

Project Number
18.01018



HUBBELL
Lighting

Date
6/22/2018

Lab 1
Sphere

Test Sample Description

Catalog Number: P810017-028028

Description: 14" EdgeLit Round - White w/ Diffuse Plastic Refractor

Photometry

Test Method: IES LM-46-04
IES LM-79-08 §10

Preburn Time: 0:15

Time To Stabilize: 0:30

Total Operating Time: 1:45

Input Voltage (Volts): 119.9

Input Current (Amps): 0.168

Input Wattage (Watts): 19.3

Ambient Temp (°C): 24.7

Sphere

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

Preburn Time: 8:00

Time To Stabilize: 1:12

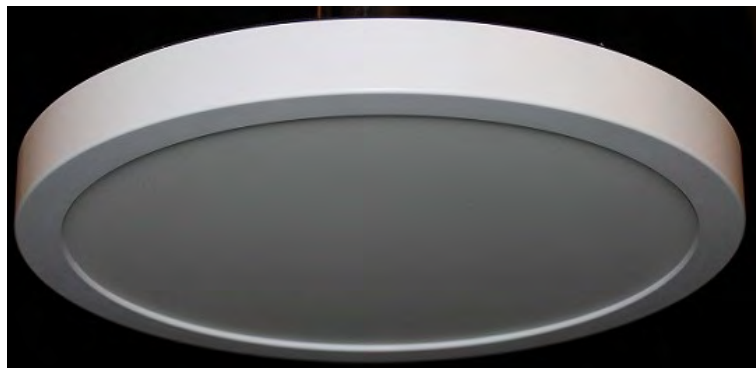
Total Operating Time: 9:12

Input Voltage (Volts): 120.0

Input Current (Amps): 0.168

Input Wattage (Watts): 19.3

Ambient Temp (°C): 24.3



Hubbell Lighting, Inc.

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

Checked (sphere): B. LEE
Checked (photometry): D. ROBBINS
Approved: P. McCARTHY



This report shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.



