

Project Number
18.00095



HUBBELL
Lighting

Date
2/2/2018

LAB 1
Sphere

Test Sample Description

Catalog Number: P710049-129-30
Description: 11" LED Wall Sconce w/ Etched Opal Refractor

Photometry

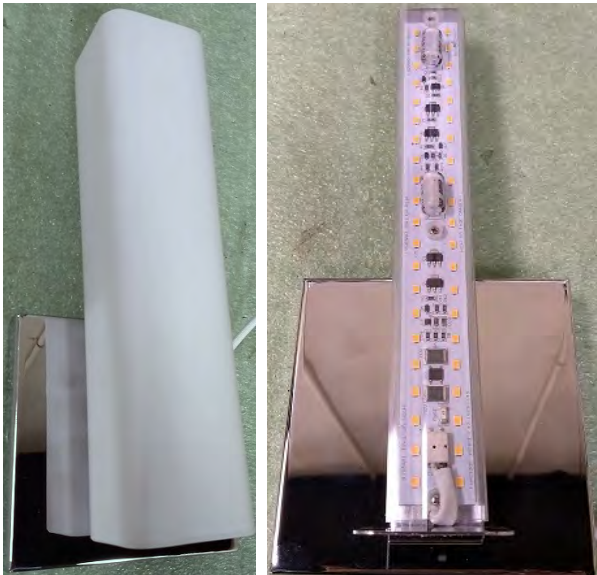
Test Method: IES LM-46-04
IES LM-79-08 §10
Preburn Time: 0:10
Time To Stabilize: 1:00
Total Operating Time: 1:49

Input Voltage (Volts): 119.9
Input Current (Amps): 0.139
Input Wattage (Watts): 16.5
Ambient Temp (°C): 26

Sphere

Test Method: IES LM-16-93
IES LM-79-08 §12.1
Preburn Time: 2:00
Time To Stabilize: 1:22
Total Operating Time: 3:22

Input Voltage (Volts): 120.0
Input Current (Amps): 0.139
Input Wattage (Watts): 16.5
Ambient Temp (°C): 24.0
PF @ 120V: 0.986
THD @ 120V (%): 13.9



Hubbell Lighting, Inc.

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

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



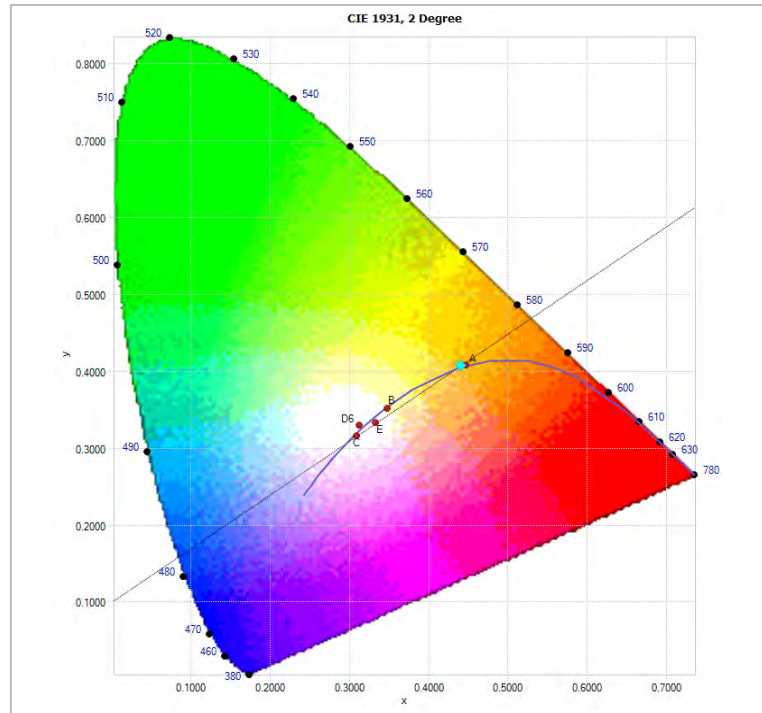
This report shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.



