

Sphere & Goniometer Test Report

Test results reported for:

LightArt

Samples Covered in Report: Sconce Luminaire

Orb Optronix report:

LIGT003-02-010

Original issue date:

May 5, 2017

Revision Issue Date:

-

Prepared for:

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Test & Measurement Services

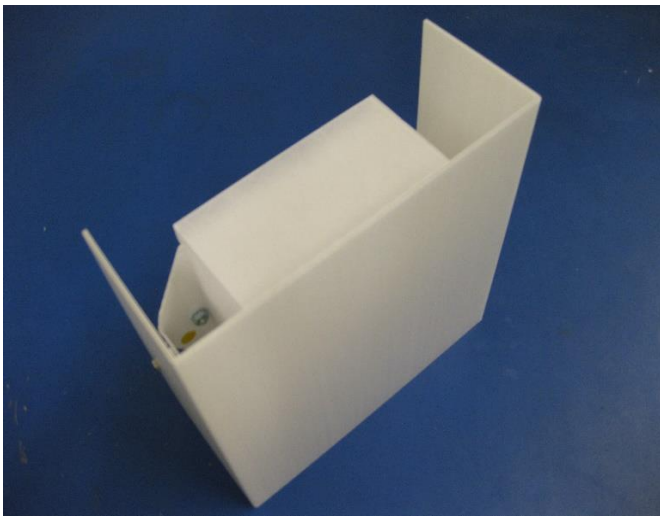
PRODUCT TEST REPORT - SPHERE & GONIOMETER TEST REPORT

Manufacturer: LightArt
Product Description: Sconce Luminaire

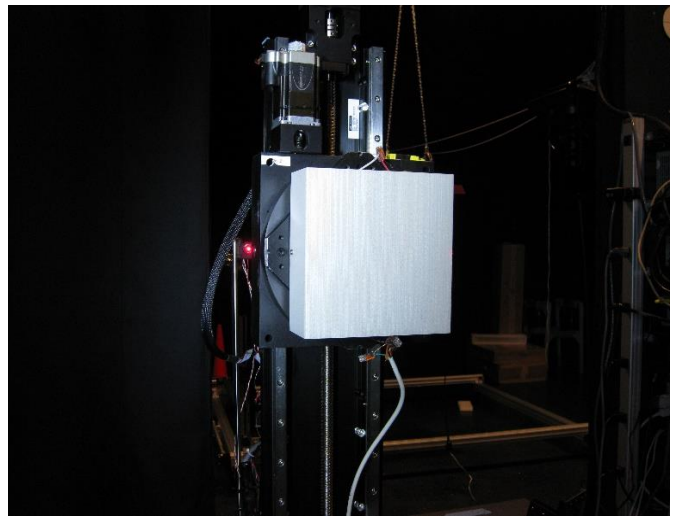
Report Number: LIGT003-02-010
Release Date: 5/5/2017

1.0 SAMPLE DESCRIPTION

Lab sample identification: 02 Customer Identification: LIGT Manufacturer: LightArt Part number: - Model Number: Sconce Luminaire Description: Interior wall luminaire	Manufacturer's ratings	
	Max Current (A):	-
	Operating voltage:	120VAC
	Wattage (watts):	-
	Frequency (Hz):	60Hz
	Dimmable:	-



Sample Device as Received



Sample Device Mounted to Test Apparatus

2.0 TEST DESCRIPTION

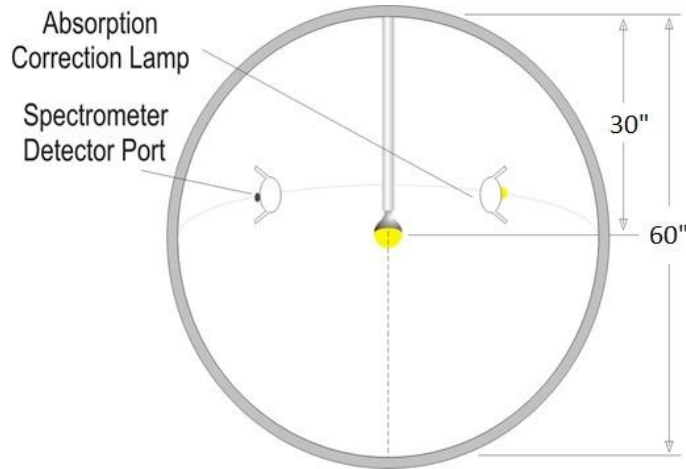
Photometric and electrical testing in accordance with IES LM 79-08 IES Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products. All angular measurements are made using the goniometer - spectroradiometer test method. All integrating sphere measurements are made using the sphere - spectroradiometer method.

