

Project Number
20.00101



HUBBELL
Lighting

Date
1/30/2020

Photometric Test Report

Lab 5
Sphere

Test Sample Description

Catalog Number: P500318-031-30
Description: Round 18" LED Pendant w/ Acrylic Refractor Material

Photometry
Test Method: IES LM-46-04
IES LM-79-08 §10
Preburn Time: 0:10
Time To Stabilize: 0:36
Total Operating Time: 3:15

Input Voltage (Volts): 120.2
Input Current (Amps): 0.171
Input Wattage (Watts): 20.1
Ambient Temp (°C): 26

Sphere
Test Method: IES LM-16-93
IES LM-79-08 §12.1
Preburn Time: 1:50
Time To Stabilize: 1:05
Total Operating Time: 3:28

Input Voltage (Volts): 120.0
Input Current (Amps): 0.171
Input Wattage (Watts): 20.1
Ambient Temp (°C): 24



Hubbell Lighting, Inc.

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Greenville, SC 29607
www.hubbellighting.com

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

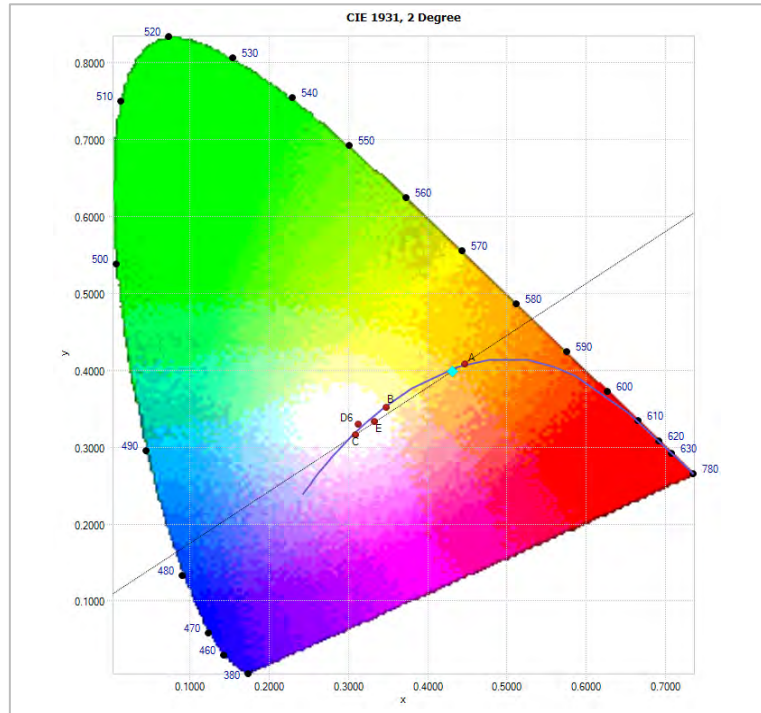


* This customer-provided information was not verified by the laboratory. Note that LED manufacturer and part # are unverifiable by the lab.
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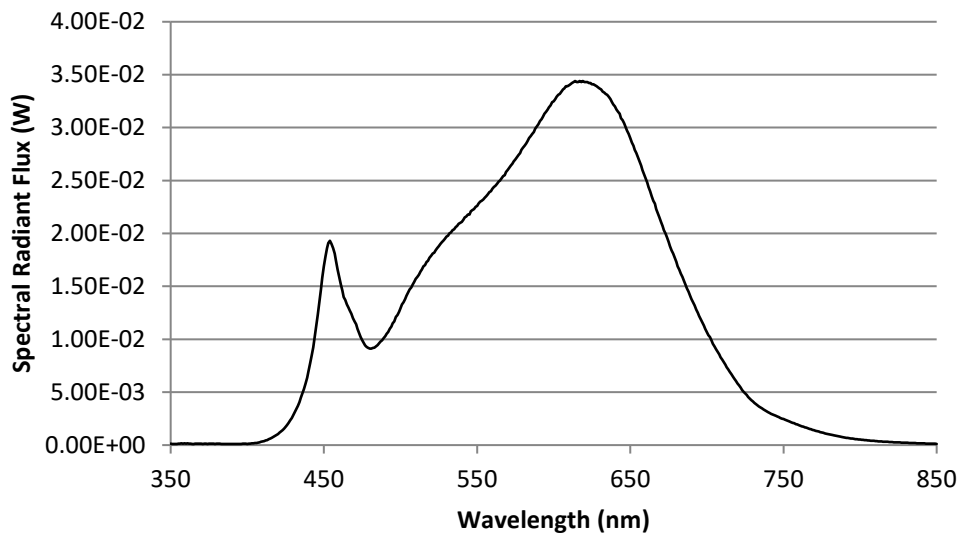
Lamp Cat#: STW9A12D-E1
 Lamp Desc: 72 - Seoul 3000K LEDs
 Driver Desc: 1 - Becky BQE20-0500-40-TD
 Programmed to 500mA
 Efficacy: 87.7 LPW S/P Ratio: 1.5 LM/LM

