

Project Number
20.00112



HUBBELL
Lighting

Date
01/27/2020

Photometric Test Report

Lab 4
Sphere

Test Sample Description

Catalog Number: P500319-031-30
Description: LED Edge-Lit Pendant w/ 18" Wire Cage Bottom

Photometry

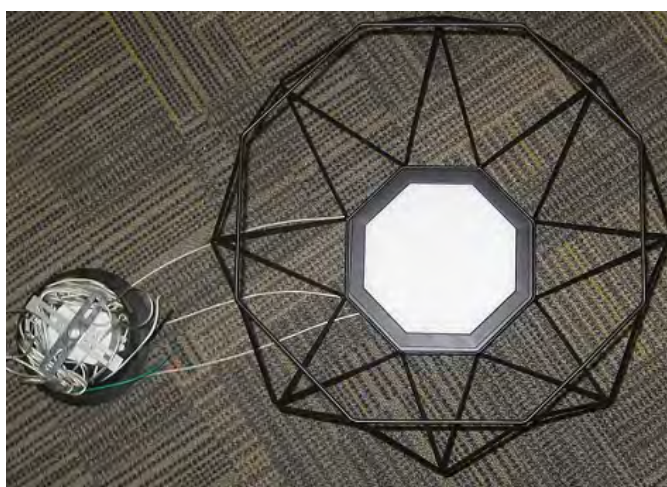
Test Method: IES LM-41-14
IES LM-79-08 §10
Preburn Time: 1:25
Time To Stabilize: 0:30
Total Operating Time: 2:15

Input Voltage (Volts): 120.0
Input Current (Amps): 0.226
Input Wattage (Watts): 26.7
Ambient Temp (°C): 24.7

Sphere

Test Method: IES LM-16-93
IES LM-79-08 § 12.1
Preburn Time: 1:40
Time To Stabilize: 1:08
Total Operating Time: 3:13

Input Voltage (Volts): 120.0
Input Current (Amps): 0.227
Input Wattage (Watts): 26.8
Ambient Temp (°C): 24



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.

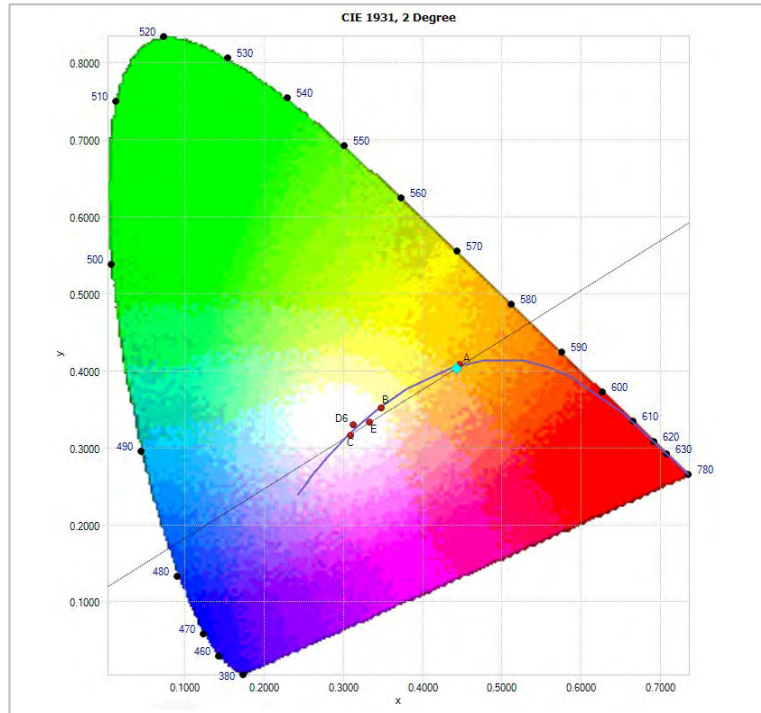
Note that the LED manufacturer and part number are unverifiable by the lab.

