

Project Number
15.00753



HUBBELL
Lighting

Date
5/11/2015

LAB 1

Test Sample Description

Catalog Number: P3610-2030K9
Description: 1-Lt. LED Flush Mount with HAL 17W Module

Test Method: IES LM-79-08 § 10
Preburn Time: 00:00
Time To Stabilize: 1:29
Total Operating Time: 2:51

Input Voltage (Volts): 120.1
Input Current (Amps): 0.143
Input Wattage (Watts): 15.9
Ambient Temp (°C): 25.1



Hubbell Lighting, Inc.

701 Millennium Boulevard
Greenville, SC 29607
www.hubbellighting.com

Checked: D. BLACK
Approved: M. WASHBURN

NVLAP[®]
NVLAP LAB CODE: 201003-0



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CATALOG NUMBER: P3610-2030K9

LUMINAIRE: 1-Lt. LED Flush Mount with HAL 17W Module

REFRACTOR: OUTSIDE-clear glass with Linnen Pad Print INSIDE- Spray
diffuse Powder Part #93060638

LAMP CAT. NO.: 93047261-7130

LAMP: 40 - Nichia 3000K LEDs

MOUNTING: Ceiling

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

DEG	CANDELA	LUMENS
0	159	
5	159	15
15	154	43
25	143	66
35	128	80
45	109	84
55	86	77
65	60	59
75	34	37
85	15	17
90	9	
95	5	6
105	4	4
115	3	3
125	3	3
135	2	2
145	2	1
155	1	0
165	0	0
175	0	0
180	0	

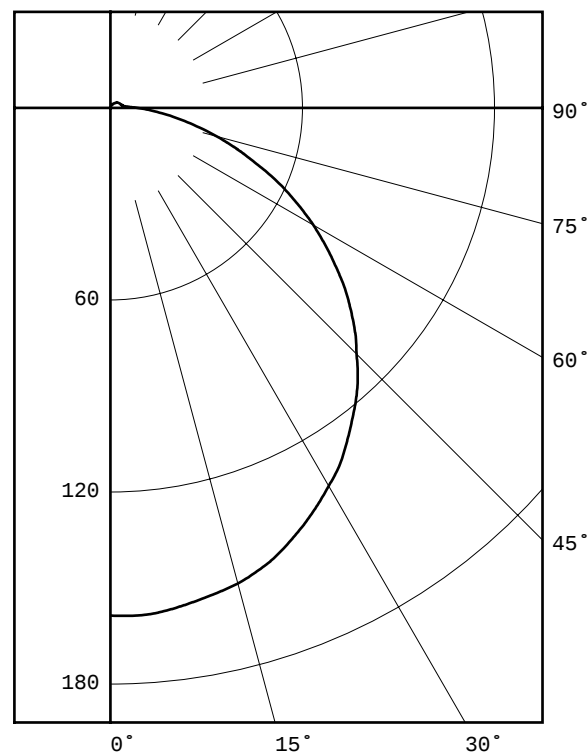
ZONAL ZONE	LUMEN	SUMMARY LUMENS	%FIXT
0- 30		125	25.1
0- 40		205	41.2
0- 60		366	73.6
0- 90		478	96.2
90-120		13	2.6
90-130		15	3.1
90-150		18	3.7
90-180		19	3.8
0-180		497	100.0

TOTAL INPUT WATTS = 15.9

EFFICACY = 31.3 Lm/W

CIE TYPE - DIRECT

LUMINAIRE SPACING CRITERION = 1.3





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LUMINOUS DIAMETER: 10.000
HEIGHT OF SIDE : 2.500

LUMINANCE DATA IN CANDELA/SQ METER

ANGLE AVERAGE

IN DEG

45	2303.
55	2029.
65	1667.
75	1198.
85	712.



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CANDELA DISTRIBUTION

	0.0
0.0	159
5.0	159
10.0	156
15.0	154
20.0	150
25.0	143
30.0	136
35.0	128
40.0	119
45.0	109
50.0	98
55.0	86
60.0	73
65.0	60
70.0	46
75.0	34
80.0	24
85.0	15
90.0	9
95.0	5
100.0	4
105.0	4
110.0	3
115.0	3
120.0	3
125.0	3
130.0	3
135.0	2
140.0	2
145.0	2
150.0	1
155.0	1
160.0	1
165.0	0
170.0	0
175.0	0
180.0	0



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ZONAL LUMEN SUMMARY

0- 5	4.
5- 10	11.
10- 15	18.
15- 20	25.
20- 25	31.
25- 30	35.
30- 35	39.
35- 40	41.
40- 45	42.
45- 50	42.
50- 55	40.
55- 60	37.
60- 65	32.
65- 70	27.
70- 75	21.
75- 80	15.
80- 85	10.
85- 90	6.
90- 95	4.
95-100	2.
100-105	2.
105-110	2.
110-115	2.
115-120	2.
120-125	1.
125-130	1.
130-135	1.
135-140	1.
140-145	1.
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	4
5- 10	11
10- 15	18
15- 20	25
20- 25	31
25- 30	35
30- 35	39
35- 40	41
40- 45	42
45- 50	42
50- 55	40
55- 60	37
60- 65	32
65- 70	27
70- 75	21
75- 80	15
80- 85	10
85- 90	6
90- 95	4
95-100	2
100-105	2
105-110	2
110-115	2
115-120	2
120-125	1
125-130	1
130-135	1
135-140	1
140-145	1
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	15
0- 20	58
0- 30	125
0- 40	205
0- 50	289
0- 60	366
0- 70	425
0- 80	462
0- 90	478
0-100	484
0-110	488
0-120	491
0-130	494
0-140	495
0-150	496
0-160	497
0-170	497
0-180	497



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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	96
1	107	102	98	93	104	99	95	92	94	91	88	90	87	85	86	83	81	79
2	97	89	81	76	94	86	80	74	82	77	72	78	74	70	75	71	68	65
3	88	78	69	62	86	76	68	62	72	66	60	69	63	59	66	61	57	55
4	81	69	60	53	78	67	59	52	64	57	51	61	55	50	59	53	49	46
5	74	61	52	45	72	60	51	45	57	50	44	55	48	43	53	47	42	40
6	69	55	46	39	66	54	45	39	52	44	38	50	43	38	48	42	37	35
7	63	50	41	35	61	49	40	34	47	39	34	45	38	33	43	37	33	31
8	59	45	37	31	57	45	36	31	43	35	30	41	35	30	40	34	29	27
9	55	42	33	28	53	41	33	28	39	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	38	30	25	36	29	25	35	29	24	34	28	24	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>
<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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