



# REPORT

545 E. Algonquin Rd., Arlington Heights, IL 60005

Project No. G103017649

Date: December 8, 2017

REPORT NO. 103017649CHI-053

TEST OF ONE LED WALL WASH

MODEL NO. E2SF-LH83030AI W/ E2SFW-WW TRIM  
LED MODEL NO. CITIZEN CLU028-1203C4-303M2M2-F1  
DRIVER MODEL NO. DA18W440C40BF-0000

RENDERED TO

GENERATION BRANDS  
7400 LINDER AVE.  
SKOKIE, IL 60077 USA

TEST: Electrical and Photometric tests as required to the IESNA test standard.

AUTHORIZATION: The testing performed was authorized by signed quote number Qu-00779063-2.

STANDARDS USED: The following American National Standards or Illuminating Engineering Society of North America Test Guides were used in part or totally to test each specimen:

IESNA LM-79 - 2008: Electrical and Photometric Measurements of Solid State Lighting

DESCRIPTION OF SAMPLE: The client submitted one production sample of model number E2SF-LH83030AI w/ E2SFW-WW trim. The sample was received by Intertek on December 8, 2017, in undamaged condition and one sample was tested as received. The sample designation was AH12082017094601-053.

DATES OF TESTS: December 8, 2017

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## SUMMARY

Model No.: E2SF-LH83030AI w/ E2SFW-WW trim Description: LED Wall Wash
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Criteria	Result
Total Lumen Output (Lumens)	690.2
Total Power (W)	18.81
Luminaire Efficacy (LPW)	36.69
Power Factor	0.981

## EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date	Date Used
Yokogawa Power Meter	WT210	146919	07/10/17	07/10/18	12/08/17
Omega Newport Thermometer	DPI8-C24	146920	10/04/17	10/04/18	12/08/17
LSI High Speed Mirror Goniometer	6440T	146928	VBV	VBV	12/08/17
Newport Thermohygrometer	iServer	146956	01/06/17	01/06/18	12/08/17
Pacific, AC power supply	118-ACX	CHI0358	VBV	VBV	12/08/17

## TEST METHODS

### Seasoning in Sample Orientation – LED Products

No seasoning was performed in accordance with IESNA LM-79.

### Photometric and Electrical Measurements – Distribution Method

A LSI Type C High Speed Model 6440 Mirror Goniometer was used to measure the intensity (candelas) at each angle of distribution for each sample.

Ambient temperature was measured equal to the height of the sample mounted on the Goniometer equipment. Each sample was operated at input rated voltage in its designated orientation. Each sample was allowed to stabilize for at least thirty minutes before measurements were made. Electrical measurements including voltage, current, and power were measured using the Xitron or Yokogawa Power Analyzer.

Some graphics were created with Photometrics Plus software.

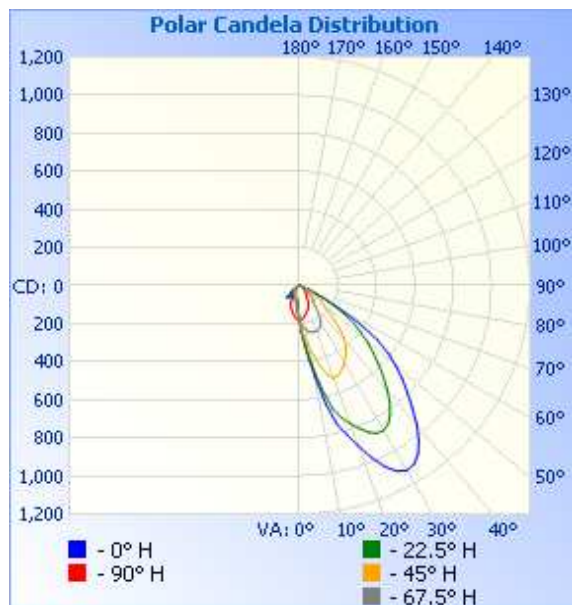
## RESULTS OF TEST

### Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) – Distribution Method

Intertek Sample No.	Base Orientation	Input Voltage {VAC}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (LPW)
AH12082017094601-053	UP	120.1	159.7	18.81	0.981	690.2	36.69

### Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	25	45	67.5	90
0	186	186	186	186	186
5	315	307	266	219	175
10	506	466	352	243	159
15	753	671	444	253	140
20	896	770	516	254	129
25	1047	850	502	244	109
30	1120	878	468	221	82
35	1077	824	421	166	58
40	950	710	358	108	54
45	795	581	262	106	38
50	656	462	170	65	32
55	493	346	131	53	25
60	235	205	68	30	19
65	78	84	35	19	15
70	22	24	12	10	11
75	5	5	4	3	4
80	2	2	2	1	1
85	0	0	0	0	0
90	0	0	0	0	0