Lamp Cat#: EVAC120C- 3528SE-L42-14S3P-145
 Lamp Desc: 42 - Seoul 3000K LEDs
 Driver Desc: NA

Efficacy: 62.8 LPW S/P Ratio: 1.4 LM/LM

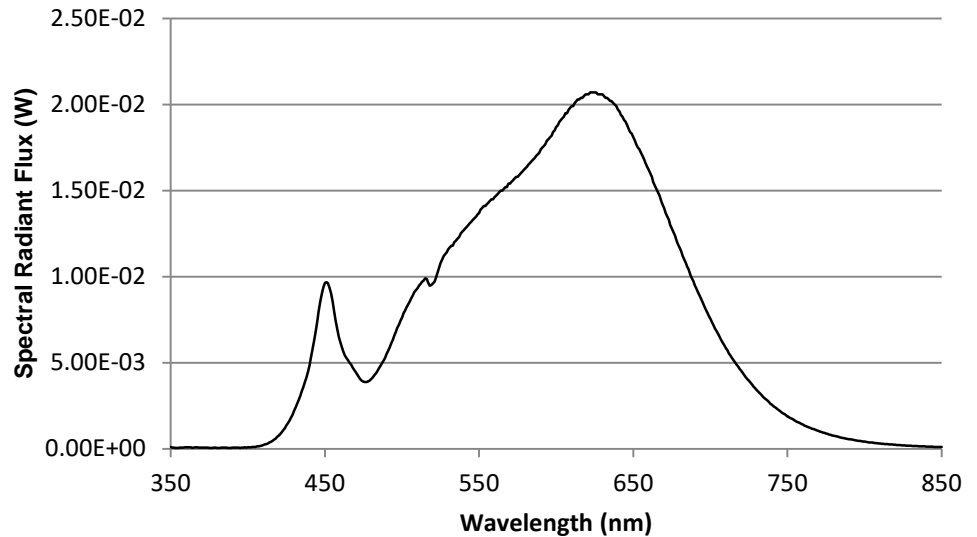
Chromaticity Diagram



Spectral Results

Name	Value	Unit
Φ	3.66	watts
Φ(v)	1036	lumens
Φ(v')	1423	lm'
Chrom x	0.4405	
Chrom y	0.408	
Chrom u	0.2512	
Chrom v	0.349	
Duv	0.0009	
Chrom u'	0.2512	
Chrom v'	0.5234	
CCT	2971	K
Purity	54.7	%
λ (dom)	582.6	nm
FWHM	162.7	nm
λ (peak)	628.2	nm
λ (center)	604.7	nm
λ (centroid)	597.4	nm
SDCM	Cool White	
RA	92	
Corr. Coef.	0.001090703	
Correlation	0.0054	
R1	92.2	
R2	94.5	
R3	95.1	
R4	92.8	
R5	91.4	
R6	92.6	
R7	94.0	
R8	84.4	
R9	62.8	
R10	86.0	
R11	92.7	
R12	79.8	
R13	92.5	
R14	96.6	

Spectral Distribution of Radiant Flux





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PREPARED FOR: PROGRESS

CATALOG NUMBER: P710047-150-30

LUMINAIRE: 11" LED Wall Bracket w/ Etched Opal Refractor

LAMP CAT. NO.: EVAC120C- 3528SE-L42-14S3P-145

LAMP: 42- Seoul 3000K LEDs

MOUNTING: Wall

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



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CANDELA DISTRIBUTION

	0.0	45.0	90.0	135.0	180.0
0	4	4	4	4	4
5	11	12	11	10	6
15	32	35	26	15	7
25	49	58	40	21	6
35	66	79	54	29	5
45	83	98	67	36	4
55	96	114	78	43	5
65	107	127	87	48	6
75	115	136	93	52	9
85	120	141	96	55	10
90	118	140	95	54	10
95	119	140	96	56	11
105	116	136	93	56	12
115	118	127	87	53	12
125	115	118	79	51	13
135	99	100	68	45	12
145	80	86	58	41	11
155	65	65	45	34	11
165	40	41	29	22	8
175	0	1	1	1	1
180	0	0	0	0	0

