



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: GTSOL5498-MH-GR
Sample Description: LED Luminaire
Manufacturer: Global Tech LED LLC

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June 19, 2015

Summary of Key Test Results

Model# **GTSOL5498-MH-GR**

Manufacturer Global Tech LED LLC

TÜV Sample# 1923-4

Date of Test June 9, 2015

Notes: Tested in intended orientation

(Horizontal, FBU – Fixture Base Up)

Test of a new LED Chip- Luxeon TX -using LED module only

No optics.



Parameter	Measured Result
Luminous Flux	8,939 Lumens
Input Power	89.27 Watts
Efficacy	100.13 Lumens/Watt
Beam Angle	123.5° (V) /123.0 ° (H)
Stabilization Time	35 minutes

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	Global Tech LED LLC: GTSOL5498-MH-GR	
	Goniophotometer (120V)	
Total Luminous Flux (Lumens)	8,938	
Luminous Efficacy (Lumens/Watt)	100.13	

Electrical Results	Global Tech LED LLC: GTSOL5498-MH-GR	
	Goniophotometer (120V)	
Input Power (Watts)	89.27	
Input Voltage (Volts AC)	120.0	
Input Current (Amps)	.750	
Power Factor	.996	
Input Frequency (Hertz)	60	
A-THD (Current %)	7.36	

Additional Parameters	Global Tech LED LLC: GTSOL5498-MH-GR	
	Goniophotometer (120V)	
Stabilization Time (Light and Power)	35 minutes	
Test Geometry Configuration	Type C	
Ambient Temperature	24.2°C	

Zonal Lumen Summary

Zone	Lumens	% Lamp / Luminaire
0-30	2,186.30	24.50%
0-40	3,656.20	40.90%
0-60	6,735.90	75.40%
60-90	2,203.30	24.60%
0-90	8,939.20	100%





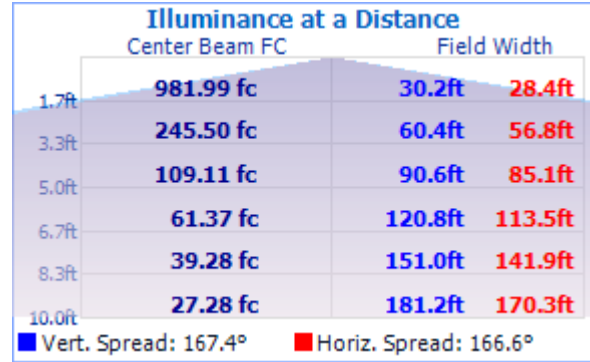
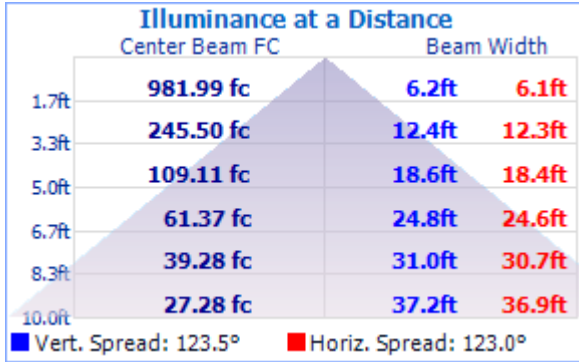
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Test Results – Illuminance Plots

The following images depict the illuminance characteristics of the luminaire.

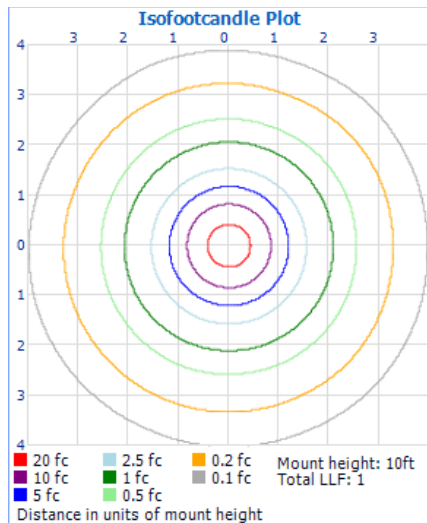


Beam Angle = 123.5° (V) / 123.0° (H)

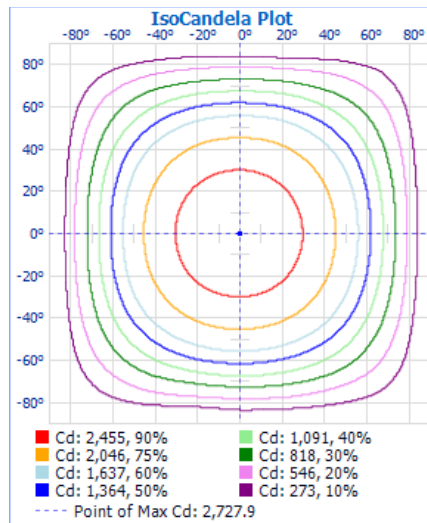
Field Angle = 167.4° (V) / 166.6° (H)

Test Results – Candela Plots

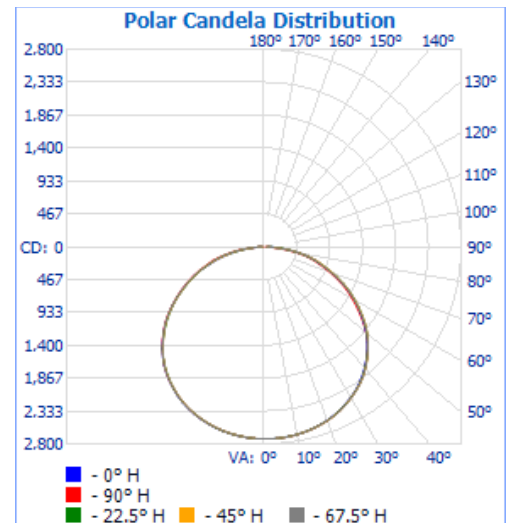
The following images depict the luminous intensity distribution characteristics of the luminaire:



Isofootcandle Plot



Isocandela Plot



Polar Candela

Maximum Candela = **2,727.9** at Horizontal: 67.5°, Vertical: 2.5°

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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 3rd 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	ATLE0031	11/21/2015
Power Source	Chroma 61603	AC007	N/A

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