

Project Number
17.00400



Date
2/13/2017

LAB 6
Sphere

Test Sample Description

Catalog Number: P7250-17430K9
Description: 18" LED Flush Mount

Photometry

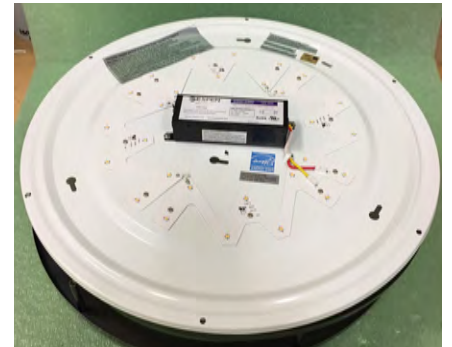
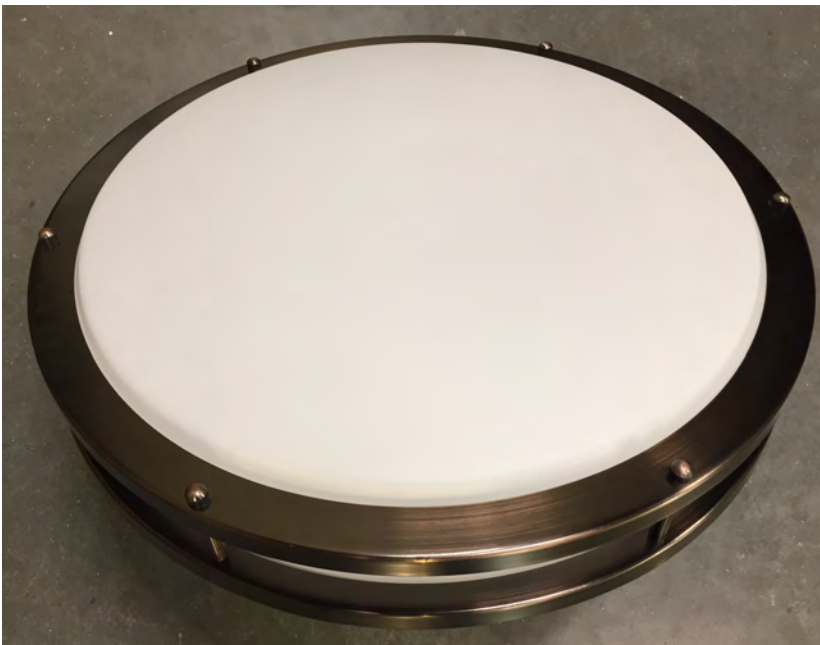
Test Method: IES LM-79-08 § 10
Preburn Time: 3:00
Time To Stabilize: 0:44
Total Operating Time: 4:00

Input Voltage (Volts): 120.1
Input Current (Amps): 0.249
Input Wattage (Watts): 29.8
Ambient Temp (°C): 24.4
PF @ 120V: 0.996

Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1
Preburn Time: 1:00
Time To Stabilize: 0:56
Total Operating Time: 1:56

Input Voltage (Volts): 120.0
Input Current (Amps): 0.250
Input Wattage (Watts): 29.8
Ambient Temp (°C): 24.2



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Greenville, SC 29607
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Checked (sphere): B. LEE
Checked (photometry): M. ELLMANN
Approved: D. BLACK



