



Lab 4  
Sphere

*Test Sample Description*

Catalog Number: P810015-030-30  
Description: 7" Round Edge Lit Flush Mount

*Photometry*

Test Method: IES LM-46-04  
IES LM-79-08 §10  
Preburn Time: 0:35  
Time To Stabilize: 0:40  
Total Operating Time: 1:25

Input Voltage (Volts): 119.9  
Input Current (Amps): 0.128  
Input Wattage (Watts): 14.9  
Ambient Temp (°C): 24

*Sphere*

Test Method: IES LM-16-93  
IES LM-79-08 § 9.1 & 12.1  
Preburn Time: 16:00  
Time To Stabilize: 1:15  
Total Operating Time: 18:00

Input Voltage (Volts): 120.0  
Input Current (Amps): 0.125  
Input Wattage (Watts): 14.6  
Ambient Temp (°C): 24  
PF @ 120V: 0.968  
THD @ 120V (%): 13



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Checked (sphere): M. ELLMANN  
Checked (photometry): R. HALL  
Approved: B. HOUSAND

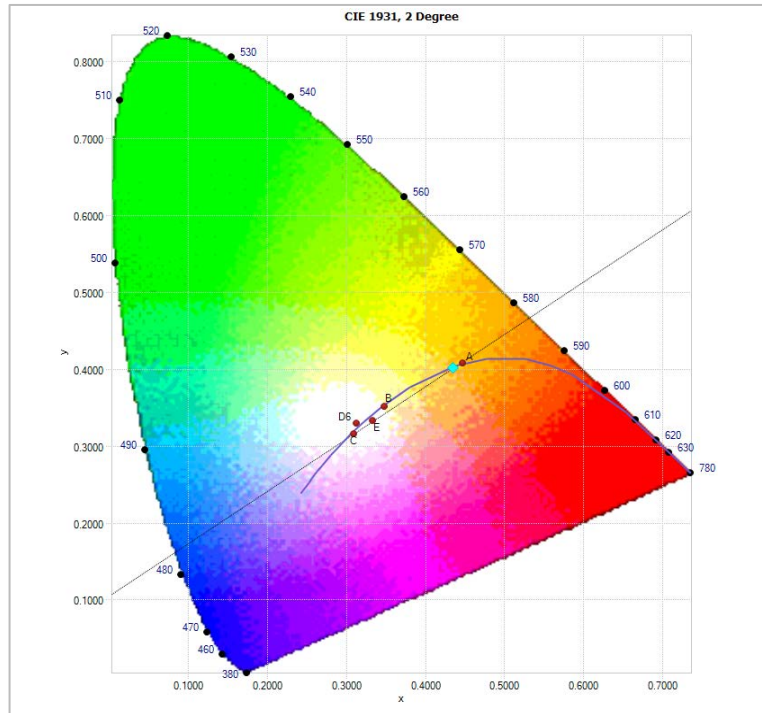




Lamp Cat#: 2835  
 Lamp Desc: 48 - Seoul 3000K LEDs

Efficacy: 72.3 LPW      S/P Ratio: 1.4 LM/LM

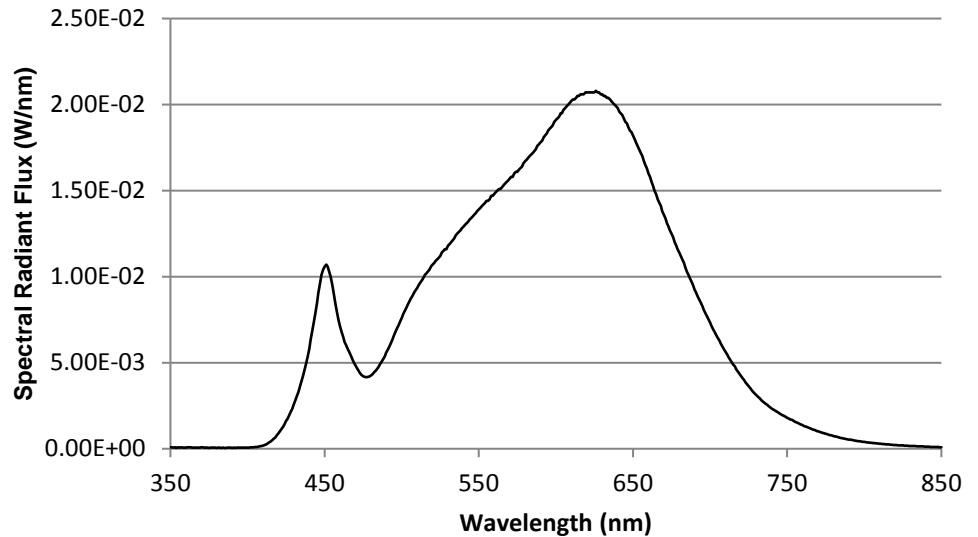
**Chromaticity Diagram**



**Spectral Results**

Name	Value	Unit
Φ	3.72	watts
Φ(v)	1056	lumens
Φ(v')	1479	lm'
Chrom x	0.4346	
Chrom y	0.4022	
Chrom u	0.2499	
Chrom v	0.3469	
Duv	0.0005	
Chrom u'	0.2499	
Chrom v'	0.5203	
CCT	3022	K
Purity	51.2	%
λ (dom)	582.9	nm
FWHM	167.4	nm
λ (peak)	624.6	nm
λ (center)	601.1	nm
λ (centroid)	594.7	nm
SDCM	Cool White	
RA	92	
Corr. Coef.	0.000461733	
Correlation	0.0054	
R1	92.4	
R2	94.7	
R3	95.3	
R4	92.6	
R5	91.7	
R6	92.9	
R7	93.2	
R8	83.9	
R9	62.4	
R10	86.5	
R11	92.7	
R12	80.5	
R13	92.9	
R14	96.7	

