

Project Number
16.00780



HUBBELL
Lighting

Date
4/6/2016

LAB 1

Test Sample Description

Catalog Number: P2332-0930K9
Description: LED Semi Flush Mount Square - Diamond Pattern.

Test Method: IES LM-79-08 § 10
Preburn Time: 0:00
Time To Stabilize: 2:44
Total Operating Time: 3:18

Input Voltage (Volts): 120.2
Input Current (Amps): 0.145
Input Wattage (Watts): 16.1
Ambient Temp (°C): 25.2



Hubbell Lighting, Inc.

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Greenville, SC 29607
www.hubbellighting.com

Checked: R. WILLIAMS
Approved: M. WASHBURN



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



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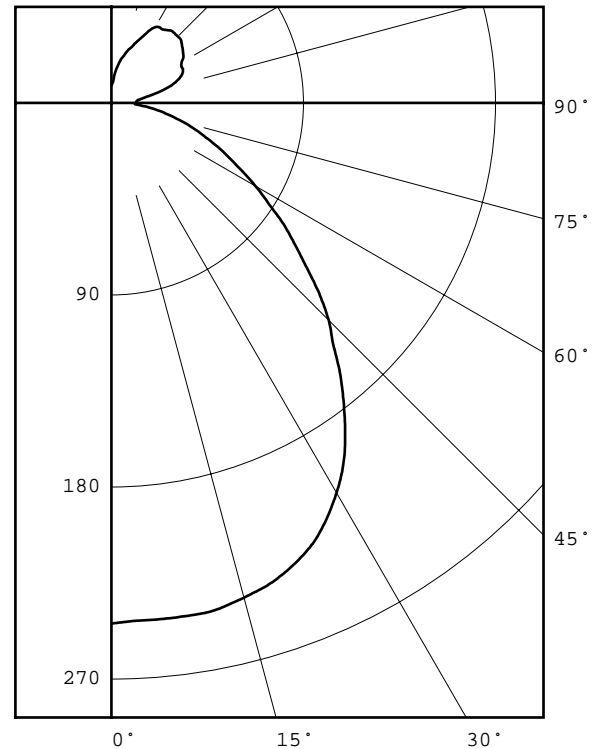
REPORT NUMBER: 16.00780
ISSUE DATE: 04/06/16
PREPARED FOR: PROGRESS
CATALOG NUMBER: P2332-0930K9
LUMINAIRE: LED Semi Flush Mount Square - Diamond Pattern.
LAMP CAT. NO.: 93047261-4130
LAMP: 40- Nichia 3000K
REFRACTOR: Fabric shade and Metal shade
MOUNTING: Ceiling
NOTE: DATA SHOWN IS ABSOLUTE FOR THE
SAMPLE PROVIDED.

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DEG	CANDELA	LUMENS
0	244	
5	243	23
15	240	68
25	226	104
35	191	119
45	144	110
55	98	87
65	61	61
75	35	37
85	14	17
90	11	
95	12	14
105	27	28
115	37	36
125	41	37
135	44	34
145	42	27
155	34	16
165	23	7
175	11	1
180	8	

ZONAL LUMEN	SUMMARY	
ZONE	LUMENS	%FIXT
0- 30	195	23.6
0- 40	314	38.0
0- 60	512	61.9
0- 90	626	75.8
90-120	78	9.5
90-130	115	13.9
90-150	175	21.2
90-180	200	24.2
0-180	826	100.0

TOTAL INPUT WATTS = 16.1
EFFICACY = 51.3 Lm/W
CIE TYPE - SEMI-DIRECT
LUMINAIRE SPACING CRITERION = 1.3





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LUMINOUS DIAMETER: 11.500
HEIGHT OF SIDE : 4.000

LUMINANCE DATA IN CANDELA/SQ METER

ANGLE AVERAGE

IN DEG

45	2105.
55	1561.
65	1104.
75	760.
85	395.



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CANDELA DISTRIBUTION

	0.0
0.0	244
5.0	243
10.0	243
15.0	240
20.0	235
25.0	226
30.0	211
35.0	191
40.0	167
45.0	144
50.0	119
55.0	98
60.0	78
65.0	61
70.0	47
75.0	35
80.0	24
85.0	14
90.0	11
95.0	12
100.0	17
105.0	27
110.0	34
115.0	37
120.0	38
125.0	41
130.0	43
135.0	44
140.0	44
145.0	42
150.0	41
155.0	34
160.0	28
165.0	23
170.0	18
175.0	11
180.0	8



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ZONAL LUMEN SUMMARY

0- 5	6.
5- 10	17.
10- 15	29.
15- 20	39.
20- 25	48.
25- 30	55.
30- 35	59.
35- 40	60.
40- 45	57.
45- 50	53.
50- 55	47.
55- 60	40.
60- 65	34.
65- 70	27.
70- 75	21.
75- 80	16.
80- 85	10.
85- 90	6.
90- 95	6.
95-100	8.
100-105	12.
105-110	16.
110-115	18.
115-120	18.
120-125	18.
125-130	18.
130-135	18.
135-140	16.
140-145	14.
145-150	12.
150-155	10.
155-160	7.
160-165	4.
165-170	2.
170-175	1.
175-180	0.



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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	6
5- 10	17
10- 15	29
15- 20	39
20- 25	48
25- 30	55
30- 35	59
35- 40	60
40- 45	57
45- 50	53
50- 55	47
55- 60	40
60- 65	34
65- 70	27
70- 75	21
75- 80	16
80- 85	10
85- 90	6
90- 95	6
95-100	8
100-105	12
105-110	16
110-115	18
115-120	18
120-125	18
125-130	18
130-135	18
135-140	16
140-145	14
145-150	12
150-155	10
155-160	7
160-165	4
165-170	2
170-175	1
175-180	0

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	23
0- 20	91
0- 30	195
0- 40	314
0- 50	424
0- 60	512
0- 70	573
0- 80	610
0- 90	626
0-100	641
0-110	668
0-120	705
0-130	741
0-140	775
0-150	802
0-160	818
0-170	825
0-180	826



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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	113	113	113	113	113	108	108	108	108	98	98	98	88	88	88	80	80	80	76
1	104	99	95	91	91	98	94	91	88	86	83	80	78	76	74	71	69	67	64
2	95	87	81	75	75	90	83	77	72	76	71	67	69	65	62	63	60	57	54
3	87	77	69	63	63	82	73	67	61	67	61	57	61	57	53	56	52	49	46
4	79	68	60	54	54	75	65	58	52	60	54	49	55	50	46	50	46	43	40
5	73	61	53	47	47	69	59	51	45	54	47	43	49	44	40	45	41	37	35
6	68	55	47	41	41	64	53	45	40	49	42	37	45	39	35	41	37	33	31
7	63	50	42	36	36	60	48	41	35	44	38	33	41	36	31	38	33	30	27
8	58	46	38	32	32	56	44	37	31	41	34	30	38	32	28	35	30	27	25
9	55	42	34	29	29	52	40	33	28	37	31	27	35	29	26	32	28	24	22
10	51	39	31	26	26	49	37	30	26	35	29	24	32	27	23	30	25	22	20

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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Date
4/6/2016

Goniophotometer Calibration

Calibration Lamp: GE 1000W, 120V, T6, CL (FEL)

Lamp Number: ITL78966-1000-36

Calibration Current: 8.300 Amps DC

Total Luminous Flux: 26108.0 Lumens

Calibration Date: 01/04/2016

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: 31.75'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27071V	11/10/2016
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	176F4E3	11/10/2016

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