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#: STW9C2SA

Lamp Desc: 28 - Seoul 3000K LEDs

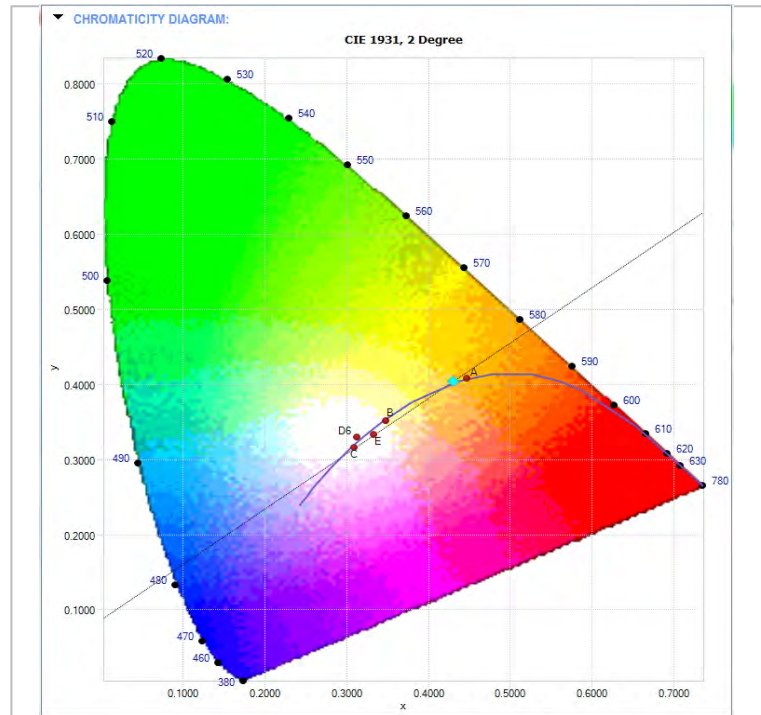
Driver Desc: 1 - Espen VEL30105120HDA-1

Efficacy: 63.9 LPW

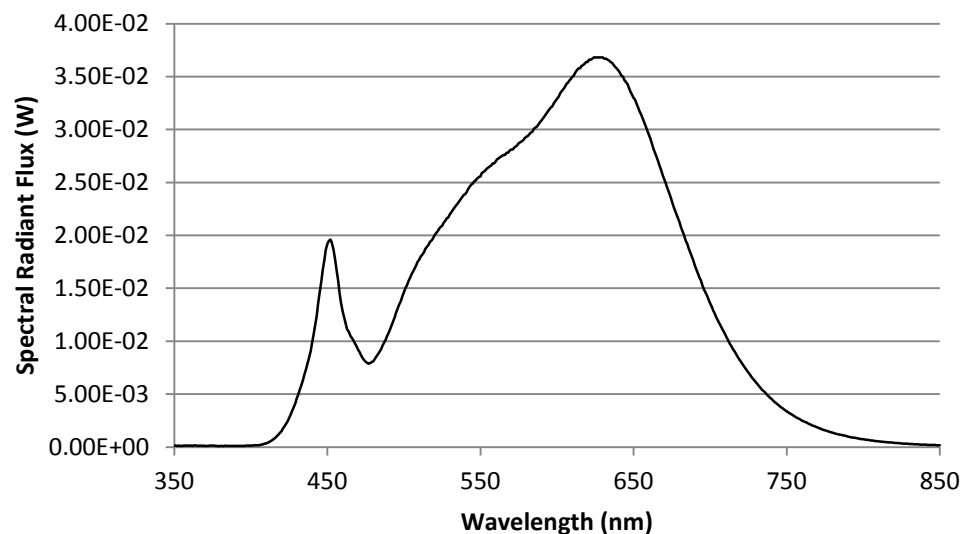
S/P Ratio: 1.4 LM/LM

Spectral Results

Name	Value	Unit
Φ	6.75	watts
$\Phi(v)$	1903	lumens
$\Phi(v')$	2748	lm'
Chrom x	0.43	
Chrom y	0.4046	
Chrom u	0.2459	
Chrom v	0.347	
Duv	0.0008	
Chrom u'	0.2459	
Chrom v'	0.5206	
CCT	3121	K
Purity	50.5	%
λ (dom)	581.9	nm
FWHM	174.1	nm
λ (peak)	625.4	nm
λ (center)	599.9	nm
λ (centroid)	594.8	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.001223543	
Correlation	0.0054	
R1	93.6	
R2	94.8	
R3	94.4	
R4	94.2	
R5	92.7	
R6	92.8	
R7	95.4	
R8	87.9	
R9	70.0	
R10	86.6	
R11	94.2	
R12	79.4	
R13	93.7	
R14	96.1	



Spectral Distribution of Radiant Flux



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REPORT NUMBER: 17.00400

PAGE: 3 OF 9

ISSUE DATE: 02/09/17

PREPARED FOR: PROGRESS

CATALOG NUMBER: P7250-17430K9

LUMINAIRE: 18" LED Flush Mount

LAMP CAT. NO.: STW9C2SA

LAMP: 28-3000K Seoul LEDs

BALLAST CATALOG NUMBER: VEL30105120HDA-1

BALLAST: 1-Espen

REFRACTOR: Acrylic

MOUNTING: Ceiling

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



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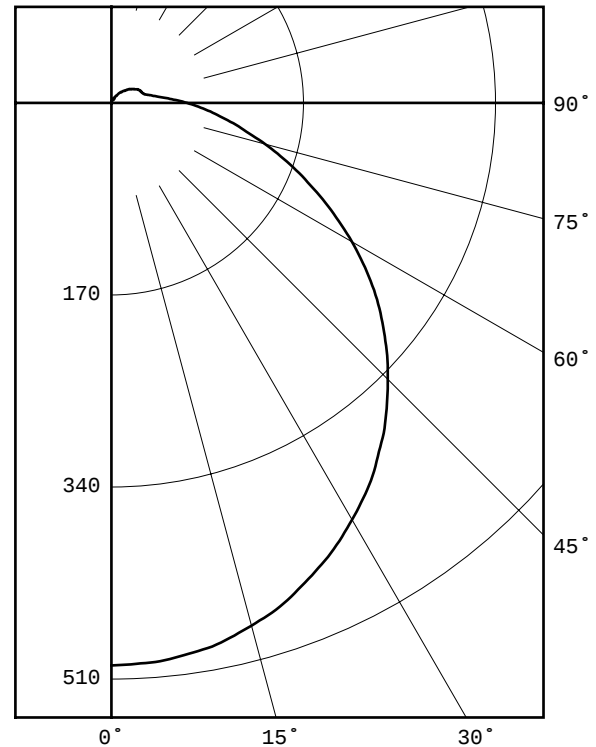
REPORT NUMBER: 17.00400
ISSUE DATE: 02/09/17
PREPARED FOR: PROGRESS
CATALOG NUMBER: P7250-17430K9

