

Project Number  
17.02745



Date  
10/6/2017

LAB 1  
Sphere

### Test Sample Description

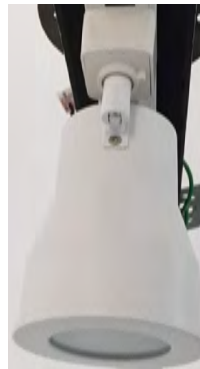
Catalog Number: P900003-028-27  
Description: Track Kit w/ Three Large White LED Track Heads- Spaced 17" On-Center

### Photometry

Test Method: IES LM-79-08 § 10  
Preburn Time: 00:05  
Time To Stabilize: 0:45  
Total Operating Time: 14:40  
  
Input Voltage (Volts): 119.9  
Input Current (Amps): 0.367  
Input Wattage (Watts): 43.6  
Ambient Temp (°C): 25.2

### Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1  
Preburn Time: 0:10  
Time To Stabilize: 1:15  
Total Operating Time: 1:25  
  
Input Voltage (Volts): 120.0  
Input Current (Amps): 0.361  
Input Wattage (Watts): 42.9  
Ambient Temp (°C): 24.0  
PF @ 120V: 0.988  
THD @ 120V (%): 14.0



### Hubbell Lighting, Inc.

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



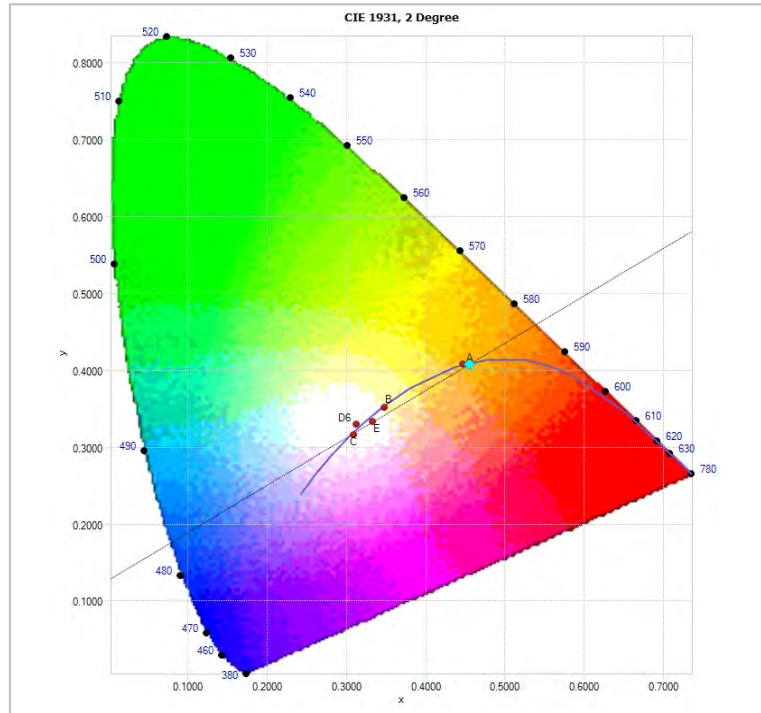
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Lamp Cat#: SAW9A32E-E1  
 Lamp Desc: 84 - Seoul Semiconductor 2700K LEDs  
 Driver Desc: 1 - Buckingham XYZ-PRS-003

Efficacy: 59.2 LPW      S/P Ratio: 1.3 LM/LM

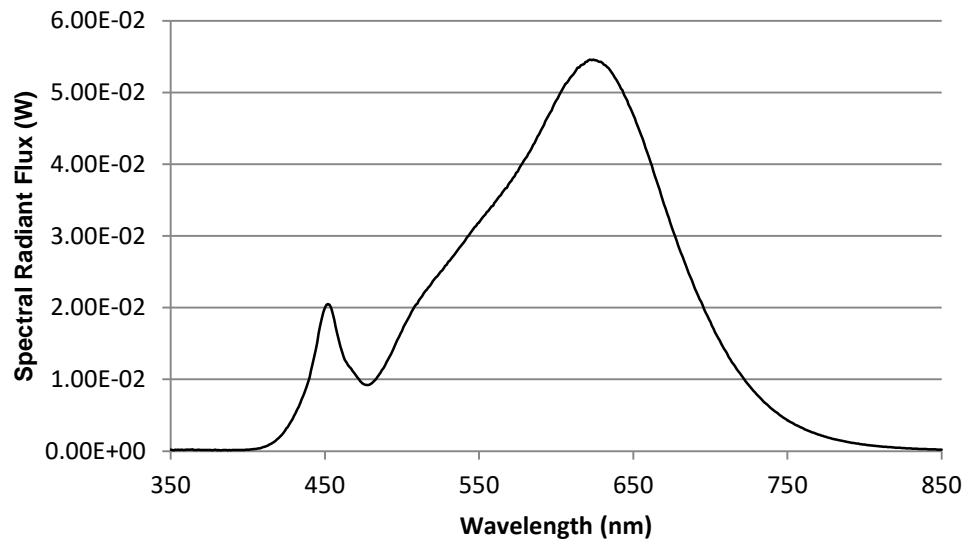
**Chromaticity Diagram**



**Spectral Results**

Name	Value	Unit
$\Phi$	8.98	watts
$\Phi(v)$	2539	lumens
$\Phi(v')$	3278	lm'
Chrom x	0.4546	
Chrom y	0.4079	
Chrom u	0.2603	
Chrom v	0.3503	
Duv	0.0007	
Chrom u'	0.2603	
Chrom v'	0.5255	
CCT	2751	K
Purity	58.9	%
$\lambda$ (dom)	584.1	nm
FWHM	148.2	nm
$\lambda$ (peak)	623.6	nm
$\lambda$ (center)	607.6	nm
$\lambda$ (centroid)	599.5	nm
SDCM	Cool White	
RA	92	
Corr. Coef.	0.000587127	
Correlation	0.0054	
R1	92.3	
R2	95.7	
R3	97.3	
R4	92.3	
R5	92.0	
R6	95.0	
R7	91.7	
R8	81.1	
R9	58.2	
R10	88.9	
R11	93.0	
R12	84.5	
R13	93.2	
R14	97.8	