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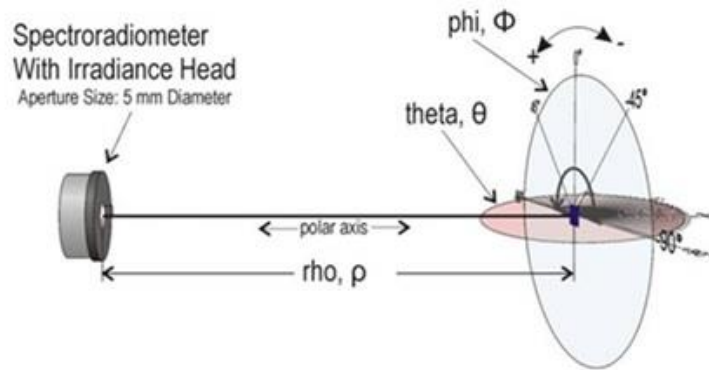
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3.0 Measurement Coordinates for Integrating Sphere (60inch.)



3.1 Measurement Coordinates for Type-D Goniometer



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4.0 SUMMARY OF RESULTS - SPHERE MEASUREMENTS

Test Conditions

Test Date: 26-Apr-17
Method: goniometer-spectroradiometer
x-axis Alignment: 0.0 ± 0.01 m
y-axis Alignment: 0.0 ± 0.01 m
z-axis Alignment: 3 ± 0.01 m

Theta Minimum: $0.0 \pm 0.01^\circ$
Theta Maximum: $180.0 \pm 0.01^\circ$
Theta Step Size: $2.5 \pm 0.01^\circ$
Phi Minimum: $0.0 \pm 0.01^\circ$
Phi Maximum: $180.0 \pm 0.01^\circ$
Phi Step Size: $22.5 \pm 0.01^\circ$

Ambient Temperature ($^\circ\text{C}$): $25 \pm 1^\circ\text{C}$
Ambient Humidity (%RH): 34.0

Optical Measurements

Total Integrated Luminous Flux (**lm**): 560.95
Luminous Efficacy (**lm/W**): 77.08
Total Integrated Radiant Flux (**W**): 1.794
Radiant Efficiency (**W_{optical}/W_{electric}**): 0.246
Correlated Color Temperature - CCT (**K**): 3007
Color Rendering Index - CRI, Ra: 84.1
R9: 17.3
Color Purity (%): 49.7
Dominant Wavelength (**nm**): 583.5
Centroid Wavelength (**nm**): 585.9
Peak Wavelength (**nm**): 604.1

