

Project Number  
20.00113



**HUBBELL**  
Lighting

Date  
1/27/2020

### Photometric Test Report

Lab 4  
Sphere

#### Test Sample Description

Catalog Number: P500320-031-30  
Description: LED Edge-Lit Pendant w/ 27" Wire Cage Bottom

NOTE:

After operating for the Preburn time listed below, the sample did not meet the stabilization requirements per LM-79-08. Data trended straight and steady, but peak to peak values within trend varied about 0.9%. Test started after trending for 30 minutes.

#### Photometry

Test Method: IES LM-41-14  
IES LM-79-08 §10

Preburn Time: 0:30  
Time To Stabilize: 0:35  
Total Operating Time: 1:25

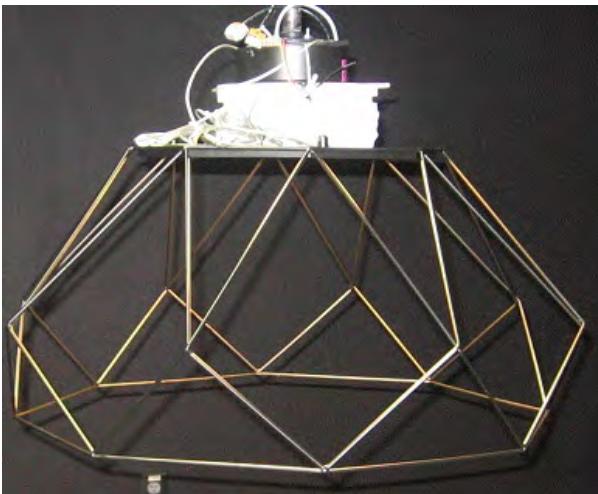
Input Voltage (Volts): 120.0  
Input Current (Amps): 0.303  
Input Wattage (Watts): 35.7  
Ambient Temp (°C): 24.5

#### Sphere

Test Method: IES LM-16-93  
IES LM-79-08 § 12.1

Preburn Time: 2:00  
Time To Stabilize: 1:04  
Total Operating Time: 3:29

Input Voltage (Volts): 120.0  
Input Current (Amps): 0.302  
Input Wattage (Watts): 35.7  
Ambient Temp (°C): 24.0



#### Hubbell Lighting, Inc.

701 Millennium Boulevard  
Greenville, SC 29607  
www.hubbellighting.com

Checked (sphere): M.ELLMANN  
Checked (photometry): R.HALL  
Approved: L. GENNETTEN



\* This customer-provided information was not verified by the laboratory and could affect the validity of the test results.

Note that the LED manufacturer and part number are unverifiable by the lab.