Spectral Results

Name	Value	Unit
Φ	6.08	watts
$\Phi(v)$	1762	lumens
$\Phi(v')$	2560	lm'
Chrom x	0.4307	
Chrom y	0.3991	
Chrom u	0.2487	
Chrom v	0.3456	
Duv	0.0011	
Chrom u'	0.2487	
Chrom v'	0.5185	
CCT	3064	K
Purity	49.1	%
λ (dom)	583.0	nm
FWHM	163.7	nm
λ (peak)	614.6	nm
λ (center)	598.5	nm
λ (centroid)	591.0	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.001143896	
Correlation	0.0054	
R1	93.0	
R2	96.9	
R3	98.3	
R4	92.1	
R5	92.6	
R6	95.5	
R7	91.5	
R8	81.6	
R9	59.3	
R10	91.5	
R11	92.6	
R12	80.8	
R13	94.2	
R14	98.8	



Spectral Distribution of Radiant Flux



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LUMINAIRE: Round 18" LED Pendant w/ Acrylic Refractor Material

LAMP CAT. NO.: STW9A12D-E1

LAMP: 72 - Seoul - 3000K LEDs

BALLAST CATALOG NUMBER: BQE20-0500-40-TD

BALLAST: 1 - Becky - Programmed to 500mA

MOUNTING: Ceiling

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

SEARCH_CRI: X

SEARCH_COLORTEMP: Y

SEARCH_LPW: Z

SEARCH_DISTRIBUTION: W



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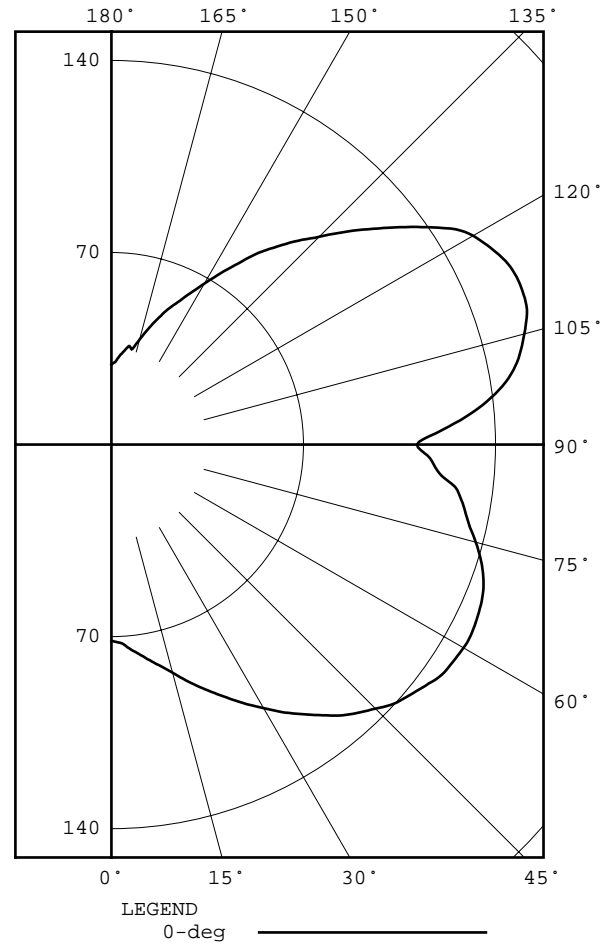
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DEG	CANDELA	LUMENS
0	72	
5	75	7
15	86	25
25	102	48
35	120	76
45	136	105
55	147	131
65	147	146
75	138	145
85	120	132
90	111	
95	132	143
105	156	164
115	158	156
125	138	124
135	107	84
145	81	51
155	57	27
165	40	12
175	32	3
180	29	