PAGE: 4 OF 9

DEG	CANDELA	LUMENS
0	498	
5	496	47
15	479	135
25	447	206
35	403	252
45	346	267
55	282	252
65	209	207
75	141	149
85	88	96
90	67	
95	49	55
105	30	33
115	27	27
125	21	19
135	15	11
145	8	5
155	3	2
165	2	1
175	2	0
180	1	

ZONAL ZONE	LUMEN	SUMMARY LUMENS	%FIXT
0- 30		389	22.0
0- 40		640	36.3
0- 60		1160	65.7
0- 90		1613	91.4
90-120		114	6.5
90-130		133	7.5
90-150		150	8.5
90-180		153	8.6
0-180		1765	100.0

EFFICACY = 59.2 lm/W
CIE TYPE - DIRECT
LUMINAIRE SPACING CRITERION = 1.27





®

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CATALOG NUMBER: P7250-17430K9

PAGE: 5 OF 9

LUMINOUS DIAMETER: 16.500
HEIGHT OF SIDE : 4.000

LUMINANCE DATA IN CANDELA/SQ M
ANGLE AVERAGE
IN DEG

45	2710.
55	2474.
65	2157.
75	1835.
85	1616.



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PAGE: 6 OF 9

CANDELA DISTRIBUTION

0.0	498
5.0	496
10.0	490
15.0	479
20.0	465
25.0	447
30.0	426
35.0	403
40.0	376
45.0	346
50.0	315
55.0	282
60.0	246
65.0	209
70.0	174
75.0	141
80.0	112
85.0	88
90.0	67
95.0	49
100.0	37
105.0	30
110.0	28
115.0	27
120.0	24
125.0	21
130.0	18
135.0	15
140.0	12
145.0	8
150.0	5
155.0	3
160.0	3
165.0	2
170.0	2
175.0	2
180.0	1



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CATALOG NUMBER: P7250-17430K9

PAGE: 7 OF 9

5-DEGREE		
ZONAL	LUMEN	SUMMARY
0- 5		12
5- 10		35
10- 15		57
15- 20		78
20- 25		96
25- 30		110
30- 35		122
35- 40		130
40- 45		134
45- 50		134
50- 55		130
55- 60		122
60- 65		110
65- 70		97
70- 75		82
75- 80		67
80- 85		54
85- 90		42
90- 95		31
95-100		23
100-105		18
105-110		15
110-115		14
115-120		13
120-125		11
125-130		9
130-135		7
135-140		5
140-145		3
145-150		2
150-155		1
155-160		1
160-165		0
165-170		0
170-175		0
175-180		0

10-DEGREE		
ZONAL	LUMEN	SUMMARY
0- 10		47
10- 20		135
20- 30		206
30- 40		252
40- 50		267
50- 60		252
60- 70		207
70- 80		149
80- 90		96
90-100		55
100-110		33
110-120		27
120-130		19
130-140		11
140-150		5
150-160		2
160-170		1
170-180		0



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PAGE: 8 OF 9

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	91
1	105	99	94	90	101	96	92	88	90	87	83	85	82	79	80	78	75	73
2	95	86	78	72	91	83	76	70	78	72	67	73	69	65	69	65	62	59
3	86	75	66	59	83	72	64	58	68	61	56	64	59	54	61	56	52	49
4	79	66	57	50	75	64	55	49	60	53	47	57	51	46	54	48	44	42
5	72	59	49	42	69	57	48	42	54	46	41	51	44	39	48	43	38	36
6	66	53	43	37	64	51	43	36	49	41	35	46	39	34	44	38	33	31
7	62	48	39	32	59	46	38	32	44	37	31	42	35	30	40	34	29	27
8	57	43	35	29	55	42	34	28	40	33	28	38	32	27	37	31	26	24
9	53	40	31	26	51	39	31	25	37	30	25	35	29	24	34	28	24	22
10	50	37	29	23	48	36	28	23	34	27	22	33	26	22	31	26	21	20

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: 09/02/2016

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL/HLI LAB 6 - Test Distance: 31.3'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27076V	11/2/2017
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	11/30/7136	11/2/2017

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>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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