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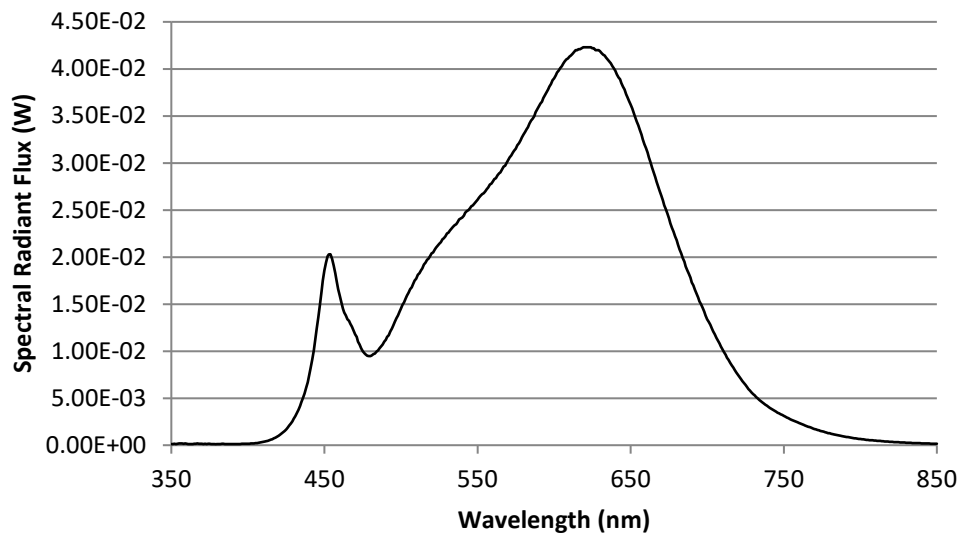
Lamp Cat#: STW9A12D-E1
 Lamp Desc: 84 - Seoul 3000K LEDs
 Driver Desc: 1 - Becky BQE30-0700-42-TD
 Programmed to 700mA
 Efficacy: 77.1 LPW S/P Ratio: 1.4 LM/LM

Spectral Results

Name	Value	Unit
Φ	7.22	watts
$\Phi(v)$	2067	lumens
$\Phi(v')$	2858	lm'
Chrom x	0.4423	
Chrom y	0.4035	
Chrom u	0.2543	
Chrom v	0.348	
Duv	0.0013	
Chrom u'	0.2543	
Chrom v'	0.522	
CCT	2905	K
Purity	53.9	%
λ (dom)	583.6	nm
FWHM	157.5	nm
λ (peak)	620.9	nm
λ (center)	602.5	nm
λ (centroid)	595.2	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.000937135	
Correlation	0.0054	
R1	93.4	
R2	96.9	
R3	98.4	
R4	92.8	
R5	93.0	
R6	96.0	
R7	91.6	
R8	81.9	
R9	60.2	
R10	91.7	
R11	93.6	
R12	82.6	
R13	94.5	
R14	98.6	



Spectral Distribution of Radiant Flux



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PAGE: 3 OF 8

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LUMINAIRE: LED Edge-Lit Pendant w/ 18" Wire Cage Bottom

