

Project Number  
17.02751



Date  
10/9/2017

LAB 1  
Sphere

### Test Sample Description

Catalog Number: P900002-028-27  
Description: LED Track Kit w/ Three White Medium Track Heads - Spaced 17" On-Center

### Photometry

Test Method: IES LM-79-08 § 10  
Preburn Time: 00:05  
Time To Stabilize: 0:55  
Total Operating Time: 1:54  
  
Input Voltage (Volts): 120.1  
Input Current (Amps): 0.241  
Input Wattage (Watts): 28.7  
Ambient Temp (°C): 25.2

### Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1  
Preburn Time: 1:00  
Time To Stabilize: 1:05  
Total Operating Time: 2:05  
  
Input Voltage (Volts): 120.0  
Input Current (Amps): 0.238  
Input Wattage (Watts): 28.3  
Ambient Temp (°C): 24.0  
PF @ 120V: 0.99  
THD @ 120V (%): 12.5



### Hubbell Lighting, Inc.

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Greenville, SC 29607  
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Checked (sphere): B. LEE  
Checked (photometry): D. ROBBINS  
Approved: P. McCARTHY



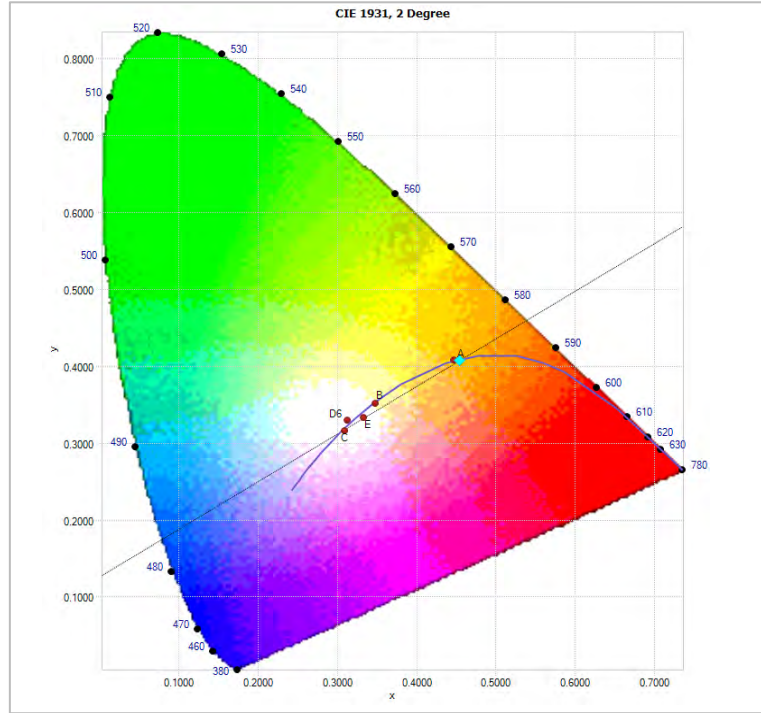
This report shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.



Lamp Cat#: SAW9A32E-E1  
 Lamp Desc: 42 - Seoul Semiconductor 2700K LEDs  
 Driver Desc: 1 - Buckingham XYZ-PRS-001

