



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-ML-GR
Sample Description: LED Luminaire
Manufacturer: Global Tech LED LLC

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GONIOPHOTOMETRIC TEST REPORT IES LM79-2008

Report# 72106215-04-GONI

June 19, 2015

Summary of Key Test Results

Model# **GTSOL5498-ML-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



Parameter	Measured Result
Luminous Flux	7870 Lumens
Input Power	78.88 Watts
Efficacy	99.77 Lumens/Watt
Beam Angle	123.9° (V) / 123.3° (H)
Stabilization Time	31 minutes

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



GONIOPHOTOMETRIC TEST REPORT IES LM79-2008

Report# 72106215-04-GONI

June 19, 2015

TABLE OF CONTENTS

Test Results4

Zonal Lumen Summary4

Illuminance Plots.....5

Candela Plots5

Photometric Testing Information6

Equipment List:6





GONIOPHOTOMETRIC TEST REPORT IES LM79-2008

Report# 72106215-04-GONI

June 19, 2015

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-ML-GR	
	Goniophotometer (120V)	
Total Luminous Flux (Lumens)	7870	
Luminous Efficacy (Lumens/Watt)	99.77	

Electrical Results	Global Tech LED LLC: GTSOL5498-ML-GR	
	Goniophotometer (120V)	
Input Power (Watts)	78.88	
Input Voltage (Volts AC)	120.3	
Input Current (Amps)	.660	
Power Factor	.996	
Input Frequency (Hertz)	60	
A-THD (Current %)	7.99	

Additional Parameters	Global Tech LED LLC: GTSOL5498-ML-GR	
	Goniophotometer (120V)	
Stabilization Time (Light and Power)	31 minutes	
Test Geometry Configuration	Type C	
Ambient Temperature	24.3°C	

Zonal Lumen Summary

Zone	Lumens	% Lamp / Luminaire
0-30	1,918.30	24.40%
0-40	3,209.20	40.80%
0-60	5,918.50	75.20%
60-90	1,952.00	24.80%
0-90	7,870.50	100%





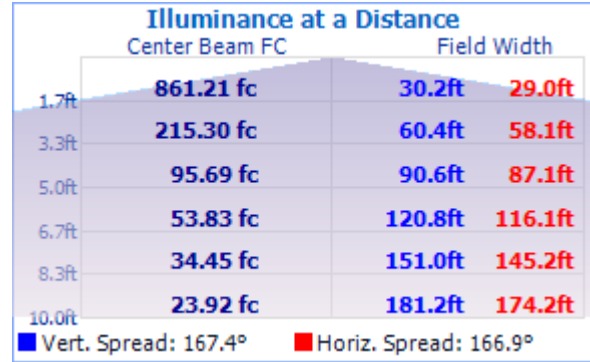
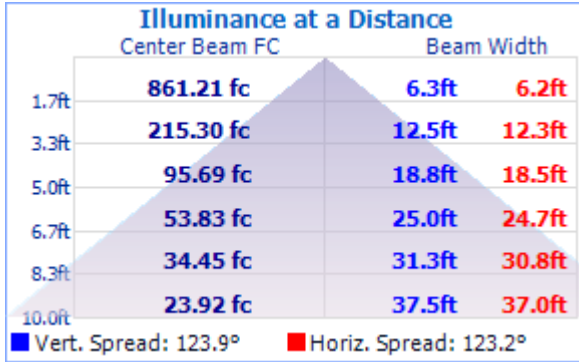
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Report# 72106215-04-GONI

June 19, 2015

Test Results – Illuminance Plots

The following images depict the illuminance characteristics of the luminaire.

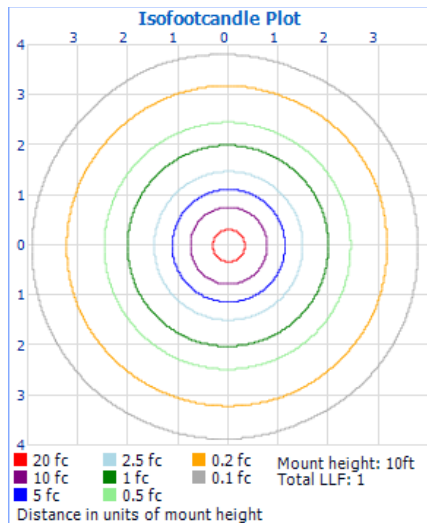


Beam Angle = 123.9° (V) / 123.2° (H)

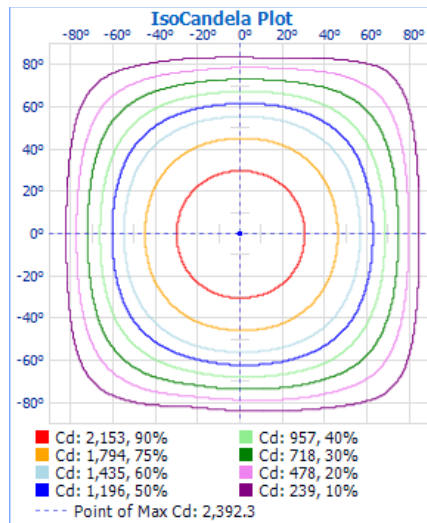
Field Angle = 167.4° (V) / 166.9° (H)

Test Results – Candela Plots

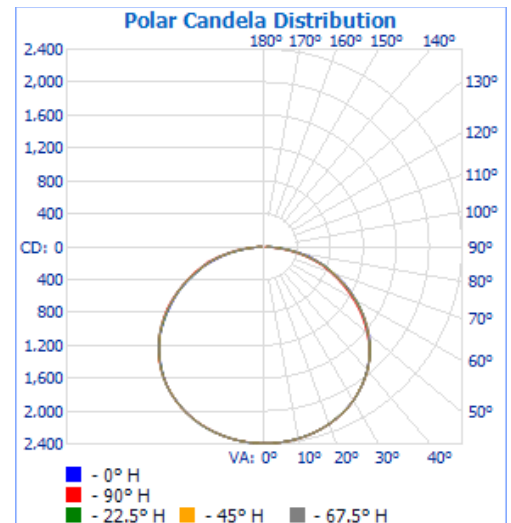
The following images depict the luminous intensity distribution characteristics of the luminaire:



Isofootcandle Plot



Isocandela Plot



Polar Candela

Maximum Candela = **2,392.3** at Horizontal: 0°, Vertical: 0°

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Page 5

NRG_F_10.04

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GONIOPHOTOMETRIC TEST REPORT IES LM79-2008

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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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Page 6

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