**Spectral Distribution of Radiant Flux**



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**ISSUE DATE:** 10/06/17

**PREPARED FOR:** PROGRESS

**CATALOG NUMBER:** P900003-028-27

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

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

**LAMP:** 84- Seoul Semiconductor 2700K LEDs

**BALLAST CATALOG NUMBER:** XYZ-PR1-003

**BALLAST:** 1- Buckingham

**MOUNTING:** Ceiling

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



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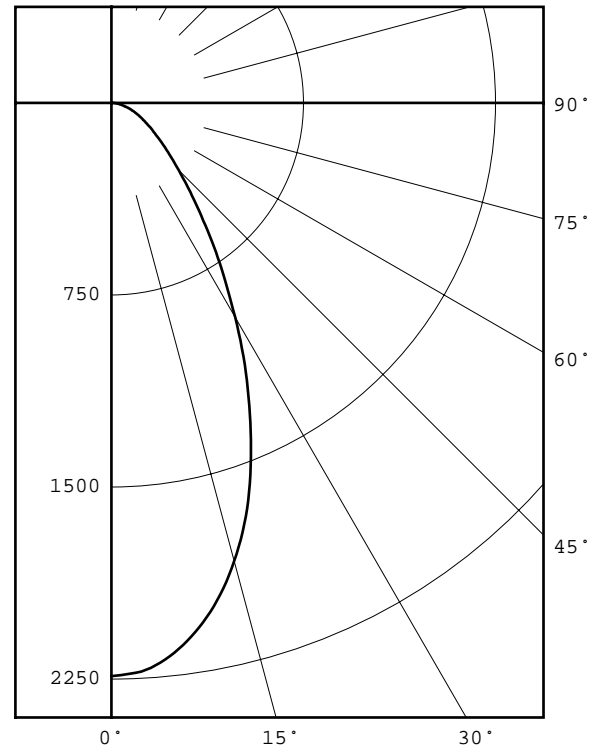
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DEG	CANDELA	LUMENS
0	2239	
5	2194	205
15	1853	515
25	1268	580
35	711	447
45	372	292
55	207	188
65	119	119
75	59	64
85	19	20
90	0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	1300	53.5
0- 40	1747	71.9
0- 60	2227	91.7
0- 90	2429	100.0
90-180	0	0.0
0-180	2429	100.0

EFFICACY = 55.7 lm/W  
CIE TYPE - DIRECT  
LUMINAIRE SPACING CRITERION = 0.83  
PLANE : 0-DEG 90-DEG  
SHIELDING ANGLES : 90 90  
LUMINOUS LENGTH : 8.250 2.750

LUMINANCE DATA IN CANDELA/SQ M	
ANGLE	AVERAGE
IN DEG	
45	35942.
55	24656.
65	19237.
75	15574.
85	14894.





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CANDELA DISTRIBUTION

0.0	2239
2.5	2227
5.0	2194
7.5	2136
10.0	2060
12.5	1966
15.0	1853
17.5	1725
20.0	1581
22.5	1424
25.0	1268
27.5	1116
30.0	966
32.5	830
35.0	711
37.5	602
40.0	512
42.5	436
45.0	372
47.5	319
50.0	276
52.5	239
55.0	207
57.5	181
60.0	158
62.5	137
65.0	119
67.5	103
70.0	87
72.5	73
75.0	59
77.5	47
80.0	37
82.5	27
85.0	19
87.5	8
90.0	0



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		53
5- 10		152
10- 15		232
15- 20		283
20- 25		298
25- 30		282
30- 35		245
35- 40		202
40- 45		162
45- 50		130
50- 55		104
55- 60		84
60- 65		67
65- 70		52
70- 75		38
75- 80		25
80- 85		15
85- 90		5

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		205
10- 20		515
20- 30		580
30- 40		447
40- 50		292
50- 60		188
60- 70		119
70- 80		64
80- 90		20



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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	119	116	116	116	116	111	111	111	111	111	106	106	106	102	102	102	100	
1	112	108	105	102	102	109	106	103	100	102	99	97	98	96	94	94	93	92	94	93	92	90
2	104	98	93	89	89	102	96	92	88	93	89	86	90	87	84	87	84	82	87	84	82	80
3	98	90	83	78	78	95	88	82	78	85	80	76	83	79	75	80	77	74	80	77	74	72
4	91	82	75	70	70	89	81	75	70	79	73	69	76	72	68	74	70	67	74	70	67	65
5	86	76	69	63	63	84	75	68	63	73	67	62	71	66	62	69	65	61	69	65	61	60
6	81	70	63	58	58	79	69	62	58	68	62	57	66	61	57	65	60	56	65	60	56	55
7	76	65	58	53	53	75	64	58	53	63	57	53	62	56	52	61	56	52	61	56	52	50
8	72	61	54	49	49	71	60	54	49	59	53	49	58	52	48	57	52	48	57	52	48	47
9	68	57	50	46	46	67	56	50	45	55	49	45	54	49	45	54	49	45	54	49	45	43
10	65	54	47	43	43	63	53	47	42	52	46	42	51	46	42	51	46	42	51	46	42	41

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	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	033159372	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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