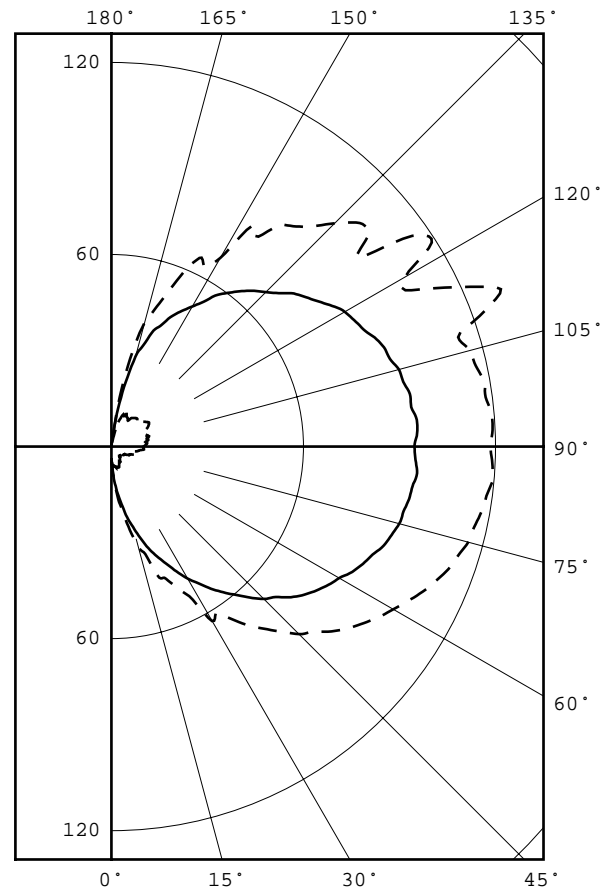
FLUX

1
7
18
32
48
65
81
92
99
99
94
85
71
54
37
8
0

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	26	2.8
0- 40	58	6.3
0- 60	172	18.8
0- 90	443	48.5
90-120	279	30.5
90-130	350	38.3
90-150	441	48.3
90-180	471	51.5
0-180	914	100.0

EFFICACY = 55.4 lm/W
CIE TYPE - GENERAL DIFFUSE
PLANE : 0-DEG 90-DEG
SHIELDING ANGLES : 90 90



LEGEND
0-deg - - - - -
90-deg - - - - -
180-deg - . - . -



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PLANE : 0-DEG 90-DEG
LUMINOUS LENGTH : 2.250 2.250
HEIGHT OF SIDE : 9.750 9.750

LUMINANCE DATA IN CANDELA/SQ M
ANGLE AVERAGE AVERAGE AVERAGE
IN DEG 0-DEG 90-DEG 180-DEG
45 6730. 5464. 325.
55 7143. 5814. 342.
65 7552. 6102. 436.
75 7950. 6413. 586.
85 8308. 6667. 709.