ZONAL LUMEN ZONE	SUMMARY LUMENS	%FIXT
0- 30	80	5.0
0- 40	155	9.8
0- 60	392	24.8
0- 90	815	51.6
90-120	463	29.3
90-130	587	37.2
90-150	722	45.7
90-180	764	48.4
0-180	1579	100.0

EFFICACY = 78.6 lm/W
CIE TYPE - GENERAL DIFFUSE
SPACING CRITERION: 2.47
PLANE : 0-DEG 90-DEG
SHIELDING ANGLES : 90 90





®

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LUMINOUS DIAMETER: 12.500
HEIGHT OF SIDE : 0.500

LUMINANCE DATA IN CANDELA/SQ M
ANGLE AVERAGE
IN DEG

45	2313.
55	3011.
65	3972.
75	5638.
85	10983.



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CANDELA DISTRIBUTION

0.0	72
5.0	75
10.0	80
15.0	86
20.0	94
25.0	102
30.0	111
35.0	120
40.0	129
45.0	136
50.0	142
55.0	147
60.0	148
65.0	147
70.0	144
75.0	138
80.0	130
85.0	120
90.0	111
95.0	132
100.0	148
105.0	156
110.0	160
115.0	158
120.0	152
125.0	138
130.0	122
135.0	107
140.0	94
145.0	81
150.0	68
155.0	57
160.0	49
165.0	40
170.0	36
175.0	32
180.0	29



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		2
5- 10		6
10- 15		10
15- 20		15
20- 25		21
25- 30		27
30- 35		34
35- 40		42
40- 45		49
45- 50		56
50- 55		63
55- 60		68
60- 65		72
65- 70		74
70- 75		74
75- 80		72
80- 85		69
85- 90		64
90- 95		66
95-100		76
100-105		81
105-110		83
110-115		81
115-120		76
120-125		67
125-130		57
130-135		46
135-140		37
140-145		29
145-150		22
150-155		16
155-160		11
160-165		7
165-170		4
170-175		2
175-180		1

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		7
0- 20		32
0- 30		80
0- 40		155
0- 50		261
0- 60		392
0- 70		537
0- 80		683
0- 90		815
0-100		957
0-110		1122
0-120		1278
0-130		1402
0-140		1486
0-150		1537
0-160		1564
0-170		1576
0-180		1579



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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	108	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58	52
1	94	88	82	77	77	86	80	76	71	67	64	60	55	52	50	44	42	40	34
2	83	74	66	59	59	76	68	61	55	56	51	46	46	42	38	36	33	30	25
3	75	63	54	47	47	68	58	50	43	48	42	37	39	34	30	30	27	24	19
4	68	55	46	38	38	62	50	42	35	42	35	30	34	28	24	26	22	19	15
5	62	48	39	32	32	56	44	36	29	37	30	25	30	24	20	23	19	16	12
6	57	43	34	27	27	51	39	31	25	33	26	21	26	21	17	20	16	13	10
7	52	38	29	23	23	47	35	27	21	29	23	18	24	18	15	18	14	11	8
8	48	34	26	20	20	44	32	24	18	26	20	15	21	16	13	17	13	10	7
9	45	31	23	17	17	41	29	21	16	24	18	14	20	15	11	15	11	9	6
10	42	28	21	15	15	38	26	19	14	22	16	12	18	13	10	14	10	8	5

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: GE 1000W, 120V, T6, CL (FEL)

Lamp Number: ITL78966-1000-66

Calibration Current: 8.300 Amps DC

Total Luminous Flux: 23013.0 Lumens

Calibration Date: 08/20/2019

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL/HLI LAB 5 - Test Distance: 56.0'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27072V	10/31/2020
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	1912722	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>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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