



GONIOPHOTOMETER TEST REPORT

IES LM79-08 Section 9.3

TÜV SÜD America

Photometric Testing and Evaluation in Accordance with LM79-2008

Report Prepared for:

Michael Prainito
Marketing Manager

Global Tech LED LLC
8901 Quality Road
Bonita Springs, FL 34135
United States

Telephone: (877) 748-5533

Sample Tested: GTSOL5498-HI-GR-360S
Sample Description: LED Luminaire
Manufacturer: Global Tech LED LLC

Technical Report Number: 72106215-14-GONI
Report Issue Date: June 23th, 2015
Total Number of Pages: 6 (including this page)

Report Prepared by:

Laymond Drummond
TÜV SÜD Project Handler

Report Reviewed by:

Bryan Cubitt
TÜV SÜD Program Manager



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June 23, 2015

Summary of Key Test Results

Model# **GTSOL5498-HI-GR-360S**

Manufacturer Global Tech LED LLC

TÜV Sample# 1923-10

Date of Test June 11, 2015

Notes: Tested in intended orientation

(Horizontal, FBU – Fixture Base Up)

SIDE EMITTER SQUARE PATTERN OPTICS



Parameter	Measured Result
Luminous Flux	9,426 Lumens
Input Power	98.23 Watts
Efficacy	95.62 Lumens/Watt
Beam Angle	28.0° (V) / 108.9° (H)
Stabilization Time	37 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-HI-GR-360S
	Goniophotometer (120V)
Total Luminous Flux (Lumens)	9,426
Luminous Efficacy (Lumens/Watt)	95.62

Electrical Results	Global Tech LED LLC: GTSOL5498-HI-GR-360S
	Goniophotometer (120V)
Input Power (Watts)	98.23
Input Voltage (Volts AC)	120.01
Input Current (Amps)	.82
Power Factor	.997
Input Frequency (Hertz)	60
A-THD (Current %)	6.93

Additional Parameters	Global Tech LED LLC: GTSOL5498-HI-GR-360S
	Goniophotometer (120V)
Stabilization Time (Light and Power)	37 minutes
Test Geometry Configuration	Type C
Ambient Temperature	24.0°C

Zonal Lumen Summary

Zone	Lumens	% Lamp / Luminaire
0-30	705.8	7.50%
0-40	1,432.40	15.20%
0-60	4,747.20	50.40%
60-90	4,651.80	49.30%
70-100	1,467.50	15.60%
90-120	26.6	0.30%
0-90	9,398.90	99.70%
90-180	28	0.30%
0-180	9,426.90	100%

TÜV SÜD America, Inc.
5945 Cabot Parkway, Suite 100,
Alpharetta GA 30005

Telephone: 678-341-5900 www.tuvamerica.com

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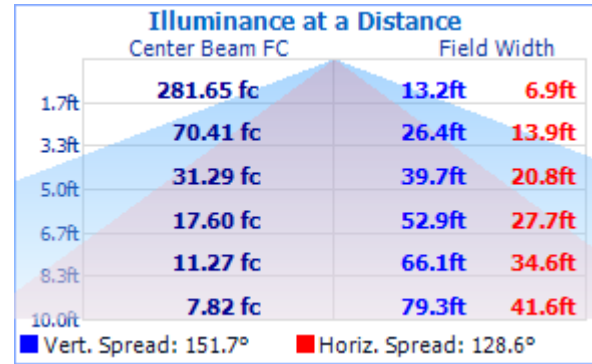
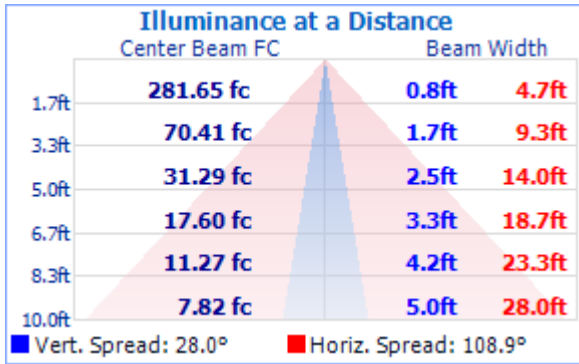
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Test Results – Illuminance Plots

The following images depict the illuminance characteristics of the luminaire.

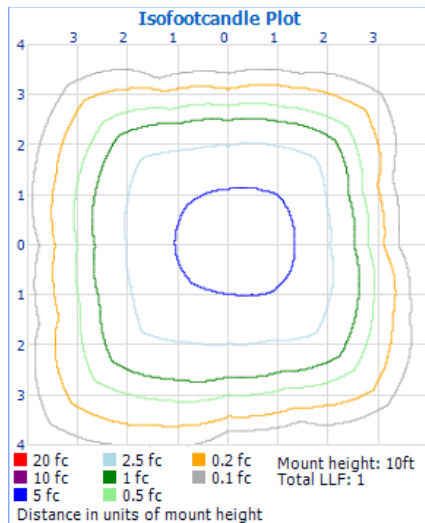


Beam Angle = 28.0° (V) / 108.9°(H)

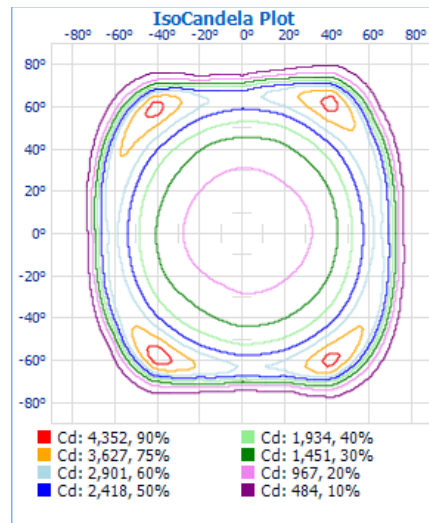
Field Angle = 151.7° (V) / 128.6° (H)

Test Results – Candela Plots

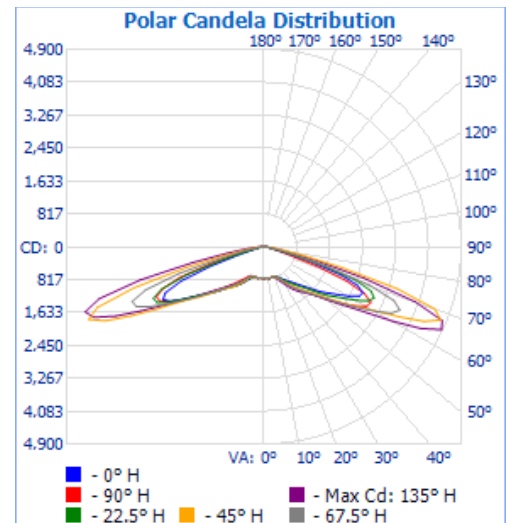
The following images depict the luminous intensity distribution characteristics of the luminaire:



Isofootcandle Plot



Isocandela Plot



Polar Candela

Maximum Candela = 4,865.9 at Horizontal: 135°, Vertical: 65°

TUV SUD America, Inc.
5945 Cabot Parkway, Suite 100,
Alpharetta GA 30005

Telephone: 678-341-5900 www.tuvamerica.com

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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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 5945 Cabot Parkway, Suite 100,
 Alpharetta GA 30005
 Telephone: 678-341-5900 www.tuvamerica.com

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