Chromaticity Coordinates

Cx: 0.4337
Cy: 0.3983
u: 0.2510
v: 0.3457
u': 0.2510
v': 0.5186
Duv: -0.0019

Electrical Measurements

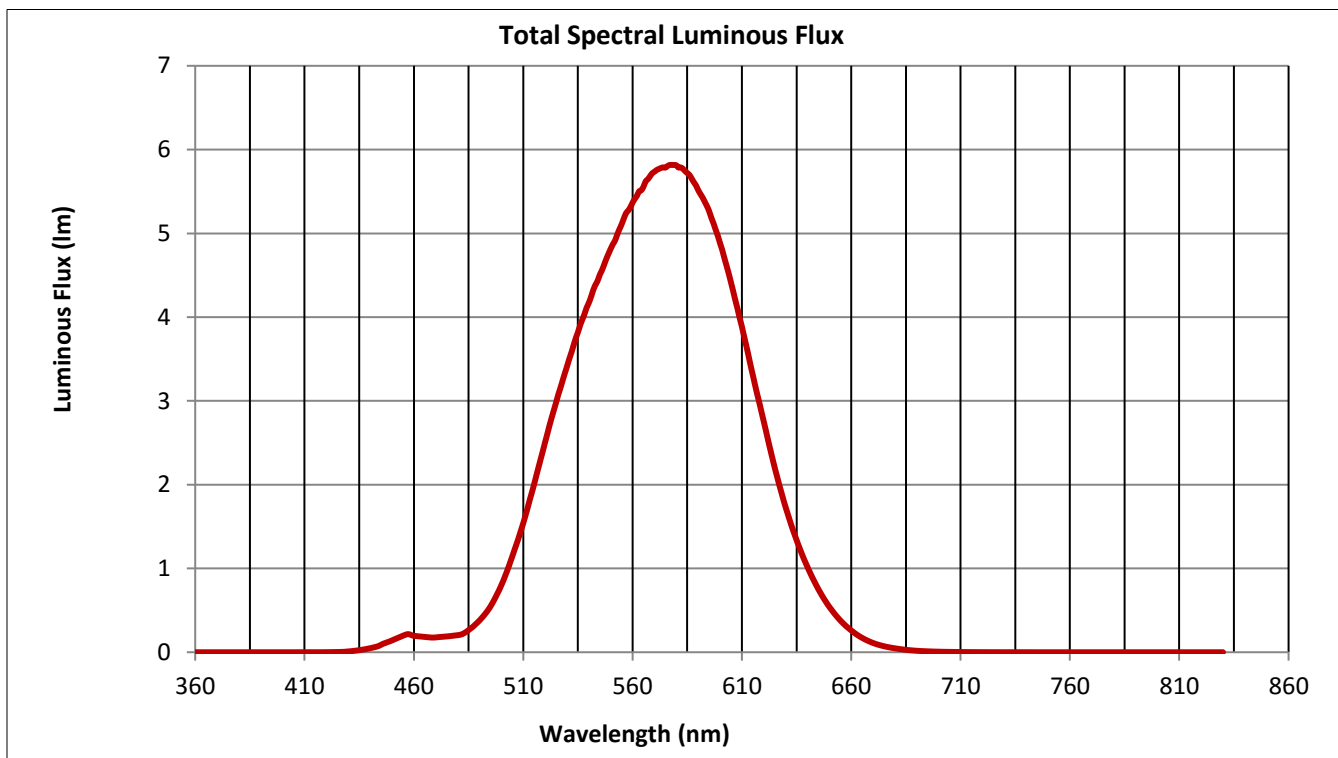
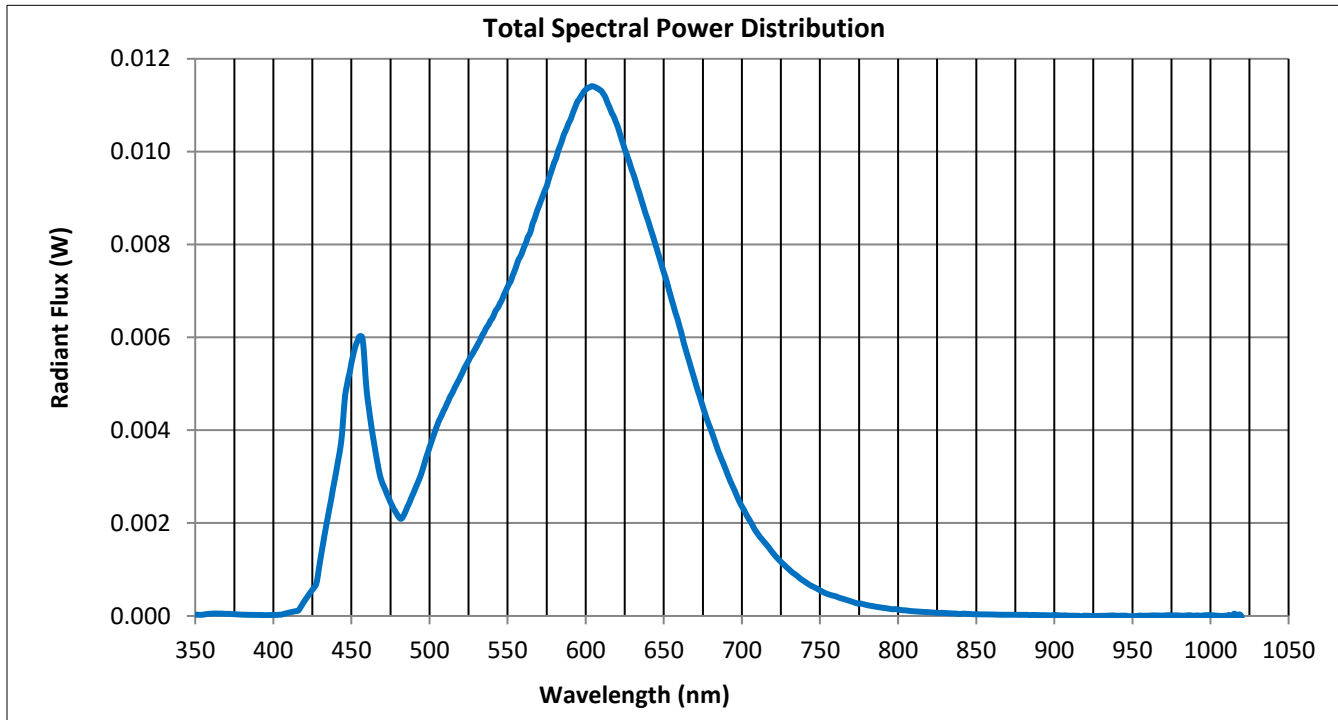
Active Power(**W**): 7.444
Apparent Power (**W**): 7.303
Power Factor: 0.996
Average Voltage(**V**): 120.063
Average Current (**A**): 0.062
Frequency (**Hz**): 60.0