LAMP CAT. NO.: STW9A12D-E1

LAMP: 84- Seoul 3000K LEDs

BALLAST: 1- Becky Programmed to 700mA

BALLAST CATALOG NUMBER: BQE30-0700-42-TD

REFRACTOR: Frosted Acrylic Lens



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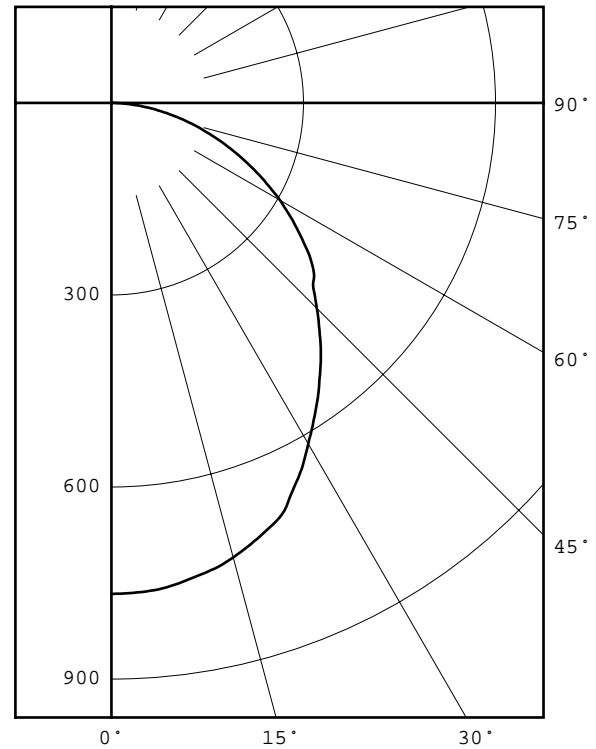
PAGE: 4 OF 8

DEG	CANDELA	LUMENS
0	767	
5	764	73
15	735	207
25	669	308
35	562	352
45	454	352
55	360	322
65	245	243
75	134	142
85	36	41
90	1	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	588	28.8
0- 40	939	46.1
0- 60	1613	79.1
0- 90	2039	100.0
90-180	0	0.0
0-180	2039	100.0

EFFICACY = 76.5 lm/W
CIE TYPE - DIRECT
SPACING CRITERION: 1.19
PLANE : 0-DEG 90-DEG
SHIELDING ANGLES : 90 90
LUMINOUS DIAMETER: 6.500

LUMINANCE DATA IN CANDELA/SQ M	
ANGLE	AVERAGE
IN DEG	
45	29991.
55	29318.
65	27079.
75	24184.
85	19294.



LEGEND
0-deg



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CATALOG NUMBER: P500319-031-30

PAGE: 5 OF 8

CANDELA DISTRIBUTION

0.0	767
2.5	766
5.0	764
7.5	759
10.0	752
12.5	745
15.0	735
17.5	723
20.0	710
22.5	696
25.0	669
27.5	644
30.0	615
32.5	588
35.0	562
37.5	535
40.0	509
42.5	481
45.0	454
47.5	428
50.0	413
52.5	389
55.0	360
57.5	332
60.0	304
62.5	274
65.0	245
67.5	216
70.0	188
72.5	160
75.0	134
77.5	108
80.0	83
82.5	59
85.0	36
87.5	14
90.0	1



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PAGE: 6 OF 8

5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		18
5- 10		54
10- 15		88
15- 20		119
20- 25		145
25- 30		163
30- 35		173
35- 40		178
40- 45		178
45- 50		174
50- 55		169
55- 60		153
60- 65		133
65- 70		109
70- 75		84
75- 80		58
80- 85		32
85- 90		9

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		73
0- 20		280
0- 30		588
0- 40		939
0- 50		1291
0- 60		1613
0- 70		1856
0- 80		1998
0- 90		2039



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PAGE: 7 OF 8

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	119	116	116	116	116	111	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	96	106	102	98	94	97	94	91	94	91	88	90	88	86	84	84
2	99	91	84	78	78	96	89	83	77	85	80	75	82	78	74	79	75	72	70	70
3	90	80	72	65	65	88	78	71	65	75	69	63	72	67	62	70	65	61	59	59
4	83	71	62	55	55	80	69	61	55	67	60	54	65	58	53	62	57	53	51	51
5	76	63	54	48	48	74	62	54	47	60	53	47	58	52	46	56	51	46	44	44
6	70	57	48	42	42	68	56	48	42	54	47	41	53	46	41	51	45	40	38	38
7	65	52	43	37	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34	34
8	61	47	39	33	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30	30
9	57	44	35	30	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27	27
10	53	40	32	27	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25	25

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	616040003897	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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