

Project Number
16.00244



HUBBELL
Lighting

Date
2/1/2016

LAB 6

Test Sample Description

Catalog Number: P2781-12930K9
Description: LED Linear Vanity 12" w/ Etched Opal Refractor Part # 93068578

Test Method: IES LM-79-08 § 10
Preburn Time: 8:00
Time To Stabilize: 6:42
Total Operating Time: 15:45

Input Voltage (Volts): 120.1
Input Current (Amps): 0.150
Input Wattage (Watts): 16.0
Ambient Temp (°C): 24.2



Hubbell Lighting, Inc.

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Checked: D. ROBBINS / B. FLAUM
Approved: M. WASHBURN





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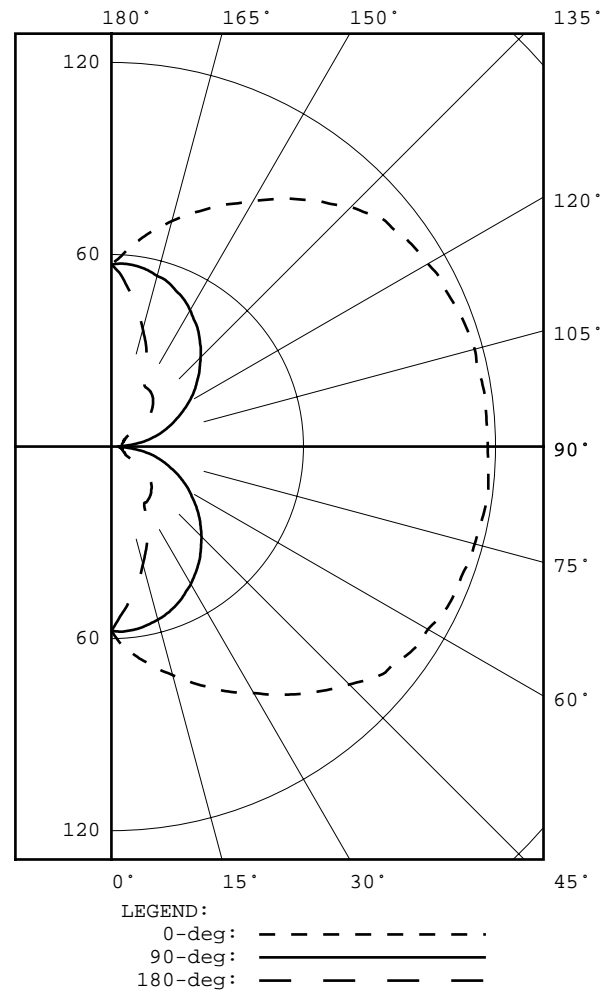
REPORT NUMBER: 16.00244
 ISSUE DATE: 02/01/16
 PREPARED FOR: COLUMBIA LIGHTING
 CATALOG NUMBER: P2781-12930K9
 LUMINAIRE: LED Linear Vanity 12" w/ Etched Opal Refractor Part # 93068578
 LAMP CAT. NO.: EVAC-5630-L36SE-04
 LAMP: 36 - EVAC 3000K LEDs
 MOUNTING: Wall
 NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

PAGE: 2 OF 8

CANDELA DISTRIBUTION						FLUX
	0.0	45.0	90.0	135.0	180.0	
0	58	58	58	58	58	
5	64	62	58	53	51	5
15	74	68	56	43	38	16
25	84	73	52	33	26	25
35	95	77	47	23	20	32
45	105	80	40	17	18	38
55	113	83	32	14	10	42
65	116	84	24	7	5	44
75	118	81	16	4	4	44
85	118	80	6	3	3	42
90	119	79	2	3	3	
95	118	79	6	3	3	42
105	118	81	16	4	4	44
115	115	84	24	6	4	44
125	113	84	32	15	9	42
135	106	81	39	18	18	39
145	95	77	46	22	21	32
155	83	73	52	33	26	25
165	73	68	55	43	38	16
175	62	61	57	53	51	5
180	57	57	57	57	57	

ZONAL LUMEN ZONE	SUMMARY LUMENS	%FIXT
0- 30	46	8.0
0- 40	78	13.5
0- 60	159	27.5
0- 90	288	50.0
90-120	130	22.5
90-130	172	29.8
90-150	243	42.1
90-180	289	50.0
0-180	577	100.0

TOTAL INPUT WATTS = 16.0
 EFFICACY = 36.1 Lm/W
 CIE TYPE - DIRECT-INDIRECT
 PLANE : 0-DEG 90-DEG 180-DEG
 SPACING CRITERIA : 2.4 1.3 0.7





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REPORT NUMBER: 16.00244
ISSUE DATE: 02/01/16
PREPARED FOR: COLUMBIA LIGHTING

PAGE: 3 OF 8

PLANE : 0-DEG 90-DEG
LUMINOUS LENGTH : 2.000 10.250
HEIGHT OF SIDE : 2.500 2.500

LUMINANCE DATA IN CANDELA/SQ METER

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 90-DEG	AVERAGE 180-DEG
45	4993.	3420.	846.
55	5351.	3147.	483.
65	5656.	2842.	224.
75	6057.	2415.	186.
85	6705.	1328.	182.