Lamp Cat#: STW912D-E1

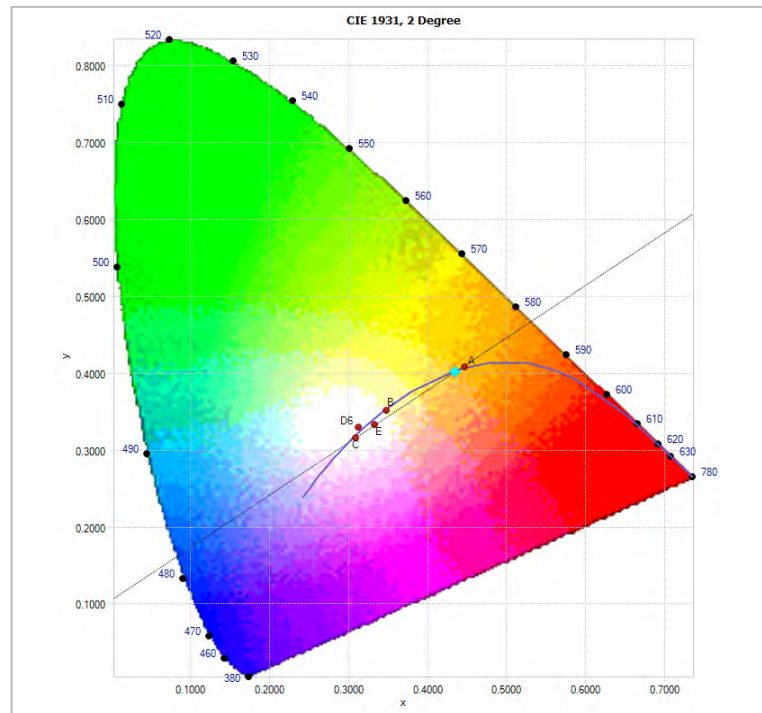
Lamp Desc: 84 - Seoul 3000K LEDs

Driver Desc: 1 - LG TRIA017C0420P-01

Efficacy: 89.4 LPW

S/P Ratio: 1.4 LM/LM

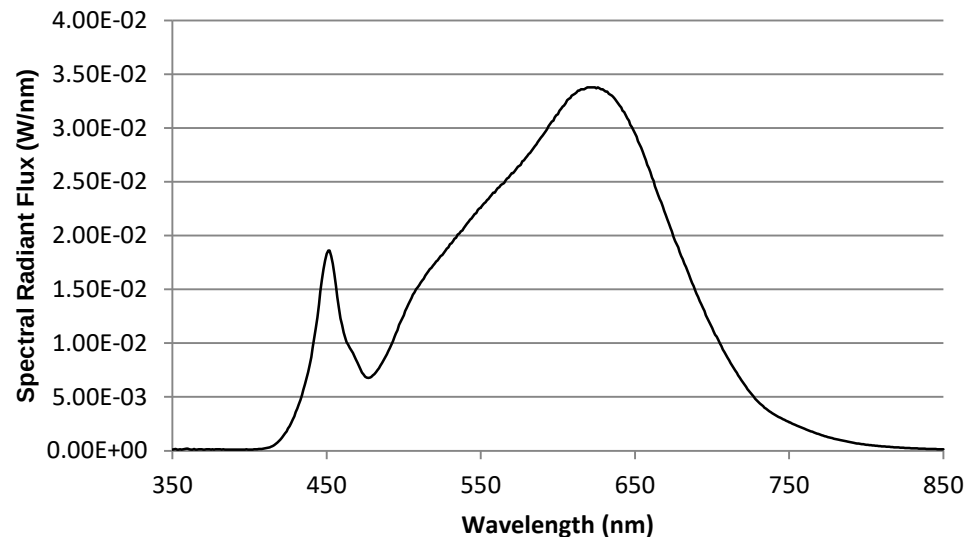
Chromaticity Diagram



Spectral Results

Name	Value	Unit
Φ	6.01	watts
$\Phi(v)$	1726	lumens
$\Phi(v')$	2424	lm'
Chrom x	0.4348	
Chrom y	0.4025	
Chrom u	0.2499	
Chrom v	0.347	
Duv	0.0004	
Chrom u'	0.2499	
Chrom v'	0.5204	
CCT	3021	K
Purity	51.3	%
λ (dom)	582.8	nm
FWHM	166.1	nm
λ (peak)	622.1	nm
λ (center)	600.4	nm
λ (centroid)	593.7	nm
SDCM	Cool White	
RA	92	
Corr. Coef.	0.000377877	
Correlation	0.0054	
R1	92.1	
R2	94.9	
R3	96.0	
R4	92.3	
R5	91.5	
R6	93.2	
R7	92.8	
R8	83.0	
R9	60.6	
R10	87.0	
R11	92.5	
R12	79.9	
R13	92.7	
R14	97.1	