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Lamp Cat#: STW9A12D-E1

Lamp Desc: 156 - Seoul 3000K LEDs

Driver Desc: 1 - Becky BQE45-0950-42-TD

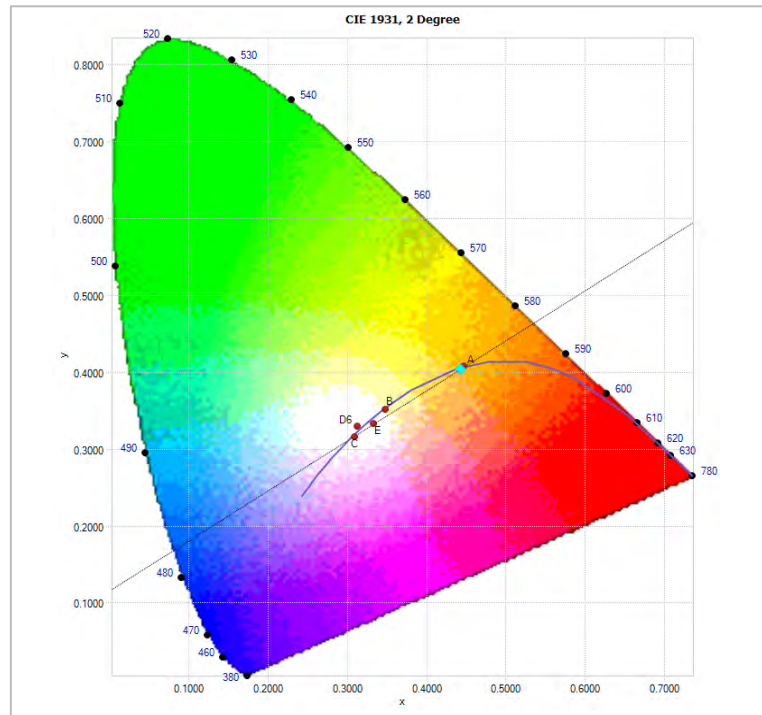
Programmed to 950mA

Efficacy: 94.5 LPW

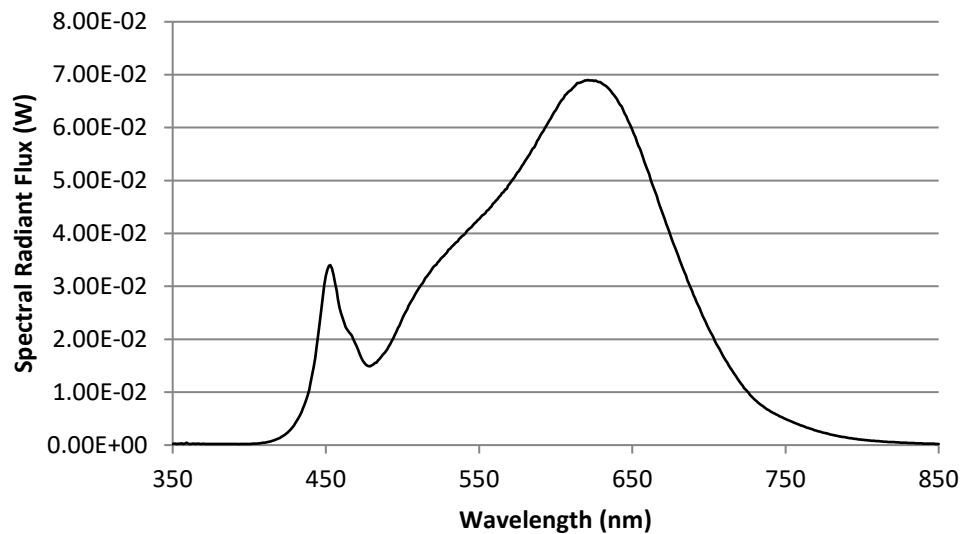
S/P Ratio: 1.4 LM/LM

**Spectral Results**

Name	Value	Unit
$\Phi$	11.77	watts
$\Phi(v)$	3373	lumens
$\Phi(v')$	4662	lm'
Chrom x	0.4425	
Chrom y	0.4044	
Chrom u	0.254	
Chrom v	0.3482	
Duv	0.001	
Chrom u'	0.254	
Chrom v'	0.5223	
CCT	2909	K
Purity	54.2	%
$\lambda$ (dom)	583.4	nm
FWHM	158.6	nm
$\lambda$ (peak)	620.6	nm
$\lambda$ (center)	602.4	nm
$\lambda$ (centroid)	595.3	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.000628202	
Correlation	0.0054	
R1	93.6	
R2	96.8	
R3	98.2	
R4	93.2	
R5	93.2	
R6	95.9	
R7	92.1	
R8	82.6	
R9	61.6	
R10	91.4	
R11	94.1	
R12	82.0	
R13	94.6	
R14	98.4	



**Spectral Distribution of Radiant Flux**



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**ISSUE DATE:** 01/27/20

**PREPARED FOR:** PROGRESS

**CATALOG NUMBER:** P500320-031-30

**LUMINAIRE:** LED Edge-Lit Pendant w/ 27" Wire Cage Bottom

**LAMP CAT. NO.:** STW9A12D-E1

**LAMP:** 156- Seoul 3000K LEDs

**BALLAST:** 1- Becky Programmed to 950mA

**BALLAST CATALOG NUMBER:** BQE45-0950-42-TD

**REFRACTOR:** Frosted Acrylic Lens



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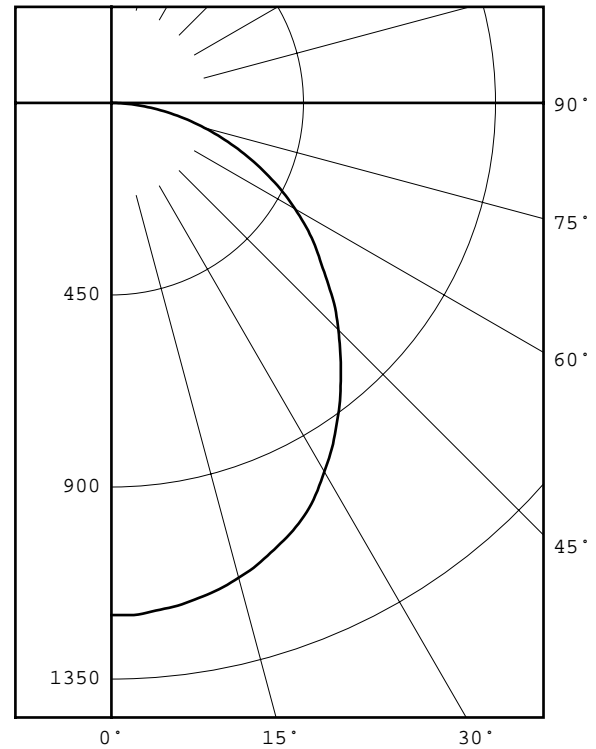
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DEG	CANDELA	LUMENS
0	1200	
5	1194	114
15	1152	325
25	1068	491
35	920	576
45	752	580
55	582	520
65	407	403
75	226	239
85	63	71
90	1	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	929	28.0
0- 40	1505	45.4
0- 60	2605	78.5
0- 90	3318	100.0
90-180	0	0.0
0-180	3318	100.0

