

Project Number
16.00422



HUBBELL
Lighting

Date
2/22/2016

LAB 6

Test Sample Description

Catalog Number: P2320-2030K9
Description: 14" X 5" LED Semi-Flush Mount with Etched White - #93058349 and Outer Decorative Cover

Test Method: IES LM-79-08 § 10
Preburn Time: 12:00
Time To Stabilize: 1:43
Total Operating Time: 14:28
Input Voltage (Volts): 119.9
Input Current (Amps): 0.148
Input Wattage (Watts): 16.5
Ambient Temp (°C): 24.7



Hubbell Lighting, Inc.

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www.hubbellighting.com

Checked: D. BLACK / D. ROBBINS
Approved: D. BLACK



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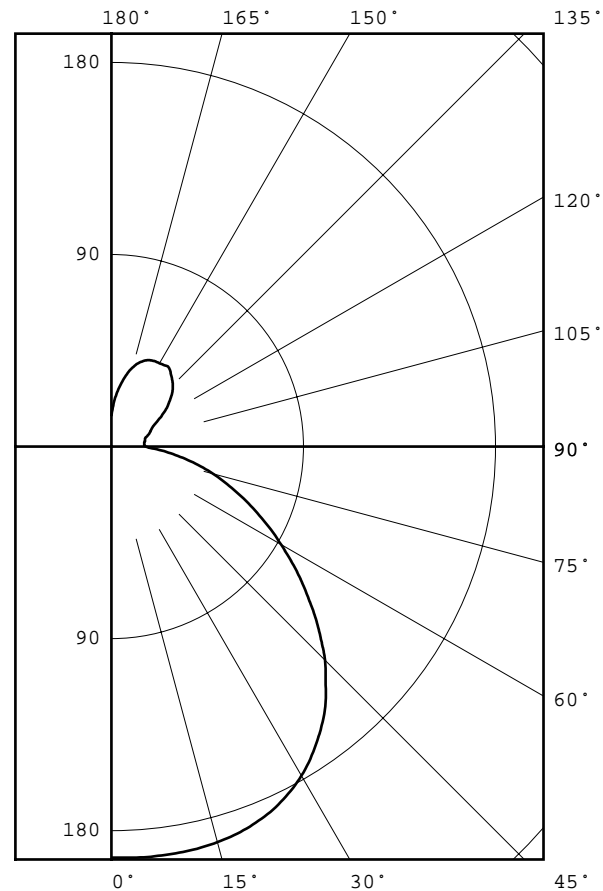
REPORT NUMBER: 16.00422
ISSUE DATE: 2/22/2016
PREPARED FOR: PROGRESS
CATALOG NUMBER: P2320-2030K9
LUMINAIRE: 14" X 5" LED Semi-Flush Mount with Etched White- #93058349
and Outer Decorative Cover
LAMP CAT. NO.: 93047261-4130
LAMP: 40- Nichia 3000K LEDs- AC Module 17W
MOUNTING: Ceiling
NOTE: DATA SHOWN IS ABSOLUTE FOR THE
SAMPLE PROVIDED.

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DEG	CANDELA	LUMENS
0	193	
5	193	18
15	192	54
25	185	85
35	168	105
45	142	109
55	108	97
65	77	76
75	49	52
85	25	27
90	16	
95	15	17
105	17	18
115	21	22
125	32	28
135	41	31
145	46	28
155	45	21
165	38	11
175	24	3
180	14	

ZONAL LUMEN SUMMARY	ZONE	LUMENS	%FIXT
0- 30		158	19.7
0- 40		263	32.8
0- 60		469	58.4
0- 90		624	77.8
90-120		57	7.1
90-130		85	10.6
90-150		144	18.0
90-180		178	22.2
0-180		803	100.0

TOTAL INPUT WATTS = 16.5
EFFICACY = 48.7 Lm/W
CIE TYPE - SEMI-DIRECT
LUMINAIRE SPACING CRITERION = 1.4





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LUMINOUS DIAMETER: 12.000
HEIGHT OF SIDE : 4.000

LUMINANCE DATA IN CANDELA/SQ METER

ANGLE AVERAGE

IN DEG

45	1926.
55	1609.
65	1300.
75	1010.
85	666.



