

Project Number
15.00655



Date
4/23/2015

LAB 1

Test Sample Description

Catalog Number: P2300-2030K9
Description: C-T-C 11' LED Flush Mount w/ HAL 17W LED Module

Test Method: IES LM-79-08 § 10
Preburn Time: 00:10
Time To Stabilize: 1:26
Total Operating Time: 1:53

Input Voltage (Volts): 120.1
Input Current (Amps): 0.150
Input Wattage (Watts): 16.6
Ambient Temp (°C): 25.0



Hubbell Lighting, Inc.

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Greenville, SC 29607
www.hubbellighting.com

Checked: D. ROBBINS
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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ISSUE DATE: 04/23/15

PREPARED FOR: PROGRESS

CATALOG NUMBER: P2300-2030K9

LUMINAIRE: C-T-C 11' LED Flush Mount w/ HAL 17W LED Module

REFRACTOR: Etched Glass Part #93048528

LAMP CAT. NO.: 93047261-4130

LAMP: 40 - Nichia 3000K LEDs

MOUNTING: Ceiling

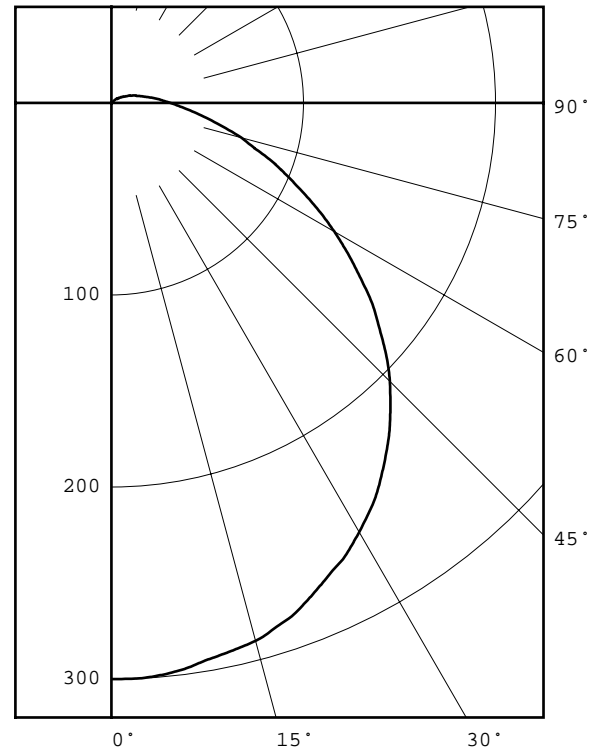
NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

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DEG	CANDELA	LUMENS
0	300	
5	299	28
15	290	82
25	270	125
35	243	152
45	205	158
55	158	142
65	110	110
75	70	74
85	40	44
90	31	
95	24	26
105	14	15
115	8	8
125	4	4
135	0	0
145	0	0
155	0	0
165	0	0
175	0	0
180	0	0

ZONAL LUMEN ZONE	SUMMARY LUMENS	%FIXT
0- 30	235	24.3
0- 40	387	39.9
0- 60	686	70.9
0- 90	914	94.4
90-120	50	5.2
90-130	54	5.6
90-150	54	5.6
90-180	54	5.6
0-180	968	100.0

TOTAL INPUT WATTS = 16.7
EFFICACY = 58.0 Lm/W
CIE TYPE - DIRECT
LUMINAIRE SPACING CRITERION = 1.3





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LUMINOUS DIAMETER: 9.500
HEIGHT OF SIDE : 3.000

LUMINANCE DATA IN CANDELA/SQ METER

ANGLE AVERAGE

IN DEG

45	4520.
55	3825.
65	3055.
75	2364.
85	1793.



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CANDELA DISTRIBUTION

	0.0
0.0	300
5.0	299
10.0	294
15.0	290
20.0	282
25.0	270
30.0	258
35.0	243
40.0	225
45.0	205
50.0	182
55.0	158
60.0	134
65.0	110
70.0	89
75.0	70
80.0	53
85.0	40
90.0	31
95.0	24
100.0	18
105.0	14
110.0	11
115.0	8
120.0	6
125.0	4
130.0	3
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	7.
5- 10	21.
10- 15	35.
15- 20	47.
20- 25	58.
25- 30	67.
30- 35	74.
35- 40	78.
40- 45	80.
45- 50	78.
50- 55	74.
55- 60	67.
60- 65	59.
65- 70	50.
70- 75	41.
75- 80	33.
80- 85	25.
85- 90	19.
90- 95	15.
95-100	11.
100-105	9.
105-110	7.
110-115	5.
115-120	3.
120-125	2.
125-130	2.
130-135	0.
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	7
5- 10	21
10- 15	35
15- 20	47
20- 25	58
25- 30	67
30- 35	74
35- 40	78
40- 45	80
45- 50	78
50- 55	74
55- 60	67
60- 65	59
65- 70	50
70- 75	41
75- 80	33
80- 85	25
85- 90	19
90- 95	15
95-100	11
100-105	9
105-110	7
110-115	5
115-120	3
120-125	2
125-130	2
130-135	0
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	28
0- 20	110
0- 30	235
0- 40	387
0- 50	545
0- 60	686
0- 70	796
0- 80	870
0- 90	914
0-100	940
0-110	956
0-120	964
0-130	968
0-140	968
0-150	968
0-160	968
0-170	968
0-180	968



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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	94
1	106	101	96	92	103	98	94	90	93	89	86	88	85	82	83	81	79	76	76
2	96	87	80	74	93	85	78	73	81	75	70	76	72	68	73	69	65	63	63
3	88	77	68	61	85	75	67	60	71	64	59	67	62	57	64	59	55	53	53
4	80	68	59	52	77	66	58	51	63	56	50	60	54	48	57	52	47	45	45
5	74	60	51	44	71	59	50	44	56	49	43	54	47	42	51	46	41	39	39
6	68	54	45	39	66	53	45	38	51	43	37	48	42	37	46	41	36	34	34
7	63	49	40	34	61	48	40	34	46	39	33	44	37	32	42	36	32	30	30
8	59	45	36	30	57	44	36	30	42	35	30	40	34	29	39	33	29	27	27
9	55	41	33	27	53	40	32	27	39	32	27	37	31	26	36	30	26	24	24
10	51	38	30	25	50	37	30	24	36	29	24	34	28	24	33	27	23	22	22

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>
Goniophotometer	ITL / HLI LAB 1- Test Distance: 31.75'	N/A	N/A
Power Analyzer	Yokogawa / WT 332	C2QA27071V	11/12/2015
Power Source	Voltage-Regulated House Power	N/A	N/A
Thermometer	National Instruments / USB-TC01	176F4E3	11/11/2015

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