

Project Number
17.02750



HUBBELL
Lighting

Date
10/6/2017

LAB 1
Sphere

Test Sample Description

Catalog Number: P900001-031-27
Description: LED Track Kit w/ One Large Black Track-Head

Photometry

Test Method: IES LM-79-08 § 10
Preburn Time: 00:10
Time To Stabilize: 0:30
Total Operating Time: 1:46

Input Voltage (Volts): 120.0
Input Current (Amps): 0.121
Input Wattage (Watts): 14.4
Ambient Temp (°C): 25.3

Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1
Preburn Time: 0:10
Time To Stabilize: 0:49
Total Operating Time: 0:59

Input Voltage (Volts): 120.0
Input Current (Amps): 0.120
Input Wattage (Watts): 14.3
Ambient Temp (°C): 24.0
PF @ 120V: 0.991
THD @ 120V (%): 13.7



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Greenville, SC 29607
www.hubbellighting.com

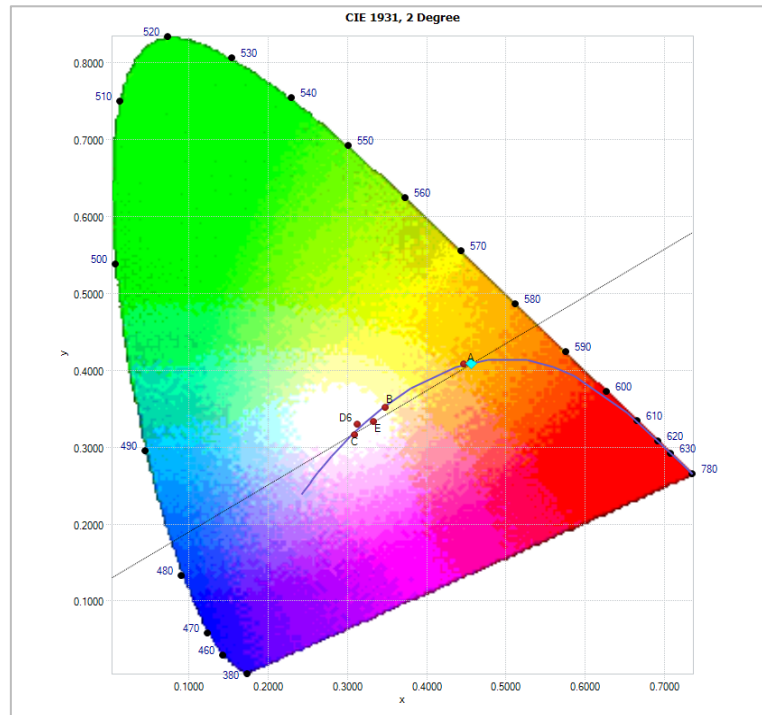
Checked (sphere): B. LEE
Checked (photometry): D. ROBBINS
Approved: P. McCARTHY



Lamp Cat#: SAW9A32E-E1
 Lamp Desc: 28 - Seoul Semiconductor 2700K LEDs
 Driver Desc: 1 - Buckingham XYZ-PRS-003

Efficacy: 54.5 LPW S/P Ratio: 1.3 LM/LM

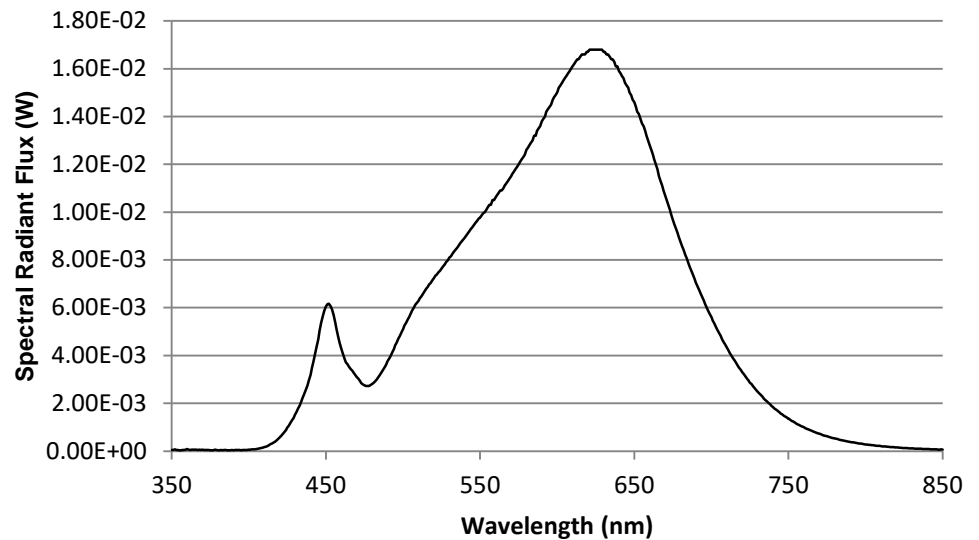
Chromaticity Diagram



Spectral Results

Name	Value	Unit
Φ	2.76	watts
Φ(v)	780	lumens
Φ(v')	998	lm'
Chrom x	0.4564	
Chrom y	0.4086	
Chrom u	0.2611	
Chrom v	0.3507	
Duv	0.0007	
Chrom u'	0.2611	
Chrom v'	0.5261	
CCT	2732	K
Purity	59.6	%
λ (dom)	584.2	nm
FWHM	148.1	nm
λ (peak)	624.2	nm
λ (center)	607.9	nm
λ (centroid)	600.2	nm
SDCM	Cool White	
RA	92	
Corr. Coef.	0.000479169	
Correlation	0.0054	
R1	92.2	
R2	95.5	
R3	97.2	
R4	92.3	
R5	91.8	
R6	94.8	
R7	91.8	
R8	81.1	
R9	58.2	
R10	88.6	
R11	93.1	
R12	84.6	
R13	93.0	
R14	97.6	

