

Project Number  
17.02225



Date  
8/16/2017

LAB 1  
Sphere

*Test Sample Description*

Catalog Number: P350101-020-30  
Description: 1-Lt. LED Flush Mount w/ Etched Glass Refractor

*Photometry*

Test Method: IES LM-79-08 § 10  
Preburn Time: 00:10  
Time To Stabilize: 1:55  
Total Operating Time: 9:17  
  
Input Voltage (Volts): 120.0  
Input Current (Amps): 0.216  
Input Wattage (Watts): 25.6  
Ambient Temp (°C): 25.3  
PF @ 120V: 0.989  
THD @ 120V (%): 15.64

*Sphere*

Test Method: IES LM-79-08 § 9.1 & 12.1  
Preburn Time: 2:00  
Time To Stabilize: 0:51  
Total Operating Time: 2:51  
  
Input Voltage (Volts): 120.0  
Input Current (Amps): 0.214  
Input Wattage (Watts): 25.4  
Ambient Temp (°C): 24.0



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



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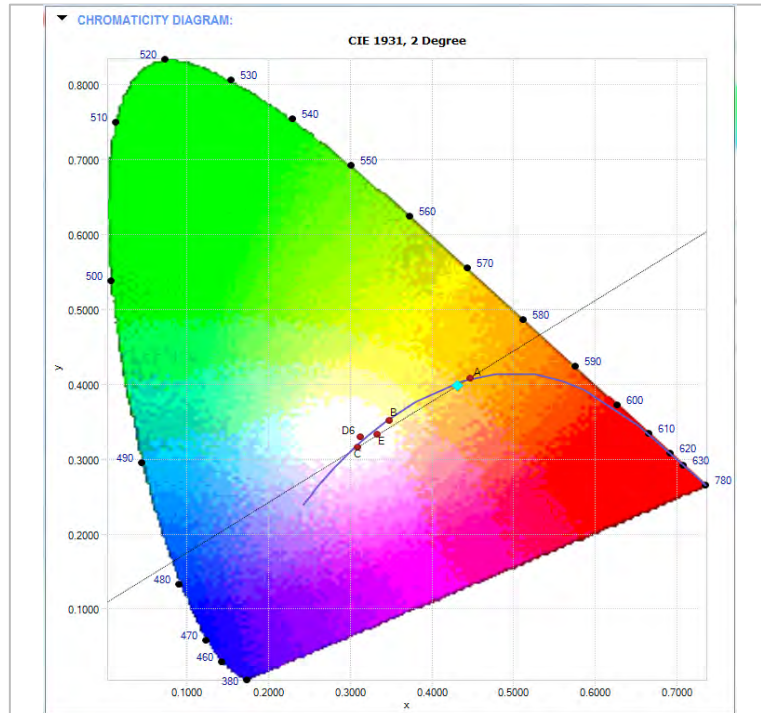


Lamp Cat#: 93058664-4230  
 Lamp Desc: 40 - n/a 3000K LEDs  
 Driver Desc: n/a

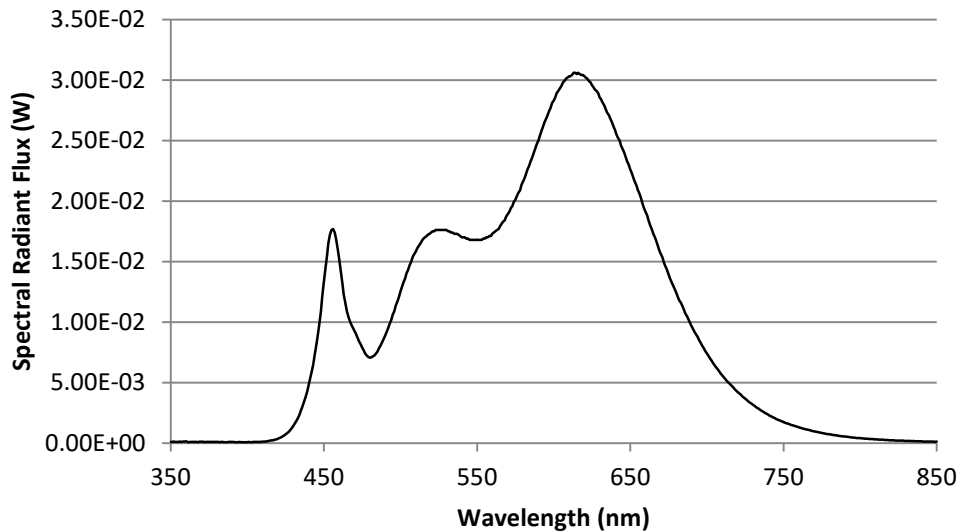
Efficacy: 56.9 LPW      S/P Ratio: 1.5 LM/LM

**Spectral Results**

Name	Value	Unit
Φ	4.93	watts
Φ(v)	1446	lumens
Φ(v')	2207	lm'
Chrom x	0.431	
Chrom y	0.3992	
Chrom u	0.2488	
Chrom v	0.3457	
Duv	0.0011	
Chrom u'	0.2488	
Chrom v'	0.5186	
CCT	3060	K
Purity	49.2	%
λ (dom)	583.0	nm
FWHM	163.1	nm
λ (peak)	614.3	nm
λ (center)	589.4	nm
λ (centroid)	588.5	nm
SDCM	Cool White	
RA	95	
Corr. Coef.	0.001134791	
Correlation	0.0054	
R1	98.6	
R2	98.0	
R3	96.4	
R4	98.6	
R5	98.2	
R6	92.2	
R7	91.2	
R8	84.1	
R9	65.9	
R10	95.7	
R11	92.0	
R12	85.3	
R13	97.9	
R14	98.6	



