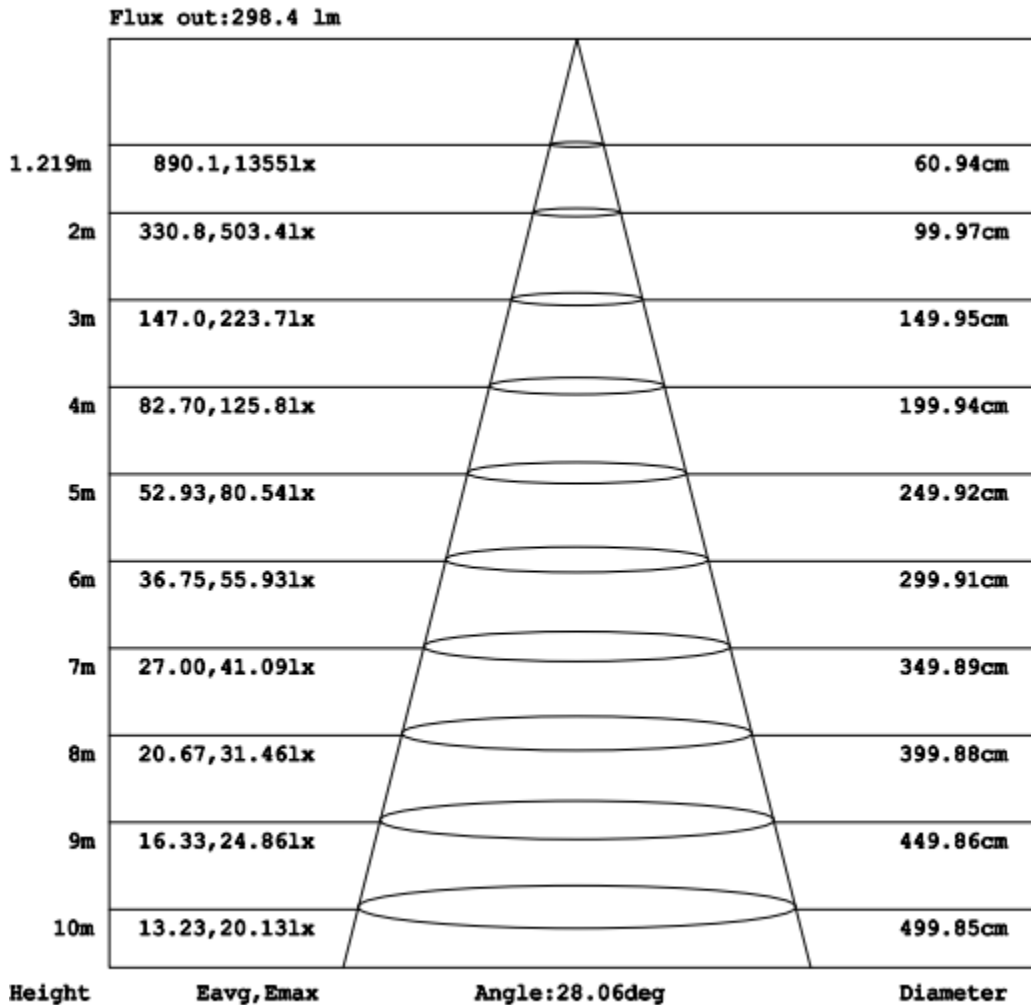
Illuminance at a Distance				Zonal Lumen Summary			Lumens Per Zone					
	Center Beam fc	Beam Width		Zone	Lumens	% Luminaire	Zone	Lumens	% Total	Zone	Lumens	% Total
3.3ft	963 fc	1.4 ft	1.6 ft	0-30	8,091.4	28.1%	0-10	1,013.8	3.5%	90-100	0.9	0%
6.7ft	234 fc	2.9 ft	3.2 ft	0-40	12,335.5	42.9%	10-20	3,002.7	10.4%	100-110	1.4	0%
10.0ft	105 fc	4.3 ft	4.8 ft	0-60	24,107.4	83.7%	20-30	4,075.0	14.2%	110-120	4.2	0%
13.3ft	59.3 fc	5.7 ft	6.4 ft	60-90	4,647.3	16.1%	30-40	4,244.0	14.7%	120-130	5.5	0%
16.7ft	37.6 fc	7.2 ft	8.1 ft	70-100	986.5	3.4%	40-50	5,423.5	18.8%	130-140	5.0	0%
20.0ft	26.2 fc	8.6 ft	9.7 ft	90-120	6.5	0%	50-60	6,348.5	22.1%	140-150	4.9	0%
				0-90	28,754.7	99.9%	60-70	3,661.6	12.7%	150-160	4.9	0%
				90-180	32.0	0.1%	70-80	811.6	2.8%	160-170	3.7	0%
				0-180	28,786.7	100%	80-90	174.1	0.6%	170-180	1.6	0%

ISOCANDELA DIAGRAM:



ISOLUX DIAGRAM:



AAI DIAGRAM:


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

End of Report