Efficacy: 62.3 LPW      S/P Ratio: 1.3 LM/LM

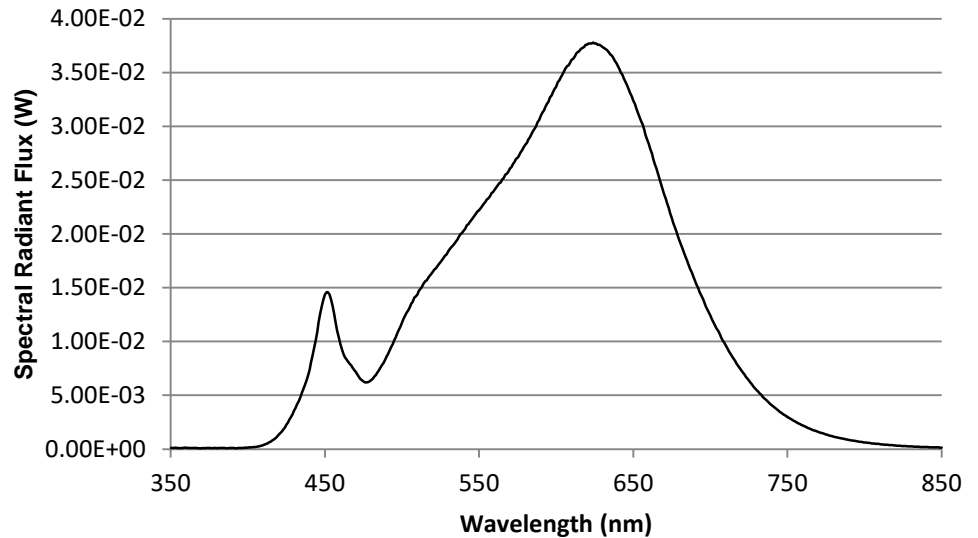
**Chromaticity Diagram**



**Spectral Results**

Name	Value	Unit
$\Phi$	6.22	watts
$\Phi(v)$	1763	lumens
$\Phi(v')$	2281	lm'
Chrom x	0.4538	
Chrom y	0.408	
Chrom u	0.2598	
Chrom v	0.3503	
Duv	0.0006	
Chrom u'	0.2598	
Chrom v'	0.5254	
CCT	2763	K
Purity	58.7	%
$\lambda$ (dom)	584.0	nm
FWHM	148.9	nm
$\lambda$ (peak)	623.4	nm
$\lambda$ (center)	606.9	nm
$\lambda$ (centroid)	599.2	nm
SDCM	Cool White	
RA	92	
Corr. Coef.	0.000492419	
Correlation	0.0054	
R1	92.2	
R2	95.5	
R3	97.1	
R4	92.4	
R5	91.8	
R6	94.7	
R7	91.8	
R8	81.2	
R9	58.3	
R10	88.5	
R11	93.1	
R12	84.2	
R13	93.0	
R14	97.6	

**Spectral Distribution of Radiant Flux**



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**ISSUE DATE:** 10/09/17

**PREPARED FOR:** PROGRESS

**CATALOG NUMBER:** P900002-028-27

**LUMINAIRE:** LED Track Kit w/ Three White, Medium Track Heads- Spaced  
17" On-Center

**LAMP CAT. NO.:** SAW9A32E-E1

**LAMP:** 42- Seoul Semiconductor 2700K LEDs

**BALLAST CATALOG NUMBER:** XYZ-PRS-001

**BALLAST:** 1- Buckingham

**MOUNTING:** Ceiling

**NOTE:** DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



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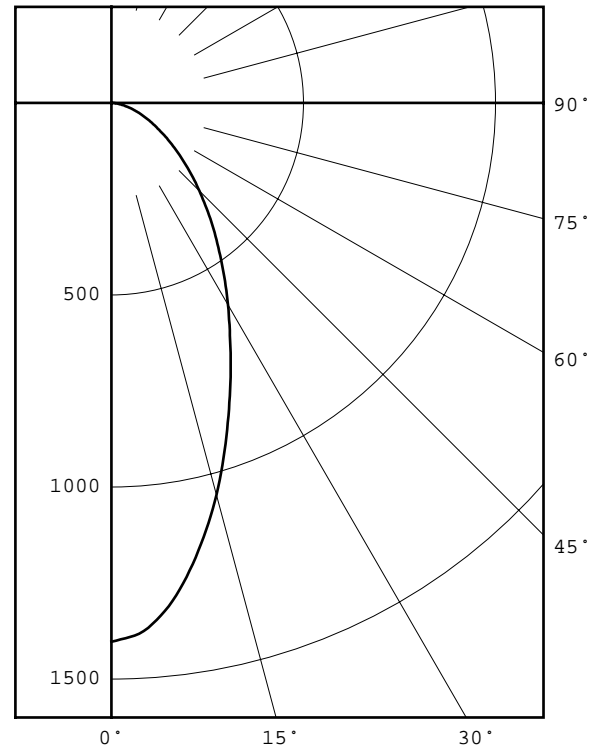
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DEG	CANDELA	LUMENS
0	1403	
5	1351	125
15	1056	294
25	735	338
35	498	312
45	324	251
55	196	177
65	109	109
75	49	53
85	12	14
90	0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	757	45.3
0- 40	1069	64.0
0- 60	1497	89.5
0- 90	1672	100.0
90-180	0	0.0
0-180	1672	100.0

