



**GONIOPHOTOMETER TEST REPORT**  
**IES LM79-08 Section 9.3**  
**TÜV SÜD America**

**Photometric Testing and Evaluation in Accordance with LM79-2008**

Report Prepared for:

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**Sample Tested: GTSOL112-HO-GR-25D**  
**Sample Description: LED Module**  
**Manufacturer: Global Tech LED, LLC**

**Technical Report Number: 72112305-07-GONI**  
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# GONIOPHOTOMETRIC TEST REPORT IES LM79-2008

Report# 72112305-07-GONI

January 15, 2016

## Summary of Key Test Results

Model# **GTSOL112-HO-GR-25D**

Manufacturer Global Tech LED, LLC

TÜV Sample# 2176-7 (Test Plan#7)

Date of Test January 13<sup>th</sup> 2016

Notes: Tested in intended orientation  
“Aperture Down”.

Driver: **HATCH LV192-24N-UNV-BB (x2)**

LED Chip: **Lumileds Luxeon Zes**



<b>Parameter</b>	<b>Measured Result</b>
Luminous Flux	<b>31,619 Lumens</b>
Input Power	<b>360.01 Watts</b>
Efficacy	<b>87.83 Lumens/Watt</b>
Beam Angle	<b>15.9° (V) / 16.0° (H)</b>
Stabilization Time	<b>45 minutes</b>

The above results are recorded / derived from measurements in accordance with LM79-08.



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### Test Results –

The following results were obtained after stabilization of the sample in accordance with the requirements set forth in section 5.0 of IES LM79-2008. Stability is achieved when the variation of 3 readings of light output and electrical power over a period of 30 minutes, taken 15 minutes apart, is less than 0.5%.

Photometric Results	GTSOL112-HO-GR-25D
	Goniophotometer (120V)
Total Luminous Flux (Lumens)	31,619
Luminous Efficacy (Lumens/Watt)	87.83

Electrical Results	GTSOL112-HO-GR-25D
	Goniophotometer (120V)
Input Power (Watts)	360.01
Input Voltage (Volts AC)	120.15
Input Current (Amps)	3.000
Power Factor	0.998
Input Frequency (Hertz)	60.0
A-THD (Current %)	3.66%

Additional Parameters	GTSOL112-HO-GR-25D
	Goniophotometer (120V)
Stabilization Time (Light and Power)	45 minutes
Test Geometry Configuration	Type C
Ambient Temperature	25.0°C

### Zonal Lumen Summary

Zone	Lumens	% Lamp / Luminaire
0 - 60	31,051.3	98.2%
60 - 90	567.7	1.8%
0 - 90	31,619.0	100.0%
90 - 180	0.0	0.0%
0 - 180	31,619.0	100.0%





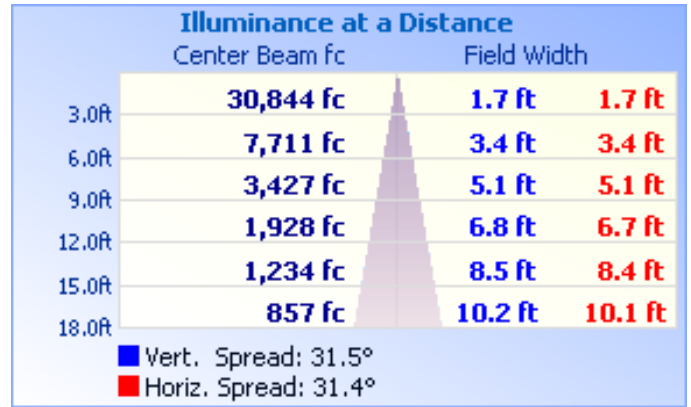
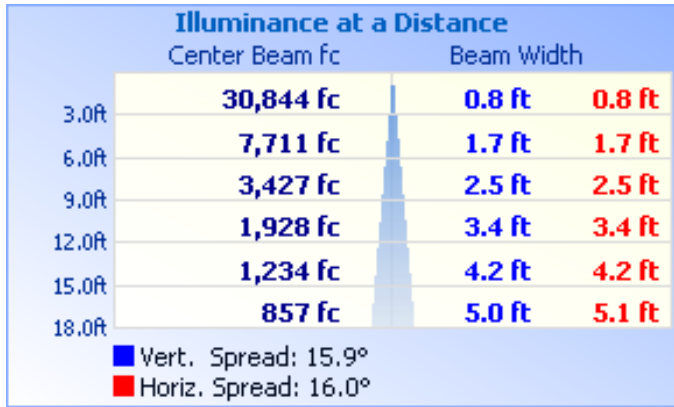
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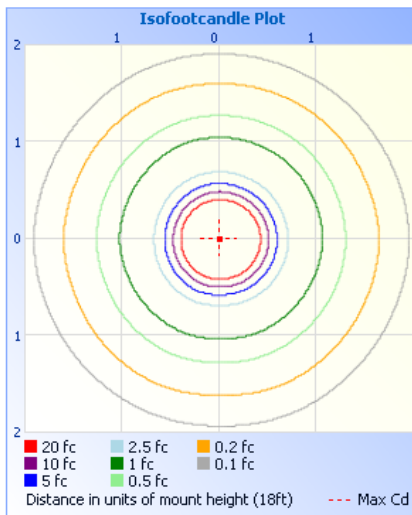
## Test Results – Illuminance Plots