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5.0 CHARTS

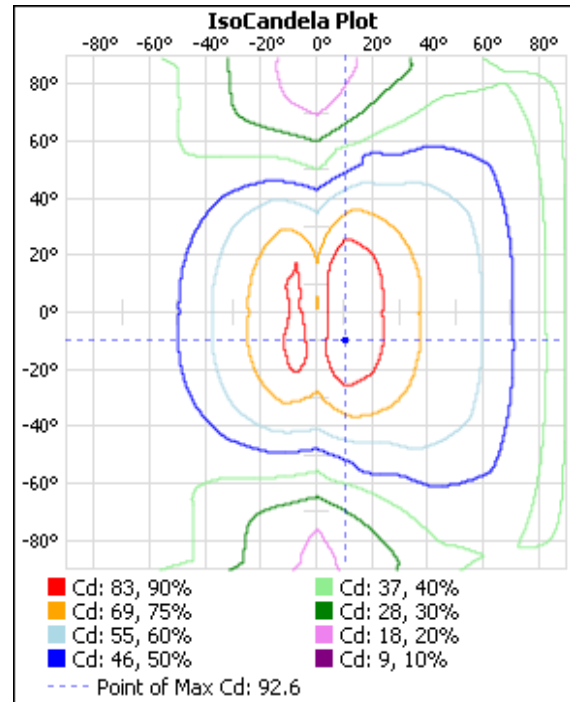
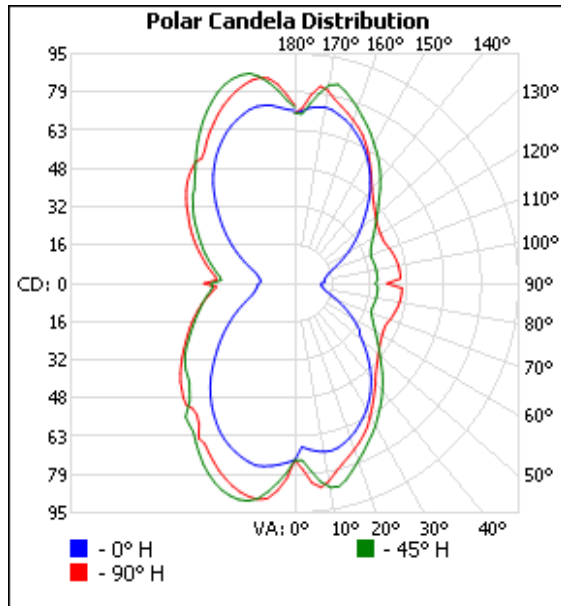


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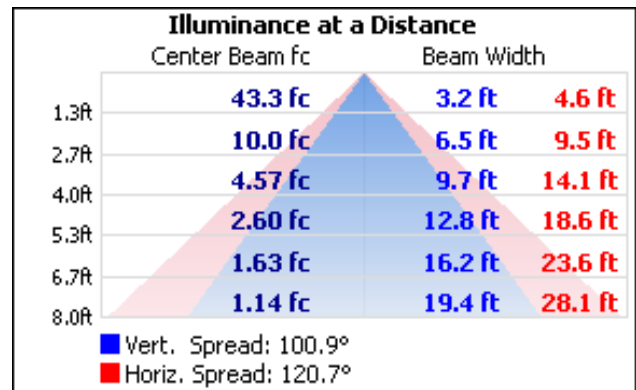
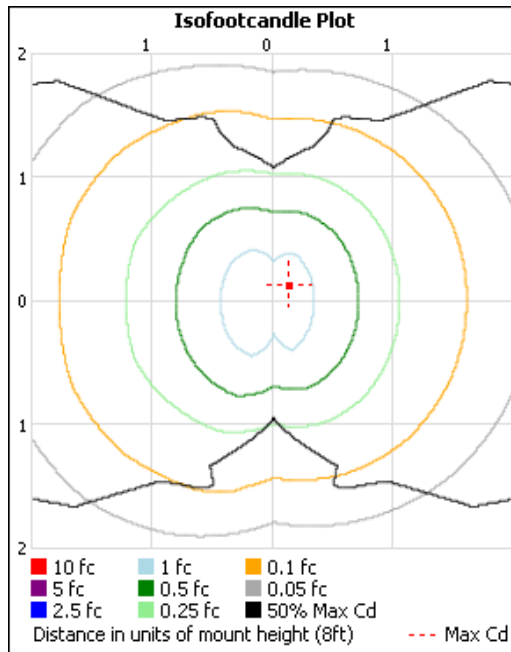
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6.0 CANDELA PLOTS