EFFICACY = 58.3 lm/W  
CIE TYPE - DIRECT  
LUMINAIRE SPACING CRITERION = 0.76  
PLANE : 0-DEG 90-DEG  
SHIELDING ANGLES : 90 90  
LUMINOUS LENGTH : 8.000 1.750

LUMINANCE DATA IN CANDELA/SQ M	
ANGLE	AVERAGE
IN DEG	
45	50730.
55	37833.
65	28555.
75	20961.
85	15244.





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CANDELA DISTRIBUTION

0.0	1403
2.5	1388
5.0	1351
7.5	1293
10.0	1219
12.5	1139
15.0	1056
17.5	970
20.0	886
22.5	808
25.0	735
27.5	667
30.0	607
32.5	550
35.0	498
37.5	449
40.0	405
42.5	362
45.0	324
47.5	288
50.0	255
52.5	224
55.0	196
57.5	171
60.0	147
62.5	127
65.0	109
67.5	92
70.0	76
72.5	62
75.0	49
77.5	37
80.0	27
82.5	18
85.0	12
87.5	7
90.0	0



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		33
5- 10		92
10- 15		135
15- 20		159
20- 25		169
25- 30		169
30- 35		162
35- 40		150
40- 45		134
45- 50		117
50- 55		98
55- 60		79
60- 65		62
65- 70		47
70- 75		33
75- 80		20
80- 85		10
85- 90		4

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		125
10- 20		294
20- 30		338
30- 40		312
40- 50		251
50- 60		177
60- 70		109
70- 80		53
80- 90		14



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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	119	119	119	119	116	116	116	116	111	111	111	111	106	106	106	102	102	102	100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	88	88
2	103	96	91	86	101	95	90	85	91	87	83	88	85	81	85	82	80	78	78
3	96	87	80	75	94	86	79	74	83	78	73	80	76	72	78	74	71	69	69
4	89	79	72	66	87	78	71	66	76	70	65	73	68	64	71	67	63	61	61
5	83	72	65	59	81	71	64	59	69	63	58	68	62	58	66	61	57	55	55
6	78	67	59	53	76	66	58	53	64	58	53	62	57	52	61	56	52	50	50
7	73	61	54	49	72	61	54	48	59	53	48	58	52	48	57	51	48	46	46
8	69	57	50	45	67	56	49	44	55	49	44	54	48	44	53	48	44	42	42
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	44	40	39	39
10	61	50	43	38	60	49	43	38	48	42	38	47	42	38	47	41	38	36	36

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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Date  
10/9/2017

### *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	11/2/2017
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	176F4E3	11/7/2017

### *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	Calibrated Weekly
<i>Thermometer</i>	National Instruments / USB TC01	1912751	11/2/2017
<i>LAMP Power Meter</i>	Yokogawa / WT332	C2QA27075V	11/1/2017
<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>	Labsphere / LPS-100-0833	0331159372	10/31/2017
<i>Cal Lamp Supply</i>	Labsphere / LPS-150-0268	1218148505	12/1/2017
<i>Spectrometer</i>	Labsphere / CDS 1100	0624117792	N/A

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