

Project Number  
15.00658



**HUBBELL**  
Lighting

Date  
4/24/2015

LAB 1

### Test Sample Description

Catalog Number: P2304-0930K9  
Description: C-T-C 11.375" Flush Mount with HAL 17W LED Module - Brushed Nickel finish

Test Method: IES LM-79-08 § 10  
Preburn Time: 00:10  
Time To Stabilize: 1:41  
Total Operating Time: 2:20  
  
Input Voltage (Volts): 120.1  
Input Current (Amps): 0.150  
Input Wattage (Watts): 16.8  
Ambient Temp (°C): 25.1



### Hubbell Lighting, Inc.

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Checked: 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.



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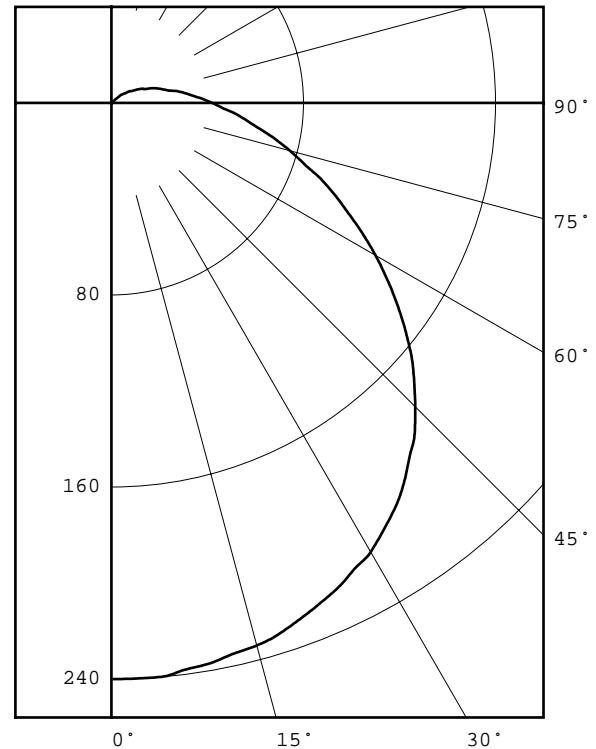
REPORT NUMBER: 15.00658  
ISSUE DATE: 04/24/15  
PREPARED FOR: PROGRESS  
CATALOG NUMBER: P2304-0930K9  
LUMINAIRE: C-T-C 11.375" Flush Mount with HAL 17W LED Module -  
Brushed Nickle Finish  
LENS: Etched Glass Part #93048534  
LAMP CAT. NO.: 93047261-4130  
LAMP: 40 - Nichia 3000K LEDs  
MOUNTING: CEILING  
NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

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DEG	CANDELA	LUMENS
0	240	
5	240	23
15	234	66
25	223	103
35	206	129
45	179	138
55	145	130
65	109	108
75	77	82
85	52	57
90	42	
95	34	38
105	22	24
115	14	14
125	7	7
135	0	1
145	0	0
155	0	0
165	0	0
175	0	0
180	0	0

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	192	20.9
0- 40	320	34.9
0- 60	588	64.2
0- 90	835	91.0
90-120	75	8.2
90-130	82	8.9
90-150	82	9.0
90-180	82	9.0
0-180	917	100.0

TOTAL INPUT WATTS = 16.8  
EFFICACY = 54.6 Lm/W  
CIE TYPE - DIRECT  
LUMINAIRE SPACING CRITERION = 1.3





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LUMINOUS DIAMETER: 9.500  
HEIGHT OF SIDE : 3.500

LUMINANCE DATA IN CANDELA/SQ METER

ANGLE AVERAGE

IN DEG

45	3767.
55	3309.
65	2811.
75	2364.
85	2050.



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CANDELA DISTRIBUTION

	0.0
0.0	240
5.0	240
10.0	237
15.0	234
20.0	229
25.0	223
30.0	216
35.0	206
40.0	193
45.0	179
50.0	163
55.0	145
60.0	127
65.0	109
70.0	93
75.0	77
80.0	63
85.0	52
90.0	42
95.0	34
100.0	28
105.0	22
110.0	18
115.0	14
120.0	10
125.0	7
130.0	5
135.0	0
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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ZONAL LUMEN SUMMARY

0- 5	6.
5- 10	17.
10- 15	28.
15- 20	38.
20- 25	47.
25- 30	55.
30- 35	62.
35- 40	67.
40- 45	69.
45- 50	69.
50- 55	67.
55- 60	63.
60- 65	57.
65- 70	51.
70- 75	44.
75- 80	37.
80- 85	31.
85- 90	25.
90- 95	21.
95-100	17.
100-105	13.
105-110	10.
110-115	8.
115-120	6.
120-125	4.
125-130	3.
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.



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5-DEGREE  
ZONAL LUMEN SUMMARY

0- 5	6
5- 10	17
10- 15	28
15- 20	38
20- 25	47
25- 30	55
30- 35	62
35- 40	67
40- 45	69
45- 50	69
50- 55	67
55- 60	63
60- 65	57
65- 70	51
70- 75	44
75- 80	37
80- 85	31
85- 90	25
90- 95	21
95-100	17
100-105	13
105-110	10
110-115	8
115-120	6
120-125	4
125-130	3
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	23
0- 20	89
0- 30	192
0- 40	320
0- 50	459
0- 60	588
0- 70	697
0- 80	778
0- 90	835
0-100	873
0-110	896
0-120	910
0-130	917
0-140	917
0-150	917
0-160	917
0-170	917
0-180	917



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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	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	91
1	104	99	94	89	101	96	91	87	90	86	82	84	81	78	79	77	74	71
2	94	85	77	71	91	82	75	69	77	71	66	72	68	63	68	64	61	58
3	85	74	65	58	82	72	63	57	67	60	55	63	58	53	60	55	51	48
4	78	65	56	49	75	63	54	48	59	52	46	56	50	45	53	47	43	40
5	71	58	48	41	69	56	47	41	53	45	40	50	43	38	47	42	37	35
6	66	52	43	36	63	50	42	35	48	40	34	45	38	33	43	37	32	30
7	61	47	38	31	59	46	37	31	43	36	30	41	34	29	39	33	29	26
8	57	43	34	28	54	42	33	28	40	32	27	38	31	26	36	30	25	23
9	53	39	31	25	51	38	30	25	36	29	24	35	28	23	33	27	23	21
10	49	36	28	23	48	35	27	22	33	27	22	32	26	21	31	25	21	19

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:* 25753.0 Lumens

*Calibration Date:* 12/02/2014

### *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	11/12/2015
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	176F4E3	11/11/2015

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