

Project Number
17.02746



Date
10/5/2017

LAB 1
Sphere

Test Sample Description

Catalog Number: P900003-031-27
Description: Track Kit w/ Three Large Black LED Track Heads- Spaced 18" On-Center

Photometry

Test Method: IES LM-79-08 § 10
Preburn Time: 00:15
Time To Stabilize: 0:30
Total Operating Time: 2:42

Input Voltage (Volts): 120.3
Input Current (Amps): 0.365
Input Wattage (Watts): 43.5
Ambient Temp (°C): 25.1

Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1
Preburn Time: 1:00
Time To Stabilize: 1:23
Total Operating Time: 2:23

Input Voltage (Volts): 120.0
Input Current (Amps): 0.361
Input Wattage (Watts): 42.9
Ambient Temp (°C): 24.1
PF @ 120V: 0.988
THD @ 120V (%): 13.5



Hubbell Lighting, Inc.

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Greenville, SC 29607
www.hubbellighting.com

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



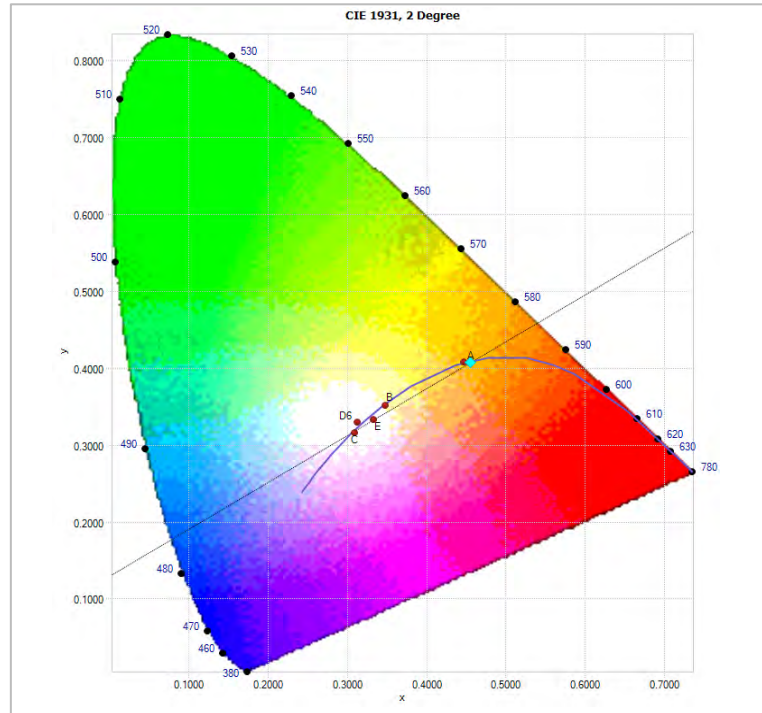
This report shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.



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

Efficacy: 56.3 LPW S/P Ratio: 1.3 LM/LM

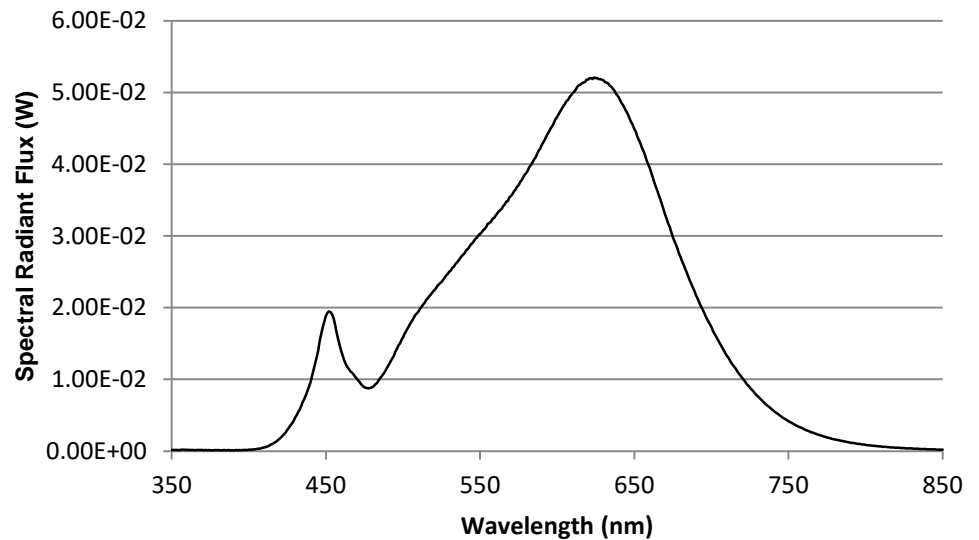
Chromaticity Diagram



Spectral Results

Name	Value	Unit
Φ	8.57	watts
Φ(v)	2416	lumens
Φ(v')	3108	lm'
Chrom x	0.4555	
Chrom y	0.4078	
Chrom u	0.2609	
Chrom v	0.3504	
Duv	0.0009	
Chrom u'	0.2609	
Chrom v'	0.5256	
CCT	2739	K
Purity	59.1	%
λ (dom)	584.2	nm
FWHM	148	nm
λ (peak)	625	nm
λ (center)	607.9	nm
λ (centroid)	599.9	nm
SDCM	Cool White	
RA	92	
Corr. Coef.	0.000668903	
Correlation	0.0054	
R1	92.4	
R2	95.8	
R3	97.4	
R4	92.3	
R5	92.0	
R6	95.1	
R7	91.6	
R8	81.1	
R9	58.3	
R10	89.1	
R11	93.0	
R12	84.8	
R13	93.2	
R14	97.8	