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CANDELA DISTRIBUTION

	0.0
0.0	193
5.0	193
10.0	193
15.0	192
20.0	190
25.0	185
30.0	178
35.0	168
40.0	156
45.0	142
50.0	125
55.0	108
60.0	92
65.0	77
70.0	62
75.0	49
80.0	36
85.0	25
90.0	16
95.0	15
100.0	16
105.0	17
110.0	19
115.0	21
120.0	26
125.0	32
130.0	37
135.0	41
140.0	44
145.0	46
150.0	45
155.0	45
160.0	43
165.0	38
170.0	32
175.0	24
180.0	14



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ZONAL LUMEN SUMMARY

0- 5	5.
5- 10	14.
10- 15	23.
15- 20	31.
20- 25	39.
25- 30	46.
30- 35	51.
35- 40	54.
40- 45	55.
45- 50	54.
50- 55	51.
55- 60	46.
60- 65	41.
65- 70	35.
70- 75	29.
75- 80	23.
80- 85	17.
85- 90	11.
90- 95	9.
95-100	9.
100-105	9.
105-110	9.
110-115	10.
115-120	11.
120-125	13.
125-130	15.
130-135	16.
135-140	16.
140-145	15.
145-150	13.
150-155	11.
155-160	9.
160-165	7.
165-170	4.
170-175	2.
175-180	0.



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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	5
5- 10	14
10- 15	23
15- 20	31
20- 25	39
25- 30	46
30- 35	51
35- 40	54
40- 45	55
45- 50	54
50- 55	51
55- 60	46
60- 65	41
65- 70	35
70- 75	29
75- 80	23
80- 85	17
85- 90	11
90- 95	9
95-100	9
100-105	9
105-110	9
110-115	10
115-120	11
120-125	13
125-130	15
130-135	16
135-140	16
140-145	15
145-150	13
150-155	11
155-160	9
160-165	7
165-170	4
170-175	2
175-180	0

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	18
0- 20	73
0- 30	158
0- 40	263
0- 50	372
0- 60	469
0- 70	545
0- 80	597
0- 90	624
0-100	641
0-110	659
0-120	681
0-130	709
0-140	740
0-150	769
0-160	789
0-170	800
0-180	803



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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	
0	114	114	114	114	109	109	109	109	99	99	99	90	90	90	82	82	82	78
1	103	98	93	89	98	93	89	86	85	82	79	77	75	73	70	68	67	63
2	93	85	78	72	88	81	75	69	74	69	65	67	63	60	61	58	55	52
3	85	74	66	60	80	71	64	58	65	59	54	59	54	50	54	50	47	43
4	77	66	57	50	73	63	55	49	57	51	46	53	47	43	48	43	40	37
5	71	58	49	43	67	56	48	42	51	44	39	47	41	37	43	38	34	32
6	66	52	44	37	62	50	42	36	46	39	34	42	37	32	39	34	30	28
7	61	47	39	33	58	45	37	32	42	35	30	39	33	28	35	31	27	24
8	56	43	35	29	54	41	34	28	38	32	27	35	30	25	33	28	24	22
9	52	39	31	26	50	38	30	25	35	29	24	32	27	23	30	25	21	19
10	49	36	28	23	47	35	28	23	32	26	22	30	24	21	28	23	19	18

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: ITL78966-1000-14

Calibration Current: 8.300 Amps DC

Total Luminous Flux: 23413.0 Lumens

Calibration Date: 07/18/2015

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL / HLI LAB 6 - Test Distance: 31.3'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27076V	11/10/2016
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	1912745	11/10/2016

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