

Lab 4
Sphere

Test Sample Description

Catalog Number: P700005-028-30
Description: White Puck-Style Ceiling Light w/ Clear Plastic Lens

Photometry

Test Method: IES LM-41-14
IES LM-79-08 § 10

Preburn Time: 0:40
Time To Stabilize: 0:30
Total Operating Time: 1:10

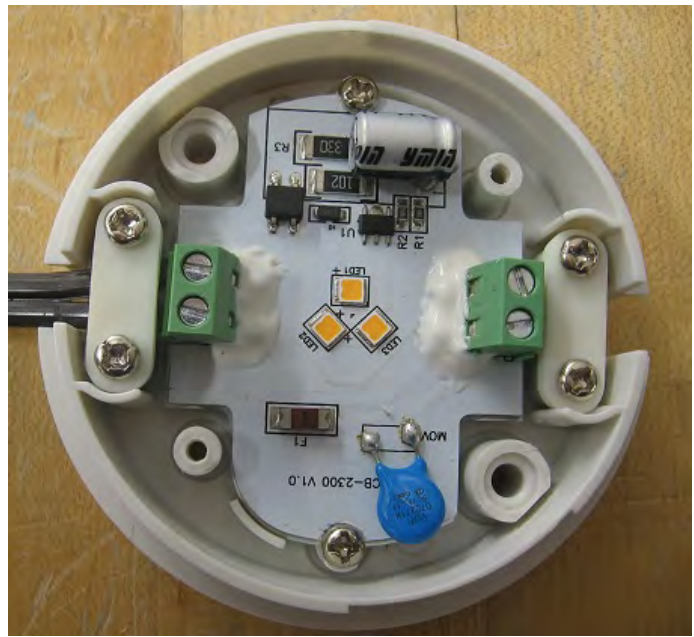
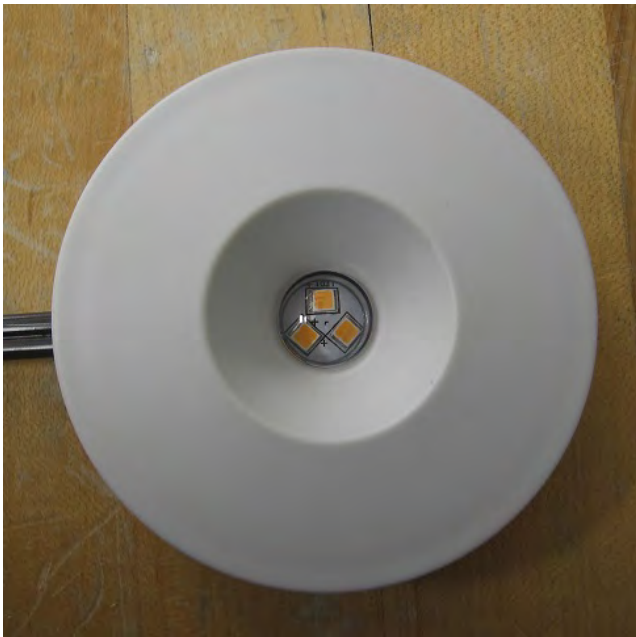
Input Voltage (Volts): 120.1
Input Current (Amps): 0.026
Input Wattage (Watts): 3.1
Ambient Temp (°C): 24.4

Sphere

Test Method: IES LM-16-93
IES LM-79-08 § 9.1 & 12.1

Preburn Time: 2:00
Time To Stabilize: 1:10
Total Operating Time: 3:10

Input Voltage (Volts): 120.0
Input Current (Amps): 0.023
Input Wattage (Watts): 2.7
Ambient Temp (°C): 24



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Checked (sphere): B. LEE
Checked (photometry): R. HALL
Approved: P. McCARTHY