The following images depict the illuminance characteristics of the Luminaire at a mount height of 18ft.

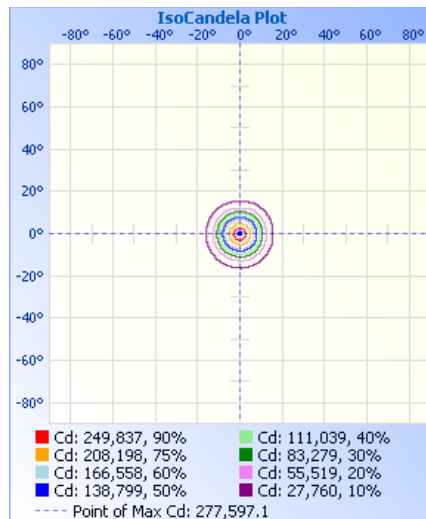


## Test Results – Candela Plots

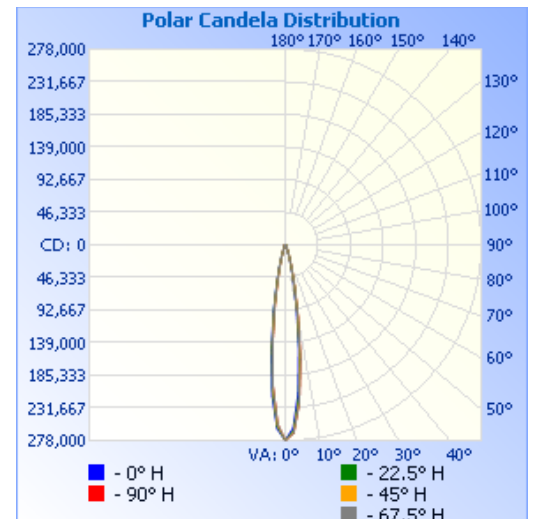
The following images depict the luminous intensity distribution characteristics of the luminaire:



Isofootcandle Plot



Isocandela Plot



Polar Candela

Maximum Candela = **277,597.1** at Horizontal: 0.0°, Vertical: 0.0°

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## TÜV SÜD Photometric Testing Information

Testing is performed in accordance with the procedures outlined in IESNA LM79-2008. The sample is evaluated for photometric and electrical characteristics using a goniophotometer, located in an accredited, temperature and humidity-controlled, draft free photometric laboratory.

### Sample Stabilization

The sample (UUT) is placed on a goniophotometer and powered by a regulated and conditioned alternating or direct current supply. The stabilization times shown on the results pages of this report denote the time of the 3<sup>rd</sup> measurement (of the 3 consecutive readings) since this is the minimum time that the sample is assumed to have taken to reach stabilization in accordance with section 5.0 of LM79-2008.

### Goniophotometer

The Goniophotometer is a Mirror based Type C optical measurement system in accordance with section 9.3.1 of IESNA LM79-2008.

### Goniophotometer Calibration

The Goniophotometer is calibrated using a frosted tungsten filament FDS/DZE lamp with the following specifications:

Manufacturer: General Electric  
Part Number: CSB-110  
Lamp Number: 112-A  
Voltage: 16.52 Volts DC  
Wattage: 150.0 Watts  
Calibration Current: 4.816 Amperes  
Luminous Intensity: 151.5 Candelas  
Calibration Date: 02-13-2011 (NIST traceable)

## TÜV SÜD Test Equipment List:

TÜV SÜD Mirror Goniophotometer System – contains the following:			
Goniophotometer	M.E. GONC02	GON002	Weekly
Spectroradiometer	Gigahertz Optik P9801	GIG002	Weekly
Power Analyzer	Yokogawa WT210	ATLE0073	5/15/2016
Power Source	Chroma 61603	AC007	N/A

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