



INTEGRATING SPHERE TEST REPORT

February 23, 2015

IES LM79-08 Section 9.1

Technical Report

TÜV SÜD America

72102617-SPH

Sample Tested: GTSOL5498-GROW

Manufacturer: Global Tech LED, LLC.



Sample Description: LED Horticultural Luminaire

Test Orientation: FBH (Intended)
(Fixture Base Horizontal)

Date of Test: February 23, 2015

Report Prepared by: Report Reviewed by:

Ben Ferrell

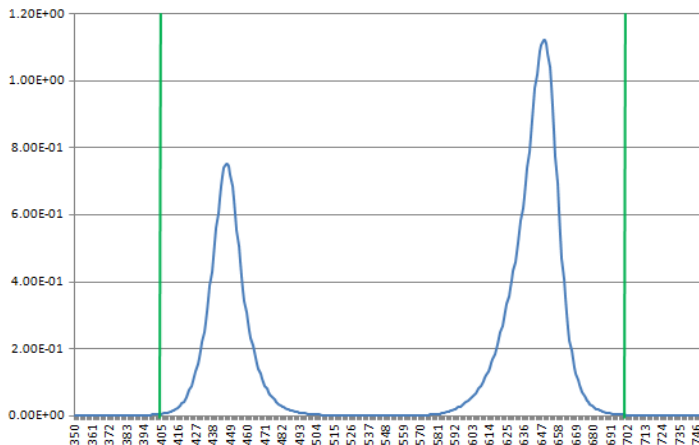
Bryan Cubitt

TÜV SÜD Program Mgr

TÜV SÜD Program Mgr

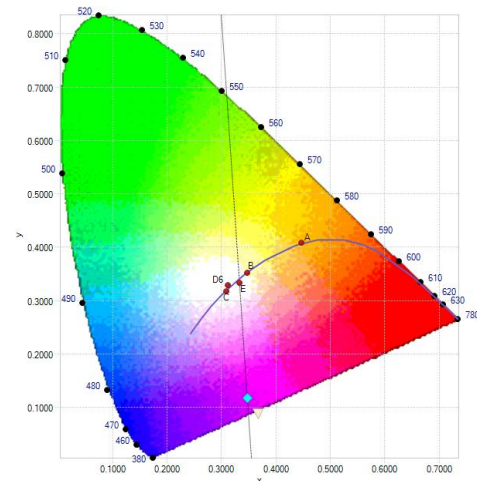
Test Results: TÜV SÜD Sample Ref# 1694-1

Photons/second



Photon Spectrum (350nm-750nm)

$\lambda(\text{Peak})$: 648.5 nm $\lambda(\text{Dom})$: 551.1 nm



Chromaticity Diagram

Tristimulus Values: $x / y = 0.3476 / 0.1171$

Photometric Test Results

Photon Output($\mu\text{moles/sec}$)	5.38E+01
Efficacy ($\mu\text{moles/joule}$)	0.53
Radiant Flux (W)	12.9
Chroma $u' / \text{Chroma } v'$	0.3748 0.2840
Duv	-0.17021
Blue output (400nm-500nm)%	36.03%
Green output (501nm-600nm)%	0.97%
Red output (601nm-700nm)%	62.75%

Electrical Test Results

Input Power (Watts)	102.45
Input Voltage (Volts)	119.98
Input Current (Amps)	0.856
Power Factor	0.998
Input Frequency (Hz)	60.0
Stabilization Time	45 minutes
Ambient Temperature	24.1°C
ATHD	4.75%

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Detailed Photon Output

Wavelength (nm)	Photon Output (μmoles/sec)	Wavelength (nm)	Photon Output (μmoles/sec)
400-405	2.71E-02	550-555	3.81E-03
405-410	4.95E-02	555-560	4.49E-03
410-415	9.88E-02	560-565	5.53E-03
415-420	2.10E-01	565-570	8.03E-03
420-425	4.40E-01	570-575	1.35E-02
425-430	8.77E-01	575-580	2.30E-02
430-435	1.61E+00	580-585	4.18E-02
435-440	2.72E+00	585-590	7.53E-02
440-445	3.96E+00	590-595	1.30E-01
445-450	4.40E+00	595-600	2.10E-01
450-455	3.45E+00	600-605	3.30E-01
455-460	2.18E+00	605-610	5.09E-01
460-465	1.34E+00	610-615	7.75E-01
465-470	8.03E-01	615-620	1.16E+00
470-475	4.64E-01	620-625	1.69E+00
475-480	2.74E-01	625-630	2.37E+00
480-485	1.65E-01	630-635	3.22E+00
485-490	9.82E-02	635-640	4.34E+00
490-495	5.89E-02	640-645	5.70E+00
495-500	3.75E-02	645-650	6.61E+00
500-505	2.42E-02	650-655	5.99E+00
505-510	1.61E-02	655-660	3.94E+00
510-515	1.18E-02	660-665	2.02E+00
515-520	8.71E-03	665-670	9.68E-01
520-525	6.94E-03	670-675	4.69E-01
525-530	5.97E-03	675-680	2.33E-01
530-535	4.75E-03	680-685	1.20E-01
535-540	4.55E-03	685-690	6.50E-02
540-545	3.99E-03	690-695	3.69E-02
545-550	4.20E-03	695-700	2.22E-02

