

Project Number  
17.01956



**HUBBELL**  
Lighting

Date  
8/1/2017

LAB 1  
Sphere

### Test Sample Description

Catalog Number: P350080-02030  
Description: 1-Lt. Led Flush-Mount w/ Opal Inner and Clear, Outer Glass Enclosures

### Photometry

Test Method: IES LM-79-08 § 10  
Preburn Time: 00:05  
Time To Stabilize: 1:15  
Total Operating Time: 1:56  
  
Input Voltage (Volts): 120.1  
Input Current (Amps): 0.152  
Input Wattage (Watts): 18.0  
Ambient Temp (°C): 25.4

### Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1  
Preburn Time: 8:00  
Time To Stabilize: 1:05  
Total Operating Time: 9:05  
  
Input Voltage (Volts): 120.0  
Input Current (Amps): 0.150  
Input Wattage (Watts): 17.7  
Ambient Temp (°C): 24.0



### 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.

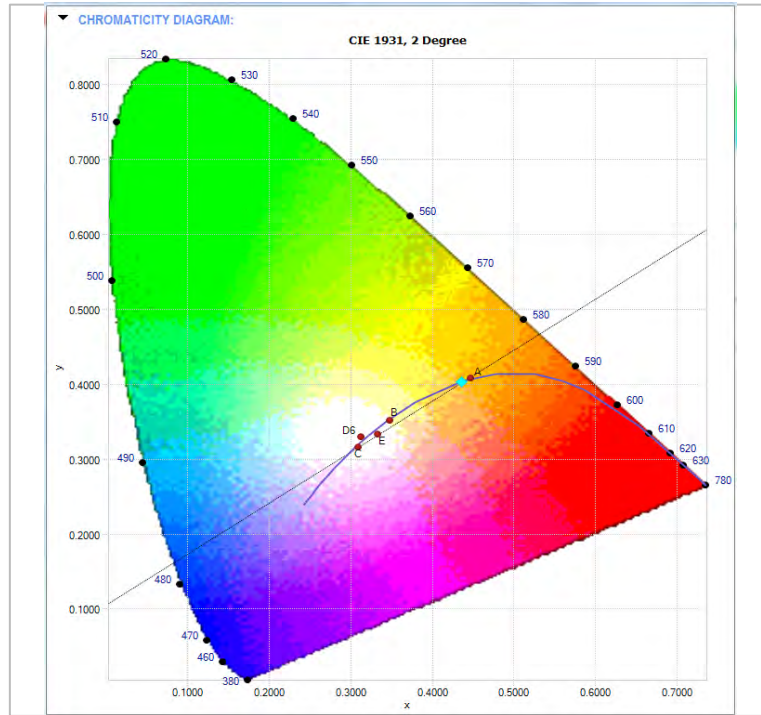


Lamp Cat#: 93047261-5130  
Lamp Desc: 40 - 3000K LEDs  
Driver Desc: N/A

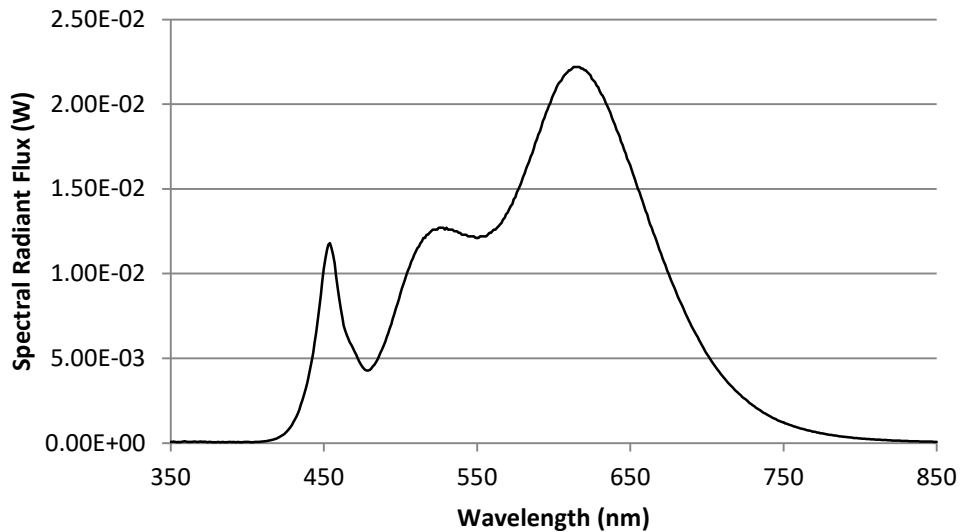
Efficacy: 58.9 LPW      S/P Ratio: 1.5 LM/LM