Spectral Distribution of Radiant Flux



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



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LUMINAIRE: LED Track Kit w/ One Large Black Track-Head

LAMP CAT. NO.: SAW9A32E-E1

LAMP: 28- 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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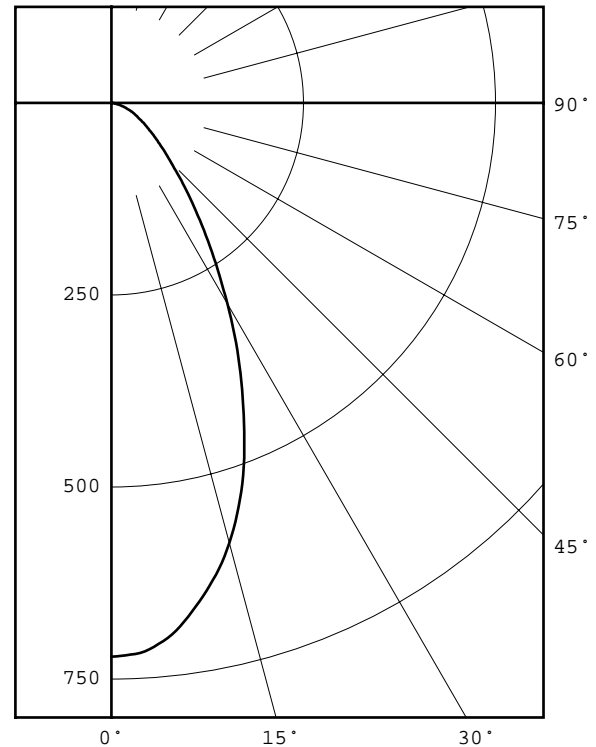
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DEG	CANDELA	LUMENS
0	721	
5	707	66
15	593	165
25	400	183
35	219	138
45	110	87
55	59	54
65	32	32
75	13	14
85	1	2
90	0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	414	55.9
0- 40	552	74.6
0- 60	692	93.6
0- 90	740	100.0
90-180	0	0.0
0-180	740	100.0

EFFICACY = 51.4 lm/W
CIE TYPE - DIRECT
LUMINAIRE SPACING CRITERION = 0.82
PLANE : 0-DEG 90-DEG
SHIELDING ANGLES : 90 90
LUMINOUS DIAMETER: 2.750

LUMINANCE DATA IN CANDELA/SQ M	
ANGLE	AVERAGE
IN DEG	
45	40596.
55	26843.
65	19760.
75	13108.
85	2994.





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CANDELA DISTRIBUTION

0.0	721
2.5	718
5.0	707
7.5	687
10.0	659
12.5	629
15.0	593
17.5	551
20.0	504
22.5	451
25.0	400
27.5	351
30.0	302
32.5	258
35.0	219
37.5	185
40.0	156
42.5	131
45.0	110
47.5	94
50.0	80
52.5	69
55.0	59
57.5	51
60.0	43
62.5	37
65.0	32
67.5	27
70.0	21
72.5	17
75.0	13
77.5	9
80.0	6
82.5	3
85.0	1
87.5	0
90.0	0



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5-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	5	17
5-	10	49
10-	15	74
15-	20	90
20-	25	94
25-	30	89
30-	35	76
35-	40	62
40-	45	49
45-	50	38
50-	55	30
55-	60	24
60-	65	18
65-	70	14
70-	75	9
75-	80	5
80-	85	2
85-	90	0

10-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	10	66
10-	20	165
20-	30	183
30-	40	138
40-	50	87
50-	60	54
60-	70	32
70-	80	14
80-	90	2



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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	119	116	116	116	116	111	111	111	111	111	106	106	106	102	102	102	100
1	112	109	106	103	103	110	107	104	101	102	100	98	99	97	95	95	94	93	93	93	91
2	105	99	94	90	90	103	97	93	89	94	90	87	91	88	85	88	86	83	83	83	82
3	99	91	85	80	80	96	89	84	79	87	82	78	84	80	77	82	78	76	76	76	74
4	92	83	77	72	72	90	82	76	71	80	75	70	78	73	70	76	72	69	69	69	67
5	87	77	70	65	65	85	76	70	65	74	69	64	72	67	64	71	66	63	63	63	61
6	82	72	65	60	60	80	71	64	59	69	63	59	68	62	58	66	62	58	58	58	56
7	77	67	60	55	55	76	66	59	55	65	59	54	63	58	54	62	57	54	54	54	52
8	73	62	55	51	51	72	62	55	51	60	55	50	59	54	50	58	53	50	50	50	48
9	69	58	52	47	47	68	58	51	47	57	51	47	56	51	47	55	50	47	47	47	45
10	66	55	48	44	44	65	54	48	44	54	48	44	53	47	44	52	47	44	44	44	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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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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