**Spectral Distribution of Radiant Flux**





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**REPORT NUMBER:** 18.01777  
**ISSUE DATE:** 12/10/18  
**PREPARED FOR:** PROGRESS  
**CATALOG NUMBER:** P810015-030-30  
**LUMINAIRE:** 7" Round Edge Lit Flush Mount  
**LAMP CAT. NO.:** 2835  
**LAMP:** 48- Seoul 3000K LEDs  
**BALLAST:** 1- Unknown  
**REFRACTOR:** Frosted Polycarbonate

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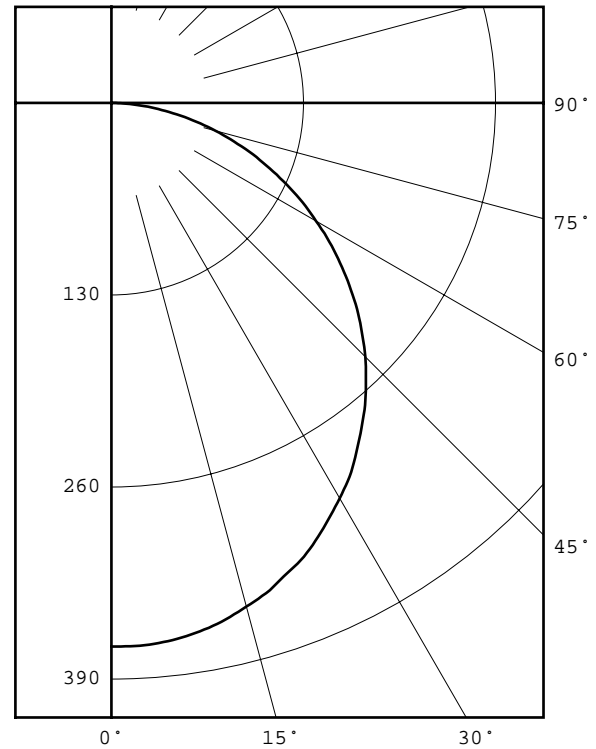
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DEG	CANDELA	LUMENS
0	368	
5	367	35
15	353	100
25	327	151
35	289	181
45	243	187
55	189	169
65	131	130
75	73	77
85	20	22
90	0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	285	27.1
0- 40	466	44.3
0- 60	822	78.2
0- 90	1051	100.0
90-180	0	0.0
0-180	1051	100.0

EFFICACY = 70.5 lm/W  
CIE TYPE - DIRECT  
SPACING CRITERION: 1.25  
PLANE : 0-DEG 90-DEG  
SHIELDING ANGLES : 90 90  
LUMINOUS DIAMETER: 5.500

LUMINANCE DATA IN CANDELA/SQ M	
ANGLE	AVERAGE
IN DEG	
45	22420.
55	21497.
65	20223.
75	18401.
85	14971.



LEGEND  
0-deg



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CANDELA DISTRIBUTION

0.0	368
2.5	368
5.0	367
7.5	365
10.0	362
12.5	358
15.0	353
17.5	348
20.0	341
22.5	335
25.0	327
27.5	318
30.0	309
32.5	300
35.0	289
37.5	278
40.0	267
42.5	255
45.0	243
47.5	230
50.0	217
52.5	203
55.0	189
57.5	175
60.0	160
62.5	146
65.0	131
67.5	116
70.0	102
72.5	87
75.0	73
77.5	59
80.0	45
82.5	32
85.0	20
87.5	8
90.0	0



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		9
5- 10		26
10- 15		42
15- 20		57
20- 25		70
25- 30		80
30- 35		88
35- 40		93
40- 45		94
45- 50		93
50- 55		88
55- 60		81
60- 65		71
65- 70		59
70- 75		46
75- 80		32
80- 85		18
85- 90		5

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		35
0- 20		135
0- 30		285
0- 40		466
0- 50		653
0- 60		822
0- 70		952
0- 80		1029
0- 90		1051



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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
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	99	95	106	101	97	94	97	94	91	93	91	88	90	87	85	83
2	99	90	83	77	96	88	82	76	85	79	75	81	77	73	78	75	71	69
3	90	79	71	64	87	77	70	64	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	52	62	56	52	50
5	76	63	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	44	37	32	43	36	32	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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  
18.01777



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Date  
12/10/2018

### *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	10/31/2019
<i>Power Source</i>	Chroma / 61604 AC P/S	13117591	N/A
<i>Thermometer</i>	LMT / ATS-4Ch	10B623-3	10/31/2019

### *3-Meter-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	10/31/2019
<i>LAMP Power Meter</i>	Yokogawa / WT332	C2QA27075V	10/31/2019
<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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*This report shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.*