



# 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-HO-GR-75D  
**Sample Description:** LED Luminaire  
**Manufacturer:** Global Tech LED LLC

**Technical Report Number:** 72106215-08-GONI  
**Report Issue Date:** June 30<sup>th</sup>, 2015  
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# GONIOPHOTOMETRIC TEST REPORT IES LM79-2008

Report# 72106215-08-GONI

June 19, 2015

## Summary of Key Test Results

Model# **GTSOL5498-HO-GR-75D**

Manufacturer **Global Tech LED LLC**

TÜV Sample# **1923-9**

Date of Test **June 30, 2015**

Notes: Tested in intended orientation

(Horizontal, FBU – Fixture Base Up)

75 DEGREE OPTICS



| <b>Parameter</b>   | <b>Measured Result</b>       |
|--------------------|------------------------------|
| Luminous Flux      | <b>12,365 Lumens</b>         |
| Input Power        | <b>130.75 Watts</b>          |
| Efficacy           | <b>95.56 Lumens/Watt</b>     |
| Beam Angle         | <b>70.4° (V) / 71.0° (H)</b> |
| Stabilization Time | <b>44 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             | Global Tech LED LLC: GTSOL5498-HO-GR-75D |  |
|---------------------------------|--|--|
|                                 | Goniophotometer (120V)                   |  |
| Total Luminous Flux (Lumens)    | 12,365                                   |  |
| Luminous Efficacy (Lumens/Watt) | 95.56                                    |  |

| Electrical Results       | Global Tech LED LLC: GTSOL5498-HO-GR-75D |  |
|--------------------------|--|--|
|                          | Goniophotometer (120V)                   |  |
| Input Power (Watts)      | 130.75                                   |  |
| Input Voltage (Volts AC) | 120.01                                   |  |
| Input Current (Amps)     | 1.09                                     |  |
| Power Factor             | 0.996                                    |  |
| Input Frequency (Hertz)  | 60                                       |  |
| A-THD (Current %)        | 4.52                                     |  |

| Additional Parameters                | Global Tech LED LLC: GTSOL5498-HO-GR-75D |  |
|--------------------------------------|--|--|
|                                      | Goniophotometer (120V)                   |  |
| Stabilization Time (Light and Power) | 44 minutes                               |  |
| Test Geometry Configuration          | Type C                                   |  |
| Ambient Temperature                  | 24.8°C                                   |  |

### Zonal Lumen Summary

| Zone   | Lumens    | % Lamp / Luminaire |
|--------|-----------|--------------------|
| 0-30   | 5,704.20  | 46.10%             |
| 0-40   | 8,527.00  | 69%                |
| 0-60   | 11,659.40 | 94.30%             |
| 60-90  | 586.3     | 4.70%              |
| 70-100 | 225.4     | 1.80%              |
| 90-120 | 91.8      | 0.70%              |
| 0-90   | 12,245.70 | 99%                |
| 90-180 | 120.1     | 1%                 |
| 0-180  | 12,365.80 | 100%               |





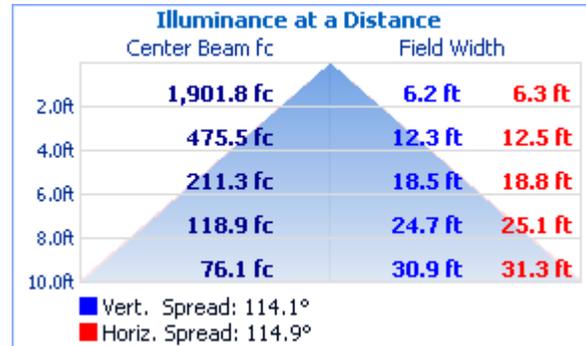
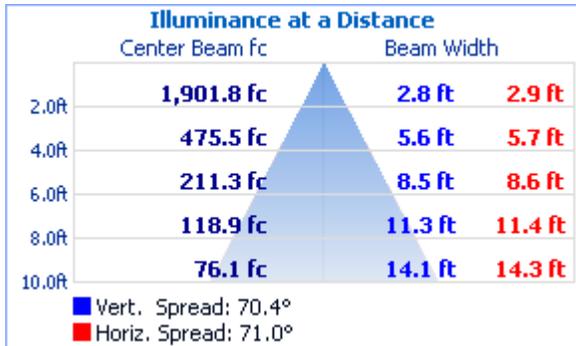
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## Test Results – Illuminance Plots

The following images depict the illuminance characteristics of the luminaire.

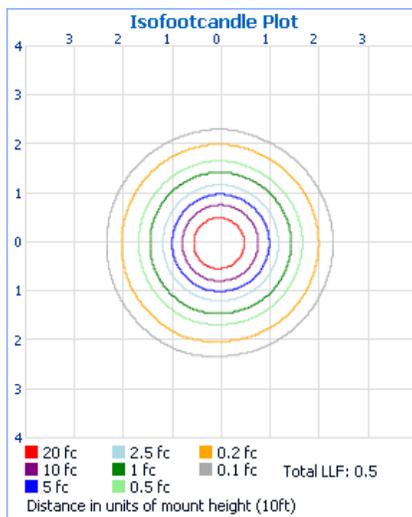


Beam Angle = 70.4° (V) / 71.0° (H)

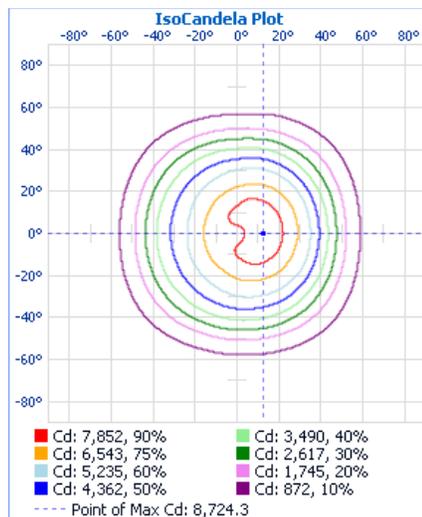
Field Angle = 113.3° (V) / 115.6° (H)

## Test Results – Candela Plots

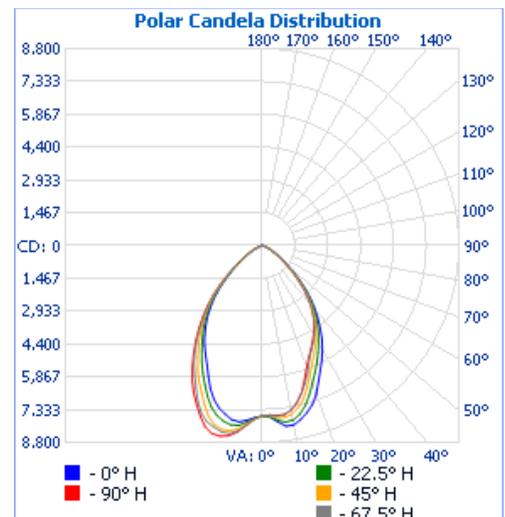
The following images depict the luminous intensity distribution characteristics of the luminaire:



Isofootcandle Plot



Isocandela Plot



Polar Candela

Maximum Candela = at Horizontal: °, Vertical: °

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

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