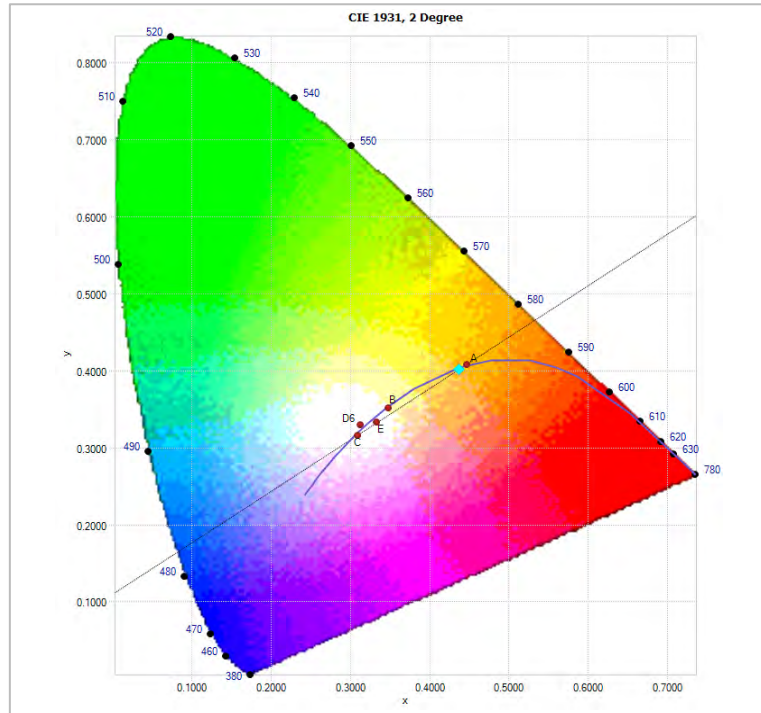




Lamp Cat #: 3030
 Lamp Desc: 3 - Seoul 3000K LEDs

Efficacy: 60.0 LPW S/P Ratio: 1.4 LM/LM

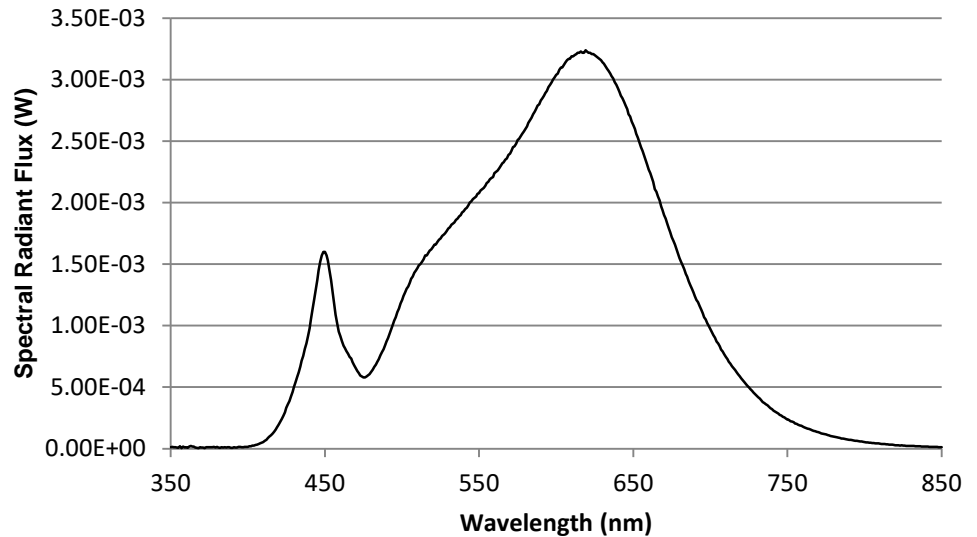
Chromaticity Diagram



Spectral Results

Name	Value	Unit
Φ	0.56	watts
$\Phi(v)$	162	lumens
$\Phi(v')$	225	lm'
Chrom x	0.4368	
Chrom y	0.4024	
Chrom u	0.2512	
Chrom v	0.3471	
Duv	0.0008	
Chrom u'	0.2512	
Chrom v'	0.5207	
CCT	2988	K
Purity	51.9	%
λ (dom)	583.1	nm
FWHM	159.6	nm
λ (peak)	618.9	nm
λ (center)	598.4	nm
λ (centroid)	592.0	nm
SDCM	Cool White	
RA	91	
Corr. Coef.	0.000645794	
Correlation	0.0054	
R1	91.1	
R2	94.4	
R3	96.6	
R4	91.7	
R5	91.0	
R6	93.4	
R7	91.2	
R8	79.4	
R9	52.7	
R10	86.6	
R11	92.7	
R12	83.4	
R13	91.9	
R14	97.5	

Spectral Distribution of Radiant Flux





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REPORT NUMBER: 18.00108

PAGE: 3 OF 8

ISSUE DATE: 02/01/18

PREPARED FOR: PROGRESS

CATALOG NUMBER: P700005-028-30

LUMINAIRE: White Puck-Style Ceiling Light w/ Clear Plastic Lens

LAMP CAT. NO.: 3030

LAMP: 3- Seoul Semiconductor 3000K LEDs



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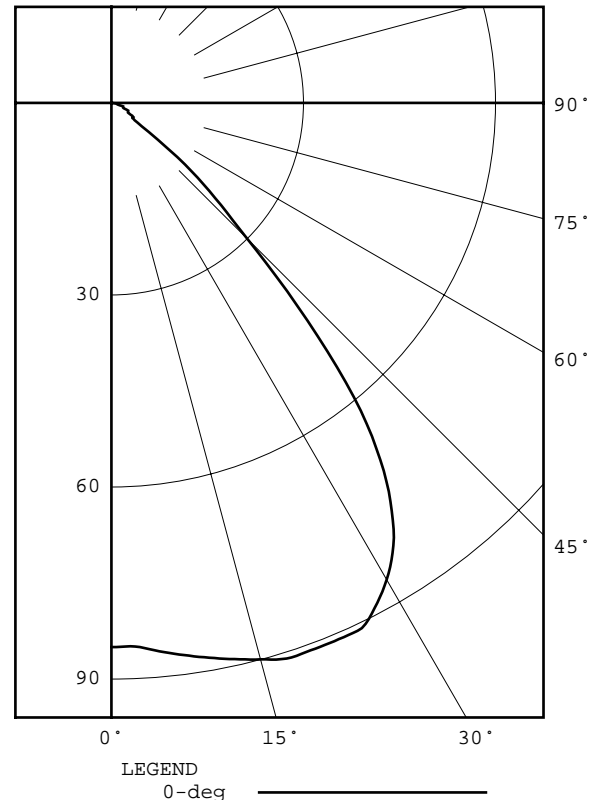
PAGE: 4 OF 8