**Spectral Results**

Name	Value	Unit
Φ	3.52	watts
Φ(v)	1043	lumens
Φ(v')	1542	lm'
Chrom x	0.436	
Chrom y	0.4031	
Chrom u	0.2504	
Chrom v	0.3473	
Duv	0.0004	
Chrom u'	0.2504	
Chrom v'	0.5209	
CCT	3005	K
Purity	51.9	%
λ (dom)	582.9	nm
FWHM	161.3	nm
λ (peak)	613.8	nm
λ (center)	589.7	nm
λ (centroid)	589.4	nm
SDCM	Cool White	
RA	95	
Corr. Coef.	0.000312164	
Correlation	0.0054	
R1	98.8	
R2	99.4	
R3	98.0	
R4	98.3	
R5	99.6	
R6	94.2	
R7	91.8	
R8	83.1	
R9	62.1	
R10	99.0	
R11	91.8	
R12	87.9	
R13	99.3	
R14	99.1	



**Spectral Distribution of Radiant Flux**



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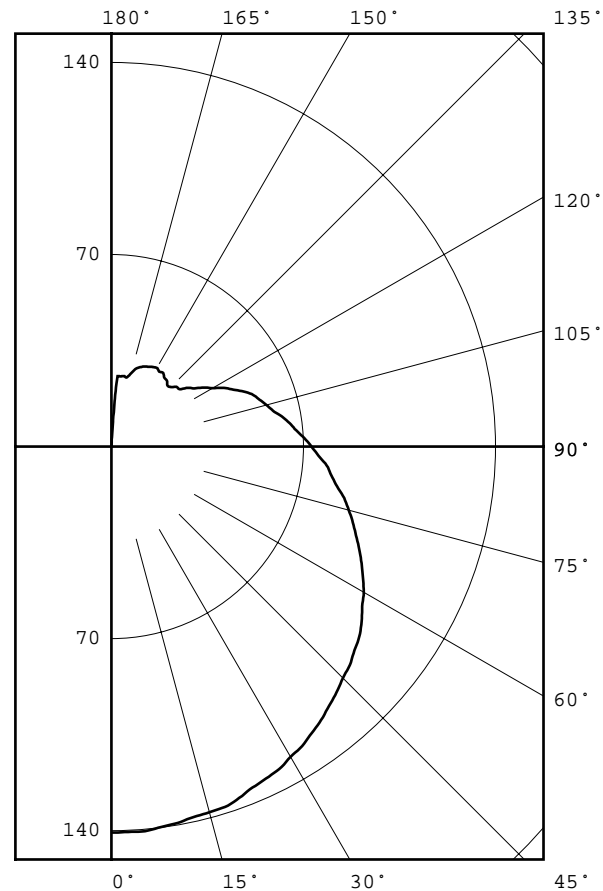
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 ISSUE DATE: 07/24/17  
 PREPARED FOR: PROGRESS  
 CATALOG NUMBER: P350080-02030  
 LUMINAIRE: 1-Lt. Led Flush-Mount w/ Opal Inner and Clear, Outer Glass Enclosures  
 LAMP CAT. NO.: 93047261-5130  
 LAMP: 40- 3000K LEDs  
 MOUNTING: Ceiling  
 NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

DEG	CANDELA	LUMENS
0	141	
5	141	13
15	138	39
25	134	62
35	127	80
45	119	93
55	111	100
65	101	100
75	90	95
85	79	86
90	74	
95	68	74
105	59	62
115	49	49
125	37	34
135	31	24
145	33	20
155	32	15
165	28	8
175	26	2
180	0	

ZONAL LUMEN ZONE	SUMMARY LUMENS	%FIXT
0- 30	114	12.0
0- 40	194	20.3
0- 60	386	40.5
0- 90	666	69.8
90-120	185	19.4
90-130	219	22.9
90-150	263	27.6
90-180	288	30.2
0-180	954	100.0

