

Project Number
15.00435



HUBBELL
Lighting

Date
3/16/2015

LAB 1

Test Sample Description

Catalog Number: P2301-2030K9
Description: C-T-C 12 1/2" LED FLUSH MOUNT w/ 10 3/4" ETCHED GLASS BOWL

Test Method: IES LM-79-08 § 10
Preburn Time: 00:10
Time To Stabilize: 1:43
Total Operating Time: 2:38

Input Voltage (Volts): 120.0
Input Current (Amps): 0.149
Input Wattage (Watts): 16.5
Ambient Temp (°C): 25.0



Hubbell Lighting, Inc.

701 Millennium Boulevard
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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REPORT NUMBER: 15.00435

PAGE: 2 OF 8

ISSUE DATE: 03/16/15

PREPARED FOR: PROGRESS

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LUMINAIRE: C-T-C 12 1/2" LED FLUSH MOUNT w/ 10 3/4" ETCHED GLASS BOWL

LAMP CAT. NO.: 93047261-4130 Module

LAMP: 40 - Nichia 3000K LEDs w/ HAL 17W, 120V module

MOUNTING: Ceiling

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

DEG	CANDELA	LUMENS
0	285	
5	285	27
15	276	78
25	259	119
35	233	146
45	198	153
55	156	139
65	111	110
75	70	75
85	41	45
90	30	
95	23	25
105	13	14
115	8	8
125	0	1
135	0	0
145	0	0
155	0	0
165	0	0
175	0	0
180	0	0

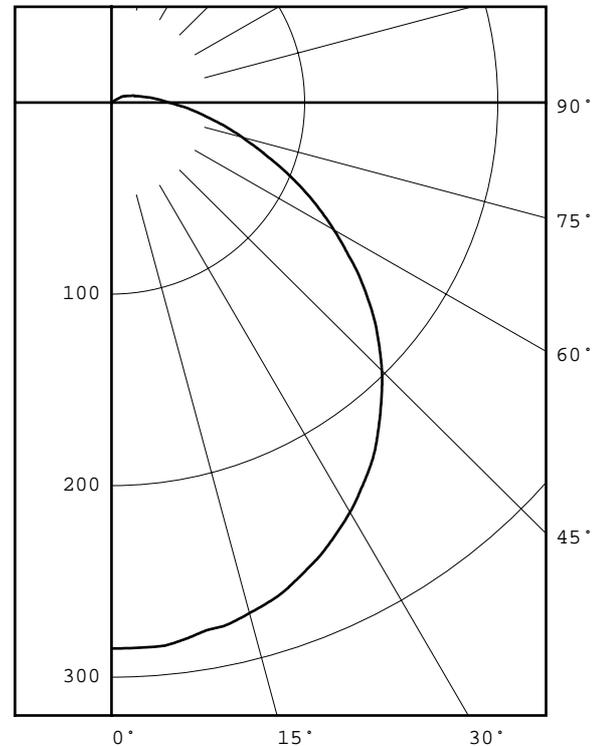
ZONAL LUMEN ZONE	SUMMARY LUMENS	%FIXT
0- 30	224	23.9
0- 40	370	39.4
0- 60	662	70.5
0- 90	891	94.9
90-120	47	5.0
90-130	48	5.1
90-150	48	5.1
90-180	48	5.1
0-180	939	100.0

TOTAL INPUT WATTS = 16.5

EFFICACY = 56.9 Lm/W

CIE TYPE - DIRECT

LUMINAIRE SPACING CRITERION = 1.3





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REPORT NUMBER: 15.00435
ISSUE DATE: 03/16/15
PREPARED FOR: PROGRESS

PAGE: 3 OF 8

LUMINOUS DIAMETER: 10.000
HEIGHT OF SIDE : 3.000

LUMINANCE DATA IN CANDELA/SQ METER

ANGLE AVERAGE

IN DEG

45	3997.
55	3472.
65	2848.
75	2200.
85	1730.



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REPORT NUMBER: 15.00435
ISSUE DATE: 03/16/15
PREPARED FOR: PROGRESS

PAGE: 4 OF 8

CANDELA DISTRIBUTION

	0.0
0.0	285
5.0	285
10.0	280
15.0	276
20.0	269
25.0	259
30.0	247
35.0	233
40.0	216
45.0	198
50.0	178
55.0	156
60.0	133
65.0	111
70.0	89
75.0	70
80.0	54
85.0	41
90.0	30
95.0	23
100.0	17
105.0	13
110.0	10
115.0	8
120.0	6
125.0	0
130.0	0
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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REPORT NUMBER: 15.00435
ISSUE DATE: 03/16/15
PREPARED FOR: PROGRESS

PAGE: 5 OF 8

ZONAL LUMEN SUMMARY

0- 5	7.
5- 10	20.
10- 15	33.
15- 20	45.
20- 25	55.
25- 30	64.
30- 35	71.
35- 40	75.
40- 45	77.
45- 50	76.
50- 55	73.
55- 60	67.
60- 65	59.
65- 70	51.
70- 75	41.
75- 80	33.
80- 85	26.
85- 90	19.
90- 95	14.
95-100	11.
100-105	8.
105-110	6.
110-115	5.
115-120	3.
120-125	1.
125-130	0.
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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REPORT NUMBER: 15.00435
ISSUE DATE: 03/16/15
PREPARED FOR: PROGRESS

PAGE: 6 OF 8

5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	7
5- 10	20
10- 15	33
15- 20	45
20- 25	55
25- 30	64
30- 35	71
35- 40	75
40- 45	77
45- 50	76
50- 55	73
55- 60	67
60- 65	59
65- 70	51
70- 75	41
75- 80	33
80- 85	26
85- 90	19
90- 95	14
95-100	11
100-105	8
105-110	6
110-115	5
115-120	3
120-125	1
125-130	0
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	27
0- 20	105
0- 30	224
0- 40	370
0- 50	523
0- 60	662
0- 70	772
0- 80	846
0- 90	891
0-100	916
0-110	931
0-120	939
0-130	939
0-140	939
0-150	939
0-160	939
0-170	939
0-180	939



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REPORT NUMBER: 15.00435
ISSUE DATE: 03/16/15

PAGE: 7 OF 8

PREPARED FOR: PROGRESS

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
0	118	118	118	118	114	114	114	114	108	108	108	103	103	103	97	97	97	95
1	106	101	96	92	103	98	94	90	93	89	86	88	85	82	83	81	79	76
2	96	87	80	74	93	85	78	72	80	75	70	76	72	68	73	69	65	63
3	87	76	68	61	84	74	66	60	71	64	58	67	61	57	64	59	55	52
4	80	67	58	51	77	66	57	51	62	55	49	60	53	48	57	51	47	45
5	73	60	51	44	71	59	50	43	56	48	43	53	47	42	51	45	41	38
6	68	54	45	38	65	53	44	38	50	43	37	48	41	36	46	40	36	33
7	63	49	40	34	61	48	39	33	46	38	33	44	37	32	42	36	32	29
8	58	45	36	30	56	44	35	30	42	34	29	40	34	29	39	33	28	26
9	54	41	32	27	53	40	32	27	38	31	26	37	30	26	36	30	25	24
10	51	38	30	24	49	37	29	24	36	29	24	34	28	23	33	27	23	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 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	
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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