DEG	CANDELA	LUMENS
0	85.0	
5	86.0	8
15	90.0	26
25	91.0	42
35	76.0	46
45	30.0	25
55	4.0	5
65	3.0	3
75	1.0	1
85	0.0	0
90	0.0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	75	48.3
0- 40	122	78.1
0- 60	152	97.3
0- 90	156	100.0
90-180	0	0.0
0-180	156	100.0

EFFICACY = 50.7 lm/W
CIE TYPE - DIRECT
SPACING CRITERION: 1.24
LUMINOUS DIAMETER: 1.281

LUMINANCE DATA IN CANDELA/SQ M	
ANGLE	AVERAGE
IN DEG	
45	51025.
55	8387.
65	8537.
75	4647.
85	0.





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PAGE: 5 OF 8

CANDELA DISTRIBUTION

0.0	85.0
2.5	85.0
5.0	86.0
7.5	87.0
10.0	88.0
12.5	89.0
15.0	90.0
17.5	91.0
20.0	91.0
22.5	91.0
25.0	91.0
27.5	89.0
30.0	86.0
32.5	82.0
35.0	76.0
37.5	68.0
40.0	57.0
42.5	43.0
45.0	30.0
47.5	22.0
50.0	15.0
52.5	6.0
55.0	4.0
57.5	4.0
60.0	3.0
62.5	3.0
65.0	3.0
67.5	2.0
70.0	2.0
72.5	2.0
75.0	1.0
77.5	1.0
80.0	1.0
82.5	0.0
85.0	0.0
87.5	0.0
90.0	0.0



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PAGE: 6 OF 8

5-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	5	2
5-	10	6
10-	15	11
15-	20	15
20-	25	19
25-	30	22
30-	35	24
35-	40	22
40-	45	16
45-	50	9
50-	55	3
55-	60	2
60-	65	1
65-	70	1
70-	75	1
75-	80	1
80-	85	0
85-	90	0

10-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	10	8
0-	20	34
0-	30	75
0-	40	122
0-	50	147
0-	60	152
0-	70	154
0-	80	156
0-	90	156



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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	119	116	116	116	116	111	111	111	111	111	106	106	106	102	102	102	100
1	112	109	106	104	110	107	104	102	103	101	99	99	97	96	96	94	93	96	94	93	91
2	105	100	95	91	103	98	93	90	95	91	88	91	88	86	89	86	84	89	86	84	82
3	99	91	85	80	97	90	84	80	87	82	78	84	80	77	82	79	76	82	79	76	74
4	92	83	77	72	90	82	76	71	80	75	71	78	73	70	76	72	69	76	72	69	67
5	87	77	70	65	85	76	69	64	74	68	64	72	67	63	70	66	62	70	66	62	61
6	81	71	63	58	79	70	63	58	68	62	58	67	61	57	65	61	57	65	61	57	55
7	76	65	58	53	75	64	58	53	63	57	53	62	56	52	61	56	52	61	56	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	56	51	48	46
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	44	52	47	44	42
10	63	52	45	41	62	52	45	41	51	45	41	50	44	40	49	44	40	49	44	40	39

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.

Project Number
18.00108



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Date
2/1/2018

Goniophotometer Calibration

Calibration Lamp : Osram ST8-HA4-250-840 22W / 4000K

Lamp Number: RM B6-28

Ballast: Vossloh Schwabe LN 36.149

Ballast Number: RM B6-28

Calibration Voltage/Frequency: 220Vac / 50hz

Total Luminous Flux: 2463 Lumens

Calibration Date: 01/19/2017

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	LMT/GO-DS 1600 Lab 4- Test Dist.: 31.0'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27074V	10/25/2018
<i>Power Source</i>	Chroma / 61604 AC P/S	616040003897	N/A
<i>Thermometer</i>	LMT / ATS-4Ch	10B623-3	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>
<i>3-Meter Sphere</i>	Labsphere / LMS-3M	N/A	Calibration Checked Daily
<i>Thermometer</i>	National Instruments / USB TC01	1912751	10/26/2018
<i>LAMP Power Meter</i>	Yokogawa / WT332	C2QA27075V	10/25/2018
<i>Power Supply</i>	Chroma / 61602	616020002113	N/A
<i>Aux Lamp Supply</i>	Labsphere / LPS-100-0833	0331159372	N/A
<i>Cal Lamp Supply</i>	Labsphere / LPS-150-0268	1218148505	N/A
<i>Spectrometer</i>	Labsphere / CDS 1100	0624117792	N/A

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