6.1 ILLUMINANCE PLOTS



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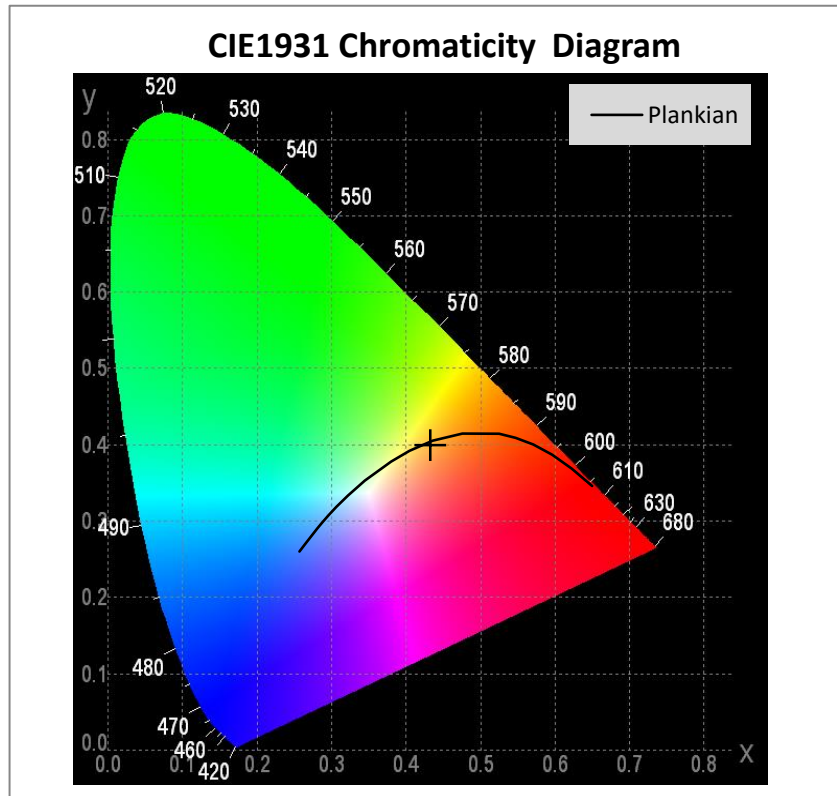
6.2 ZONAL LUMEN SUMMARY

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	67.5	11.2%
0-40	109.6	18.1%
0-60	196.1	32.4%
60-90	111.5	18.4%
70-100	106	17.5%
90-120	108	17.9%
0-90	307.6	50.9%
90-180	296.8	49.1%
0-180	604.4	100.0%

Lumens Per Zone		
Zone	Lumens	% Total
0-10	7.8	1.3%
10-20	23.8	3.9%
20-30	35.9	5.9%
30-40	42.1	7.0%
40-50	43.7	7.2%
50-60	42.8	7.1%
60-70	39.6	6.6%
70-80	37	6.1%
80-90	34.9	5.8%

Lumens Per Zone		
Zone	Lumens	% Total
90-100	34.2	5.7%
100-110	35.8	5.9%
110-120	38.1	6.3%
120-130	40.8	6.7%
130-140	42	6.9%
140-150	40.5	6.7%
150-160	34.8	5.8%
160-170	23.1	3.8%
170-180	7.5	1.2%

6.3 CHROMATICY DIAGRAM



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7.0 EQUIPMENT

Item	Description/use	Manufacturer	Model	Serial #
1.5m Sphere	Sphere Optical Measurements	Labsphere	AA-00463-000 LMS650	SPH100
Goniometer	Type-D	Orb Optronix	MS-STA-GON07	001
Power Analyzer	Electrical Measurement, Goni	Yokogawa	WT210	91L122464
Power Analyzer	Electrical Measure., Sphere	Yokogawa	WT210	91L122484
Power Supply	Electrical, Goniometer	Kikusui	PCR500M	RB002844
Power Supply	Electrical, Sphere	Kikusui	PCR500M	RB002843
Spectroradiometer	Sphere Optical Measurements	Instrument Systems	CAS140T	2010268
Spectroradiometer	Goni Optical Measurements	Orb Optronix	SP-200	2015984

END OF REPORT