TOTAL INPUT WATTS = 18.0  
 EFFICACY = 53.0 Lm/W  
 CIE TYPE - SEMI-DIRECT  
 LUMINAIRE SPACING CRITERION = 1.4





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LUMINOUS DIAMETER: 10.000  
HEIGHT OF SIDE : 7.000

LUMINANCE DATA IN CANDELA/SQ METER

ANGLE AVERAGE

IN DEG

45	1760.
55	1684.
65	1613.
75	1579.
85	1594.



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CANDELA DISTRIBUTION

	0.0
0.0	141
5.0	141
10.0	139
15.0	138
20.0	136
25.0	134
30.0	131
35.0	127
40.0	123
45.0	119
50.0	116
55.0	111
60.0	106
65.0	101
70.0	95
75.0	90
80.0	84
85.0	79
90.0	74
95.0	68
100.0	63
105.0	59
110.0	55
115.0	49
120.0	43
125.0	37
130.0	33
135.0	31
140.0	31
145.0	33
150.0	33
155.0	32
160.0	31
165.0	28
170.0	26
175.0	26
180.0	0



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ZONAL LUMEN SUMMARY

0- 5	3.
5- 10	10.
10- 15	16.
15- 20	23.
20- 25	28.
25- 30	33.
30- 35	38.
35- 40	42.
40- 45	45.
45- 50	48.
50- 55	49.
55- 60	50.
60- 65	50.
65- 70	50.
70- 75	48.
75- 80	46.
80- 85	44.
85- 90	42.
90- 95	39.
95-100	36.
100-105	32.
105-110	30.
110-115	26.
115-120	22.
120-125	18.
125-130	15.
130-135	13.
135-140	11.
140-145	11.
145-150	10.
150-155	8.
155-160	7.
160-165	5.
165-170	3.
170-175	2.
175-180	0.



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5-DEGREE  
ZONAL LUMEN SUMMARY

0- 5	3
5- 10	10
10- 15	16
15- 20	23
20- 25	28
25- 30	33
30- 35	38
35- 40	42
40- 45	45
45- 50	48
50- 55	49
55- 60	50
60- 65	50
65- 70	50
70- 75	48
75- 80	46
80- 85	44
85- 90	42
90- 95	39
95-100	36
100-105	32
105-110	30
110-115	26
115-120	22
120-125	18
125-130	15
130-135	13
135-140	11
140-145	11
145-150	10
150-155	8
155-160	7
160-165	5
165-170	3
170-175	2
175-180	0

10-DEGREE  
ZONAL LUMEN SUMMARY

0- 10	13
0- 20	52
0- 30	114
0- 40	194
0- 50	287
0- 60	386
0- 70	486
0- 80	581
0- 90	666
0-100	740
0-110	802
0-120	851
0-130	885
0-140	909
0-150	929
0-160	944
0-170	952
0-180	954



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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	112	112	112	112	112	106	106	106	106	94	94	94	84	84	84	74	74	74	70
1	98	92	86	81	81	92	86	81	77	76	72	69	67	64	61	59	57	54	50
2	88	78	70	63	63	82	73	66	60	65	59	54	57	52	48	50	46	43	39
3	79	67	58	51	51	74	63	55	48	56	49	43	49	44	39	43	38	35	31
4	72	59	49	42	42	67	55	47	40	49	42	36	43	37	32	37	33	29	25
5	66	52	42	35	35	61	49	40	34	43	36	30	38	32	27	33	28	24	21
6	60	46	37	30	30	56	44	35	29	39	32	26	34	28	24	30	25	21	18
7	56	42	33	26	26	52	39	31	25	35	28	23	31	25	21	27	22	18	16
8	52	38	29	23	23	48	36	28	22	32	25	20	28	22	18	25	20	16	14
9	48	34	26	20	20	45	33	25	19	29	22	18	26	20	16	23	18	15	12
10	45	31	23	18	18	42	30	22	17	27	20	16	24	18	15	21	17	13	11

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 LUMINAIRE 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	11/2/2017
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	176F4EB	11/7/2017

### *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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