EFFICACY = 92.9 lm/W  
CIE TYPE - DIRECT  
SPACING CRITERION: 1.23  
PLANE : 0-DEG 90-DEG  
SHIELDING ANGLES : 90 90  
LUMINOUS DIAMETER: 11.250

LUMINANCE DATA IN CANDELA/SQ M	
ANGLE	AVERAGE
IN DEG	
45	16583.
55	15822.
65	15017.
75	13616.
85	11272.





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CANDELA DISTRIBUTION

0.0	1200
2.5	1201
5.0	1194
7.5	1188
10.0	1178
12.5	1167
15.0	1152
17.5	1135
20.0	1114
22.5	1093
25.0	1068
27.5	1036
30.0	998
32.5	961
35.0	920
37.5	880
40.0	836
42.5	794
45.0	752
47.5	711
50.0	664
52.5	620
55.0	582
57.5	541
60.0	497
62.5	453
65.0	407
67.5	361
70.0	315
72.5	270
75.0	226
77.5	183
80.0	141
82.5	101
85.0	63
87.5	27
90.0	1



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		29
5- 10		85
10- 15		138
15- 20		187
20- 25		229
25- 30		262
30- 35		283
35- 40		293
40- 45		294
45- 50		287
50- 55		270
55- 60		250
60- 65		220
65- 70		183
70- 75		141
75- 80		98
80- 85		55
85- 90		16

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		114
0- 20		439
0- 30		929
0- 40		1505
0- 50		2085
0- 60		2605
0- 70		3008
0- 80		3247
0- 90		3318



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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	99	96	106	101	98	94	97	94	91	93	91	88	90	88	86	83
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	69
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	59
4	82	70	62	55	80	69	61	54	67	59	54	64	58	53	62	57	52	50
5	76	63	54	47	74	62	53	47	60	52	46	58	51	46	56	50	45	43
6	70	57	48	41	68	56	47	41	54	46	41	52	45	40	51	45	40	38
7	65	51	43	36	63	51	42	36	49	42	36	48	41	36	46	40	36	34
8	61	47	38	33	59	46	38	32	45	38	32	44	37	32	43	36	32	30
9	57	43	35	29	55	43	35	29	41	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	39	32	27	38	31	26	37	31	26	36	31	26	24

ALL CANDELA, LUMENS, LUMINANCE, AND VCP VALUES IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS TEST SAMPLE.

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### *Goniophotometer Calibration*

Calibration Lamp : Osram ST8-HA4-250-840 22W / 4000K

Lamp Number: RM B6-28

Ballast: Vossloh Schwabe LN 36.149

Ballast Number: RM B6-28

Calibration Voltage/Frequency: 220Vac / 50hz

Total Luminous Flux: 2463 Lumens

Calibration Date: 06/25/2019

### *Test Equipment Used*

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	LMT/GO-DS 1600 Lab 4 Test Dist.: 31.0'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27074V	10/31/2020
<i>Power Supply</i>	Chroma / 61604	13117591	N/A
<i>Thermometer</i>	LMT / ATS-4Ch	10B623-3	10/31/2020

### *3-Meter-Sphere Calibration*

Calibration Lamp: EIKO 28V75W/E10

Lamp Number: SCL-1400-K136

Calibration Current: 2.679 Amps

Total Luminous Flux: 1429 Lumens

### *Test Equipment Used - Color & SPD; THD & Power Factor*

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>3-Meter Sphere</i>	Labsphere / LMS-3M	N/A	Calibration Checked Daily
<i>Thermometer</i>	National Instruments / USB TC01	1912751	10/31/2020
<i>Power Analyzer</i>	Yokogawa / WT332	C2QA27075V	10/31/2020
<i>Power Supply</i>	Chroma / 61602	616020002113	N/A
<i>Power Supply PF/THD</i>	Voltage-Regulated House Power	N/A	N/A
<i>Aux Lamp Supply</i>	GW Instek / PSU 150-10	GER221028	N/A
<i>Cal Lamp Supply</i>	Labsphere / LPS-150-0268	1218148505	N/A
<i>Spectrometer</i>	Labsphere / CDS 1100	0624117792	N/A

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