Spectral Distribution of Radiant Flux





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ISSUE DATE: 06/20/18

PREPARED FOR: PROGRESS

CATALOG NUMBER: P810017-152

LUMINAIRE: 14" EdgeLit Round - White w/ Diffuse Plastic Refractor

LAMP CAT. NO.: STW912D-E1

LAMP: 84- Seoul 3000K LEDs

BALLAST CATALOG NUMBER: TRIA017C0420P-01

BALLAST: 1- LG

MOUNTING: Ceiling

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



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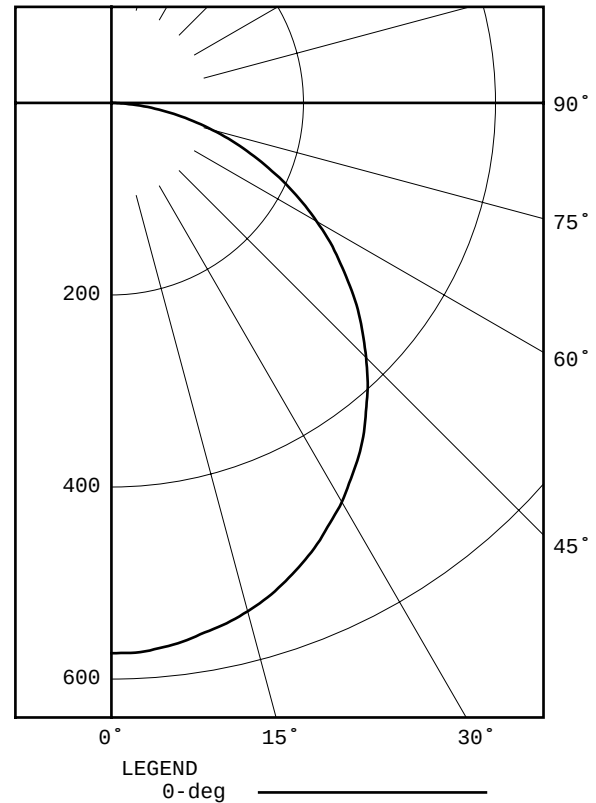
DEG	CANDELA	LUMENS
0	573	
5	570	54
15	548	155
25	507	234
35	449	281
45	375	289
55	291	261
65	201	199
75	109	115
85	26	31
90	0	

ZONAL LUMEN SUMMARY	
ZONE	LUMENS
0- 30	442
0- 40	723
0- 60	1273
0- 90	1618
90-180	0
0-180	1618

%FIXT
27.3
44.7
78.7
100.0
0.0
100.0

EFFICACY = 83.8 lm/W
CIE TYPE - DIRECT
SPACING CRITERION: 1.24
LUMINOUS DIAMETER: 12.500

LUMINANCE DATA IN CANDELA/SQ M
ANGLE AVERAGE
IN DEG
45
55
65
75
85





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CANDELA DISTRIBUTION

0.0	573
2.5	573
5.0	570
7.5	566
10.0	560
12.5	555
15.0	548
17.5	540
20.0	530
22.5	519
25.0	507
27.5	493
30.0	480
32.5	464
35.0	449
37.5	432
40.0	413
42.5	395
45.0	375
47.5	355
50.0	335
52.5	313
55.0	291
57.5	270
60.0	247
62.5	224
65.0	201
67.5	177
70.0	154
72.5	132
75.0	109
77.5	87
80.0	66
82.5	46
85.0	26
87.5	10
90.0	0



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5-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	5	14
5-	10	40
10-	15	66
15-	20	89
20-	25	109
25-	30	125
30-	35	137
35-	40	144
40-	45	146
45-	50	143
50-	55	136
55-	60	125
60-	65	109
65-	70	90
70-	75	69
75-	80	47
80-	85	25
85-	90	6

10-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	10	54
0-	20	209
0-	30	442
0-	40	723
0-	50	1012
0-	60	1273
0-	70	1471
0-	80	1587
0-	90	1618



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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC RW	80				70				50			30			10			0
	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	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	69
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43
6	70	56	47	41	68	56	47	41	54	46	40	52	45	40	50	44	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	41	36	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	32	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	52	39	31	26	38	31	26	37	31	26	36	30	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: GE 1000W, 120V, T6, CL (FEL)

Lamp Number: ITL78966-1000-38

Calibration Current: 8.300 Amps DC

Total Luminous Flux: 25889.0 Lumens

Calibration Date: 07/10/2017

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL/HLI LAB 1 - Test Distance: 31.74'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27071V	10/25/2018
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	176F4E3	10/26/2018

Sphere Calibration

Calibration Lamp: EIKO 28V75W/E10

Lamp Number: SCL-1400-J136

Calibration Current: 2.679 Amps

Total Luminous Flux: 1427 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	Checked Daily
<i>Thermometer</i>	National Instruments / USB TC01	1912751	10/26/2018
<i>LAMP Power Meter</i>	Yokogawa / WT332	C2QA27075V	10/25/2018
<i>Power Supply</i>	Chroma / 61602	616020002113	N/A
<i>Aux Lamp Supply</i>	Labsphere / LPS-100-0833	0331159372	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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