

Project Number
19.01443



HUBBELL
Lighting

Date
8/14/2019

Photometric Test Report

Lab 1
Sphere

Test Sample Description

Catalog Number: P810019-030-30
Description: 7in Square Edgelit Panel - Tooled Sample

Photometry
Test Method: IES LM-41-14
IES LM-79-08 §10
Preburn Time: 1:00
Time To Stabilize: 0:26
Total Operating Time: 1:45

Input Voltage (Volts): 120.2
Input Current (Amps): 0.128
Input Wattage (Watts): 15.0
Ambient Temp (°C): 25.9

Sphere
Test Method: IES LM-16-93
IES LM-79-08 §12.1
Preburn Time: 0:30
Time To Stabilize: 1:16
Total Operating Time: 1:46

Input Voltage (Volts): 120.1
Input Current (Amps): 0.128
Input Wattage (Watts): 14.9
Ambient Temp (°C): 24



Hubbell Lighting, Inc.

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

Checked (sphere): B. LEE
Checked (photometry): D. ROBBINS
Approved: N. DeVOL



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

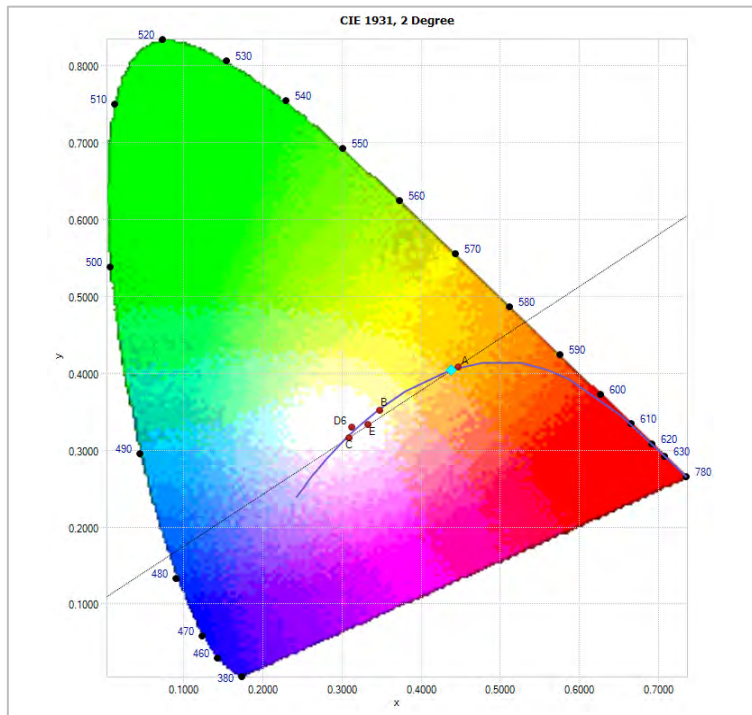


Lamp Cat#: 3528
 Lamp Desc: 72 - Seoul 3000K LEDs
 Driver Desc: 1 - Alpha NA
 Programmed to 360mA

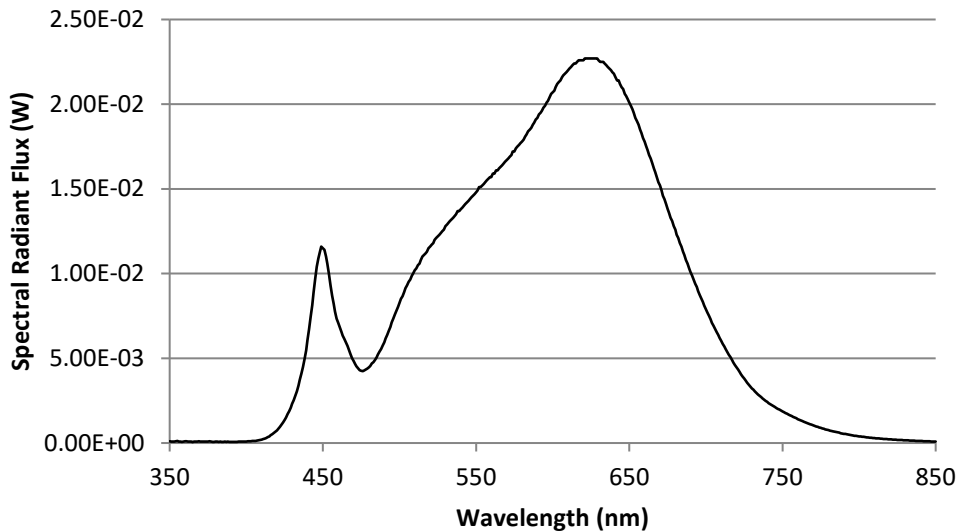
Efficacy: 76.4 LPW S/P Ratio: 1.4 LM/LM

Spectral Results

Name	Value	Unit
Φ	4.01	watts
Φ(v)	1138	lumens
Φ(v')	1580	lm'
Chrom x	0.4381	
Chrom y	0.4041	
Chrom u	0.2513	
Chrom v	0.3477	
Duv	0.0003	
Chrom u'	0.2513	
Chrom v'	0.5216	
CCT	2980	K
Purity	52.8	%
λ (dom)	582.9	nm
FWHM	166.5	nm
λ (peak)	622.5	nm
λ (center)	601.6	nm
λ (centroid)	595.6	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.000206782	
Correlation	0.0054	
R1	93.3	
R2	95.1	
R3	95.5	
R4	93.6	
R5	92.7	
R6	93.7	
R7	93.6	
R8	84.9	
R9	64.5	
R10	87.6	
R11	94.2	
R12	81.5	
R13	93.7	
R14	96.7	