Spectral Distribution of Radiant Flux



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PAGE: 2 OF 8

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LUMINAIRE: Track Kit w/ Three Large Black LED Track Heads-
Spaced 18" On-Center

LAMP CAT. NO.: SAW9A32E-E1

LAMP: 84- Seoul Semiconductor 2700K LEDs

BALLAST CATALOG NUMBER: XYZ-PRS-003

BALLAST: 1- Buckingham

MOUNTING: Ceiling

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



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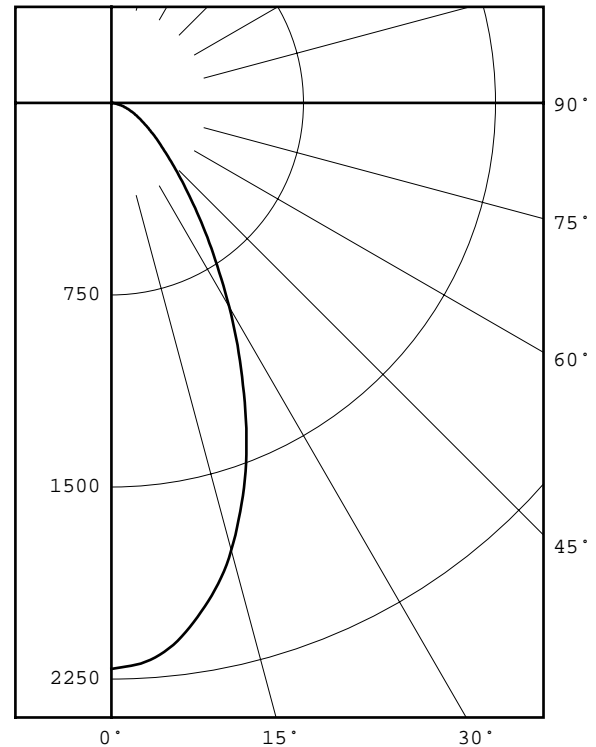
PAGE: 4 OF 8

DEG	CANDELA	LUMENS
0	2210	
5	2163	202
15	1809	502
25	1216	557
35	667	420
45	338	266
55	181	164
65	97	97
75	41	44
85	5	8
90	0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	1260	55.8
0- 40	1681	74.4
0- 60	2111	93.4
0- 90	2259	100.0
90-180	0	0.0
0-180	2259	100.0

EFFICACY = 51.9 lm/W
CIE TYPE - DIRECT
LUMINAIRE SPACING CRITERION = 0.82
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	32657.
55	21559.
65	15681.
75	10823.
85	3919.





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PAGE: 5 OF 8

CANDELA DISTRIBUTION

0.0	2210
2.5	2196
5.0	2163
7.5	2102
10.0	2018
12.5	1924
15.0	1809
17.5	1673
20.0	1532
22.5	1376
25.0	1216
27.5	1066
30.0	920
32.5	784
35.0	667
37.5	563
40.0	473
42.5	400
45.0	338
47.5	287
50.0	246
52.5	211
55.0	181
57.5	155
60.0	133
62.5	114
65.0	97
67.5	81
70.0	67
72.5	54
75.0	41
77.5	30
80.0	20
82.5	11
85.0	5
87.5	2
90.0	0



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PAGE: 6 OF 8

5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		52
5- 10		150
10- 15		227
15- 20		275
20- 25		288
25- 30		269
30- 35		232
35- 40		189
40- 45		149
45- 50		117
50- 55		92
55- 60		72
60- 65		56
65- 70		41
70- 75		28
75- 80		16
80- 85		6
85- 90		1

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		202
10- 20		502
20- 30		557
30- 40		420
40- 50		266
50- 60		164
60- 70		97
70- 80		44
80- 90		8



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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	119	119	119	119	116	116	116	116	111	111	111	111	106	106	106	102	102	102	100
1	112	109	106	103	110	106	104	101	102	100	98	99	97	95	95	94	92	91	91
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	81	81
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75	74	74
4	92	83	77	72	90	82	76	71	80	75	70	78	73	70	76	72	69	67	67
5	87	77	70	65	85	76	70	65	74	68	64	72	67	63	71	66	63	61	61
6	82	71	64	59	80	71	64	59	69	63	59	67	62	58	66	61	58	56	56
7	77	67	60	55	76	66	59	55	64	59	54	63	58	54	62	57	54	52	52
8	73	62	55	51	72	62	55	51	60	54	50	59	54	50	58	53	50	48	48
9	69	58	52	47	68	58	51	47	57	51	47	56	50	47	55	50	46	45	45
10	66	55	48	44	65	54	48	44	53	48	44	53	47	44	52	47	44	42	42

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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10/5/2017

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	031159372	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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