**Spectral Distribution of Radiant Flux**



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**LUMINAIRE:** 1-Lt. LED Flush Mount w/ Etched Glass Refractor

**LAMP CAT. NO.:** 93058664-4230

**LAMP:** 40 - 3000K LEDs

**MOUNTING:** Ceiling

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



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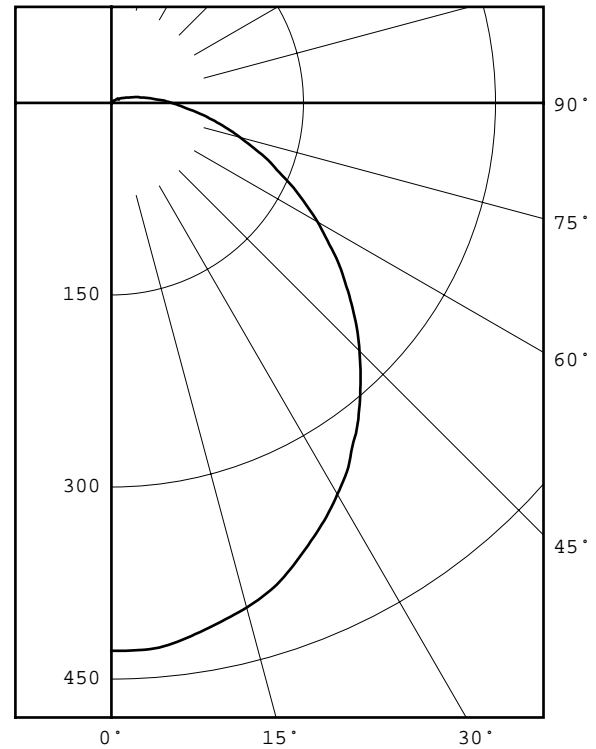
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DEG	CANDELA	LUMENS
0	428	
5	427	40
15	408	115
25	374	173
35	328	206
45	274	212
55	216	193
65	157	155
75	104	111
85	62	69
90	47	
95	34	38
105	17	19
115	9	9
125	5	4
135	3	1
145	0	0
155	0	0
165	0	0
175	0	0
180	0	

ZONAL ZONE	LUMEN LUMENS	SUMMARY LUMENS	%FIXT
0- 30		328	24.4
0- 40		534	39.7
0- 60		938	69.8
0- 90		1273	94.7
90-120		65	4.9
90-130		70	5.2
90-150		71	5.3
90-180		71	5.3
0-180		1344	100.0

EFFICACY = 52.5 lm/W  
CIE TYPE - DIRECT  
LUMINAIRE SPACING CRITERION = 1.23  
PLANE : 0-DEG 90-DEG  
SHIELDING ANGLES : 90 90





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LUMINOUS DIAMETER: 12.000  
HEIGHT OF SIDE : 3.000

LUMINANCE DATA IN CANDELA/SQ M  
ANGLE AVERAGE  
IN DEG

45	4028.
55	3548.
65	3026.
75	2517.
85	2102.



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CANDELA DISTRIBUTION

0.0	428
5.0	427
10.0	418
15.0	408
20.0	394
25.0	374
30.0	353
35.0	328
40.0	302
45.0	274
50.0	245
55.0	216
60.0	186
65.0	157
70.0	130
75.0	104
80.0	82
85.0	62
90.0	47
95.0	34
100.0	24
105.0	17
110.0	12
115.0	9
120.0	6
125.0	5
130.0	3
135.0	3
140.0	0
145.0	0
150.0	0
155.0	0
160.0	0
165.0	0
170.0	0
175.0	0
180.0	0



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		10
5- 10		30
10- 15		49
15- 20		66
20- 25		80
25- 30		92
30- 35	100	
35- 40	105	
40- 45	107	
45- 50	105	
50- 55	100	
55- 60	93	
60- 65	83	
65- 70	72	
70- 75	61	
75- 80	50	
80- 85	39	
85- 90	30	
90- 95	22	
95-100	16	
100-105	11	
105-110	7	
110-115	5	
115-120	4	
120-125	3	
125-130	2	
130-135	1	
135-140	0	
140-145	0	
145-150	0	
150-155	0	
155-160	0	
160-165	0	
165-170	0	
170-175	0	
175-180	0	

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		40
10- 20		115
20- 30		173
30- 40		206
40- 50		212
50- 60		193
60- 70		155
70- 80		111
80- 90		69
90-100		38
100-110		19
110-120		9
120-130		4
130-140		1
140-150		0
150-160		0
160-170		0
170-180		0



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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	118	118	118	118	118	114	114	114	114	108	108	108	102	102	102	97	97	97	95
1	106	101	96	91	103	98	93	89	92	89	86	88	85	82	83	81	79	76	76
2	96	87	80	73	93	85	78	72	80	75	70	76	71	67	72	68	65	62	62
3	87	76	68	61	84	74	66	60	70	64	58	67	61	56	64	59	55	52	52
4	80	67	58	51	77	66	57	51	62	55	49	59	53	48	57	51	47	44	44
5	73	60	51	44	71	59	50	44	56	48	43	53	47	42	51	45	41	38	38
6	68	54	45	38	65	53	44	38	50	43	37	48	42	36	46	40	36	33	33
7	63	49	40	34	61	48	39	33	46	38	33	44	37	32	42	36	32	30	30
8	58	45	36	30	57	44	36	30	42	35	29	40	34	29	39	33	28	26	26
9	55	41	33	27	53	40	32	27	39	31	26	37	31	26	36	30	26	24	24
10	51	38	30	25	50	37	29	24	36	29	24	34	28	24	33	27	23	21	21

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	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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