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REPORT NUMBER: 16.00244
ISSUE DATE: 02/01/16
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PAGE: 4 OF 8

CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0.0	58	58	58	58	58	58	58	58	58
5.0	64	63	62	60	58	55	53	51	51
10.0	69	68	65	62	57	52	48	45	44
15.0	74	72	68	63	56	49	43	40	38
20.0	79	77	71	63	54	45	39	34	32
25.0	84	81	73	63	52	41	33	29	26
30.0	89	85	75	62	50	37	28	23	21
35.0	95	89	77	61	47	33	23	21	20
40.0	100	94	79	60	43	28	18	20	19
45.0	105	98	80	58	40	24	17	18	18
50.0	111	102	82	57	36	19	16	17	16
55.0	113	105	83	55	32	15	14	13	10
60.0	114	106	84	53	28	13	12	7	5
65.0	116	107	84	51	24	12	7	6	5
70.0	117	107	82	49	20	11	5	5	4
75.0	118	108	81	50	16	9	4	4	4
80.0	118	108	80	46	11	7	4	4	3
85.0	118	108	80	43	6	6	3	4	3
90.0	119	108	79	41	2	5	3	4	3
95.0	118	108	79	44	6	6	3	4	3
100.0	118	108	80	45	11	7	4	4	3
105.0	118	108	81	49	16	8	4	5	4
110.0	117	108	83	50	20	11	5	5	4
115.0	115	108	84	52	24	12	6	5	4
120.0	114	107	85	54	28	13	12	6	5
125.0	113	106	84	55	32	14	15	12	9
130.0	111	103	83	57	36	18	16	17	16
135.0	106	99	81	59	39	23	18	19	18
140.0	100	95	79	61	43	28	19	21	20
145.0	95	90	77	62	46	32	22	22	21
150.0	89	85	75	62	49	37	27	22	21
155.0	83	81	73	63	52	41	33	28	26
160.0	78	77	71	63	54	45	38	34	32
165.0	73	72	68	62	55	49	43	39	38
170.0	68	67	65	61	57	52	48	45	45
175.0	62	62	61	59	57	55	53	51	51
180.0	57	57	57	57	57	57	57	57	57



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REPORT NUMBER: 16.00244
ISSUE DATE: 02/01/16
PREPARED FOR: COLUMBIA LIGHTING

PAGE: 5 OF 8

ZONAL LUMEN SUMMARY

0- 5	1.
5- 10	4.
10- 15	7.
15- 20	9.
20- 25	11.
25- 30	13.
30- 35	15.
35- 40	17.
40- 45	18.
45- 50	20.
50- 55	21.
55- 60	21.
60- 65	22.
65- 70	22.
70- 75	22.
75- 80	22.
80- 85	21.
85- 90	21.
90- 95	21.
95-100	21.
100-105	22.
105-110	22.
110-115	22.
115-120	22.
120-125	21.
125-130	21.
130-135	20.
135-140	19.
140-145	17.
145-150	15.
150-155	13.
155-160	11.
160-165	9.
165-170	7.
170-175	4.
175-180	1.



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REPORT NUMBER: 16.00244
ISSUE DATE: 02/01/16
PREPARED FOR: COLUMBIA LIGHTING

PAGE: 6 OF 8

5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	1
5- 10	4
10- 15	7
15- 20	9
20- 25	11
25- 30	13
30- 35	15
35- 40	17
40- 45	18
45- 50	20
50- 55	21
55- 60	21
60- 65	22
65- 70	22
70- 75	22
75- 80	22
80- 85	21
85- 90	21
90- 95	21
95-100	21
100-105	22
105-110	22
110-115	22
115-120	22
120-125	21
125-130	21
130-135	20
135-140	19
140-145	17
145-150	15
150-155	13
155-160	11
160-165	9
165-170	7
170-175	4
175-180	1

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	5
0- 20	21
0- 30	46
0- 40	78
0- 50	116
0- 60	159
0- 70	202
0- 80	246
0- 90	288
0-100	331
0-110	374
0-120	418
0-130	460
0-140	499
0-150	531
0-160	556
0-170	571
0-180	577



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REPORT NUMBER: 16.00244
ISSUE DATE: 02/01/16

PAGE: 7 OF 8

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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	94	88	83	79	86	81	77	73	68	64	61	55	53	50	44	42	40	35
2	85	75	68	61	77	69	63	57	58	52	48	47	43	40	37	34	32	27
3	76	65	57	50	70	60	52	46	50	44	39	40	36	32	32	28	25	21
4	69	57	48	41	63	52	44	38	44	37	32	35	31	27	28	24	21	17
5	63	50	41	35	58	46	38	32	39	32	27	31	26	23	25	21	18	14
6	58	45	36	30	53	41	33	28	35	28	23	28	23	19	22	18	15	12
7	54	40	32	26	49	37	29	24	31	25	20	25	21	17	20	16	13	11
8	50	36	28	22	45	34	26	21	28	22	18	23	18	15	18	15	12	9
9	46	33	25	20	42	31	23	18	26	20	16	21	17	13	17	13	11	8
10	43	30	23	18	39	28	21	16	24	18	14	20	15	12	16	12	9	7

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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This report shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.