Spectral Distribution of Radiant Flux



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ISSUE DATE: 08/14/19

PREPARED FOR: PROGRESS

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LUMINAIRE: 7in Square Edgelit Panel - Tooled Sample

LAMP CAT. NO.: 3528

LAMP: 72- Seoul 3000K LEDs

BALLAST: 1- Alpha - Programmed to 360mA

MOUNTING: Ceiling

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



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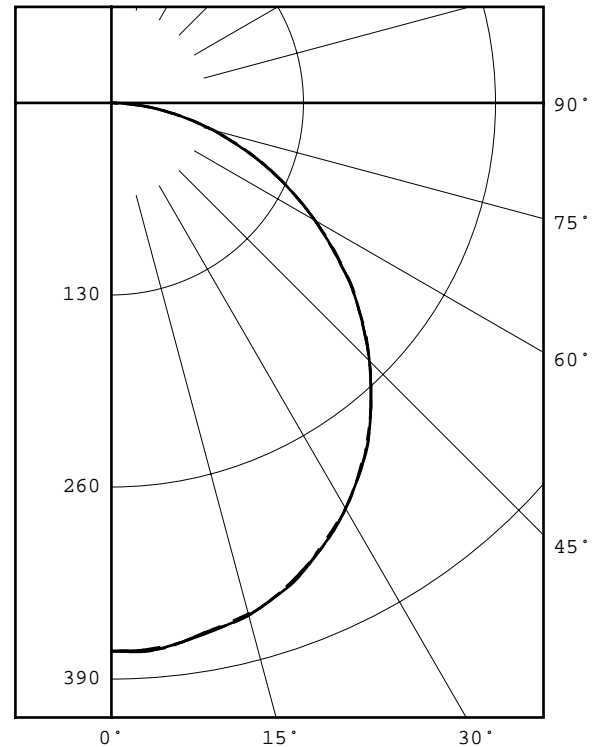
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CANDELA DISTRIBUTION						FLUX
	0.0	22.5	45.0	67.5	90.0	
0	371	371	371	371	371	
5	370	370	371	370	371	35
15	358	359	359	359	359	101
25	333	334	334	334	334	154
35	296	297	297	296	297	186
45	247	247	247	247	247	190
55	190	190	189	190	189	170
65	129	129	129	129	129	128
75	71	71	71	71	72	75
85	19	18	18	19	19	21
90	0	0	0	0	0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	290	27.4
0- 40	476	44.9
0- 60	836	78.8
0- 90	1061	100.0
90-180	0	0.0
0-180	1061	100.0

EFFICACY = 70.7 lm/W
CIE TYPE - DIRECT
PLANE : 0-DEG 90-DEG
SPACING CRITERIA : 1.27 1.27
SHIELDING ANGLES : 90 90
LUMINOUS LENGTH : 5.500 5.500

LUMINANCE DATA IN CANDELA/SQ M			
ANGLE	AVERAGE	AVERAGE	AVERAGE
IN DEG	0-DEG	45-DEG	90-DEG
45	17899.	17899.	17899.
55	16973.	16884.	16884.
65	15640.	15640.	15640.
75	14056.	14056.	14254.
85	11170.	10582.	11170.



LEGEND
0-deg - - - - -
45-deg - - - - -
90-deg - - - - -



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CANDELA DISTRIBUTION
LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0
0.0	371	371	371	371	371
2.5	371	371	372	372	371
5.0	370	370	371	370	371
7.5	368	368	368	368	368
10.0	364	365	365	365	364
12.5	361	362	362	362	362
15.0	358	359	359	359	359
17.5	354	354	354	354	354
20.0	348	349	349	349	348
22.5	342	342	342	342	341
25.0	333	334	334	334	334
27.5	325	326	326	326	326
30.0	317	318	317	317	317
32.5	307	307	307	308	307
35.0	296	297	297	296	297
37.5	286	286	286	286	285
40.0	273	274	273	274	273
42.5	260	261	260	260	260
45.0	247	247	247	247	247
47.5	234	234	233	233	233
50.0	219	219	219	219	219
52.5	206	206	205	205	205
55.0	190	190	189	190	189
57.5	175	175	174	175	174
60.0	159	160	159	159	159
62.5	144	144	144	145	144
65.0	129	129	129	129	129
67.5	114	115	114	115	115
70.0	100	100	99	100	100
72.5	85	85	84	85	85
75.0	71	71	71	71	72
77.5	57	57	57	58	57
80.0	43	44	43	44	44
82.5	31	31	31	31	31
85.0	19	18	18	19	19
87.5	7	7	6	7	7
90.0	0	0	0	0	0



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5-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	5	9
5-	10	26
10-	15	43
15-	20	58
20-	25	72
25-	30	82
30-	35	90
35-	40	95
40-	45	96
45-	50	94
50-	55	89
55-	60	81
60-	65	70
65-	70	58
70-	75	44
75-	80	31
80-	85	17
85-	90	4

10-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	10	35
0-	20	136
0-	30	290
0-	40	476
0-	50	666
0-	60	836
0-	70	964
0-	80	1039
0-	90	1061



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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	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	55	80	69	61	54	66	59	54	64	58	53	62	57	52	50
5	76	63	54	47	74	62	53	47	60	52	46	58	51	46	56	50	45	43
6	70	57	48	41	68	56	47	41	54	46	41	52	45	40	50	44	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	41	36	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	32	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	29	27
10	53	40	32	26	52	39	31	26	38	31	26	37	31	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.

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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	10/31/2019
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	176F4E3	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>Power Analyzer</i>	Yokogawa / WT332	C2QA27074V	10/31/2019
<i>Power Supply</i>	Chroma / 61602	616020002113	N/A
<i>Aux Lamp Supply</i>	GW Instek / PSU 150-10	GER221028	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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