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CANDELA DISTRIBUTION
LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0.0	4	4	4	4	4	4	4	4	4
5.0	11	12	12	12	11	12	10	8	6
10.0	21	23	24	21	18	17	13	9	6
15.0	32	36	35	31	26	24	15	9	7
20.0	44	50	48	41	34	30	18	10	7
25.0	49	58	58	50	40	35	21	9	6
30.0	63	70	68	59	48	42	25	10	6
35.0	66	80	79	68	54	47	29	11	5
40.0	74	90	88	76	61	52	32	12	4
45.0	83	101	98	85	67	58	36	14	4
50.0	90	108	107	93	73	64	39	15	4
55.0	96	117	114	99	78	68	43	17	5
60.0	102	121	120	104	82	71	45	17	5
65.0	107	128	127	110	87	75	48	19	6
70.0	112	133	132	114	91	78	50	21	7
75.0	115	137	136	118	93	81	52	23	9
80.0	117	139	139	120	94	82	53	23	8
85.0	120	142	141	122	96	83	55	26	10
90.0	118	141	140	121	95	83	54	26	10
95.0	119	141	140	122	96	84	56	28	11
100.0	118	139	139	120	95	83	56	29	12
105.0	116	136	136	118	93	82	56	29	12
110.0	124	146	137	115	91	80	55	30	13
115.0	118	133	127	112	87	76	53	29	12
120.0	106	131	123	106	84	74	53	31	13
125.0	115	124	118	100	79	71	51	30	13
130.0	105	117	108	95	74	66	49	29	13
135.0	99	110	100	87	68	61	45	28	12
140.0	90	101	95	80	63	57	44	29	12
145.0	80	93	86	73	58	52	41	28	11
150.0	68	82	75	64	51	46	36	24	10
155.0	65	69	65	56	45	42	34	23	11
160.0	51	57	52	47	39	36	30	19	11
165.0	40	45	41	36	29	27	22	14	8
170.0	19	17	17	15	12	11	8	4	1
175.0	0	1	1	1	1	1	1	1	1
180.0	0	0	0	0	0	0	0	0	0



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5-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	5	0
5-	10	1
10-	15	3
15-	20	5
20-	25	7
25-	30	10
30-	35	14
35-	40	18
40-	45	22
45-	50	26
50-	55	31
55-	60	35
60-	65	38
65-	70	42
70-	75	45
75-	80	47
80-	85	49
85-	90	50
90-	95	50
95-	100	49
100-	105	48
105-	110	46
110-	115	45
115-	120	41
120-	125	38
125-	130	33
130-	135	29
135-	140	25
140-	145	21
145-	150	16
150-	155	12
155-	160	9
160-	165	6
165-	170	3
170-	175	0
175-	180	0

10-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	10	1
0-	20	8
0-	30	26
0-	40	58
0-	50	106
0-	60	172
0-	70	252
0-	80	344
0-	90	443
0-	100	542
0-	110	636
0-	120	722
0-	130	793
0-	140	847
0-	150	884
0-	160	906
0-	170	914
0-	180	914



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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	107	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55	48
1	92	85	79	74	74	84	78	73	68	64	60	56	51	48	45	40	37	35	29
2	82	71	63	56	56	74	65	58	51	53	47	42	42	38	34	32	28	26	20
3	73	61	52	44	44	66	55	47	40	45	39	33	35	30	26	26	23	19	15
4	66	53	43	36	36	60	48	39	33	39	32	27	30	25	21	23	19	15	11
5	60	46	37	30	30	54	42	33	27	34	27	22	27	21	17	20	16	12	9
6	55	41	32	25	25	50	37	29	23	30	24	19	24	18	14	18	13	10	7
7	51	37	28	21	21	46	33	25	19	27	21	16	21	16	12	16	12	9	6
8	47	33	24	18	18	42	30	22	17	24	18	14	19	14	10	14	10	7	5
9	43	30	21	16	16	39	27	20	15	22	16	12	18	13	9	13	9	6	4
10	40	27	19	14	14	37	25	18	13	20	14	10	16	11	8	12	8	6	3

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.



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>
Goniophotometer	ITL/HLI LAB 1 - Test Distance: 31.74'	N/A	N/A
Power Analyzer	Yokogawa / WT 332	C2QA27071V	10/25/2018
Power Source	Voltage-Regulated House Power	N/A	N/A
Thermometer	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>
3-Meter Sphere	Labsphere / LMS-3M	N/A	Checked Daily
Thermometer	National Instruments / USB TC01	1912751	10/26/2018
LAMP Power Meter	Yokogawa / WT332	C2QA27075V	10/25/2018
Power Supply	Chroma / 61602	616020002113	N/A
Power Supply PF/THD	Voltage-Regulated House Power	N/A	N/A
Aux Lamp Supply	Labsphere / LPS-100-0833	0331159372	N/A
Cal Lamp Supply	Labsphere / LPS-150-0268	1218148505	N/A
Spectrometer	Labsphere / CDS 1100	0624117792	N/A

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