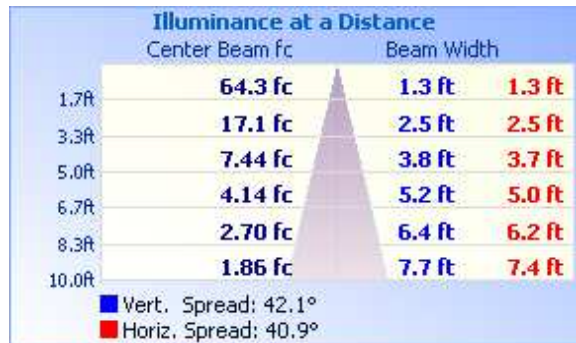


## RESULTS OF TEST (cont'd)

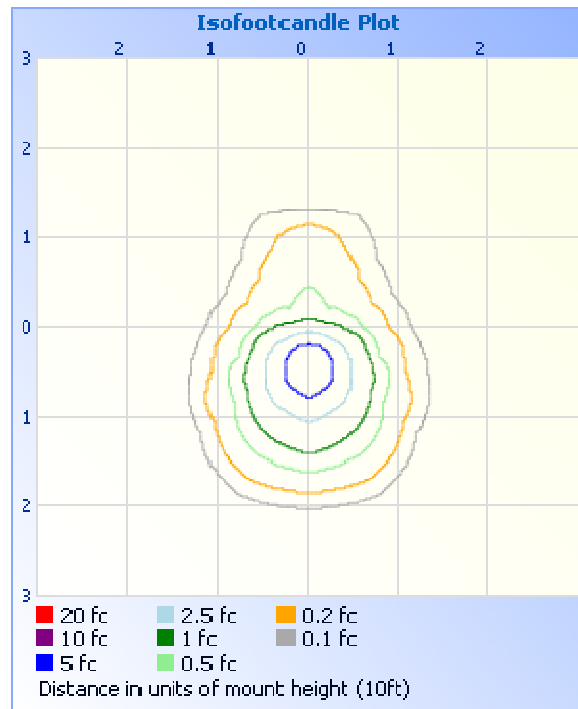
### Illumination Plots

Mounting Height: 10 ft.

#### Illuminance - Cone of Light



#### Isoillumination Plot



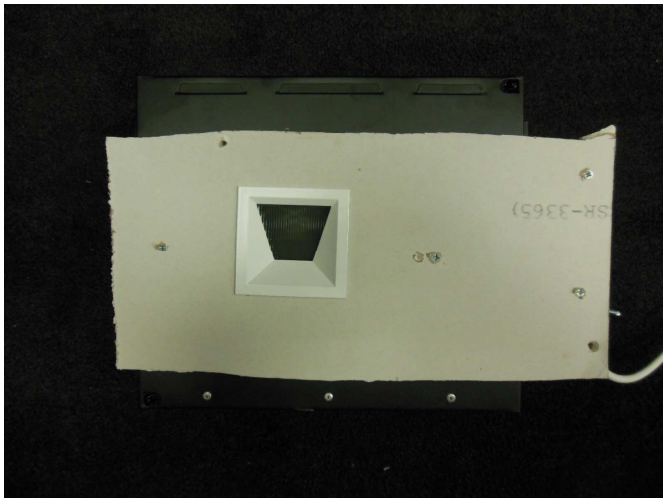
#### Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	234.6	34.0
0-40	404.3	58.6
0-60	650.5	94.2
60-90	39.7	5.8
0-90	690.2	100.0
90-180	0.0	0.0
0-180	690.2	100.0

#### Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	19.5	2.8
10-20	75.3	10.9
20-30	139.8	20.3
30-40	169.7	24.6
40-50	148.2	21.5
50-60	98.0	14.2
60-70	33.2	4.8
70-80	5.8	0.8
80-90	0.7	0.1

PICTURES (not to scale)



CONCLUSION

The results tabulated in this report are representative of the actual test samples submitted for this report only. The data is provided to the client for further evaluation. Compliance to the referenced specification requirements was not determined in this report.

In Charge Of Tests:



Hector Huitron  
Associate Engineer  
Lighting Division

Attachment: None

Report Reviewed By:



Timothy Quigley  
Engineer  
Lighting Division