

Project Number
P16.00920



HUBBELL
Lighting

Date
4/14/2016

LAB 5

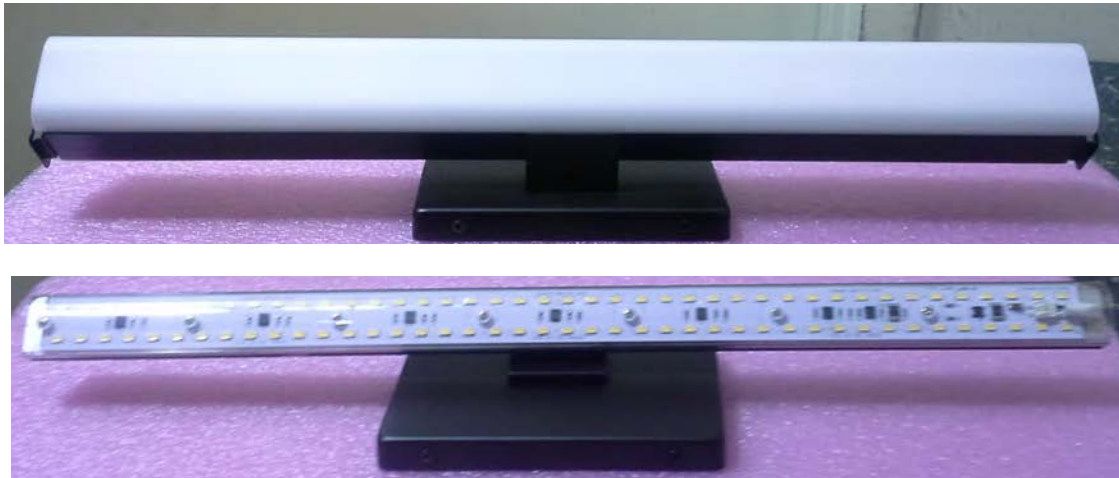
Test Sample Description

Catalog Number: P2839-0930K9
Description: LED Linear Vanity 24"- Up/Down Light

NOTE: *** THE ORIGINAL DATA CAME FROM TEST 16.00247.IES ***

Test Method: IES LM-79-08 § 10
Preburn Time: 0:00
Time To Stabilize: 8:00
Total Operating Time: 9:00

Input Voltage (Volts): 120.0
Input Current (Amps): 0.351
Input Wattage (Watts): 37.0
Ambient Temp (°C): 25.0



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Checked: R. WILLIAMS/D. BLACK
Approved: P. McCARTHY

NVLAP[®]
NVLAP LAB CODE: 201003-0



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REPORT NUMBER: P16.00920
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PREPARED FOR: PROGRESS
CATALOG NUMBER: P2839-0930K9
LUMINAIRE: 24" LED Linear Vanity
LAMP CAT. NO.: EVAC-5630-L84SE-07
LAMP: 84- 3000k LEDS
REFRACTOR: Etched Opal - Part #93068585
MOUNTING: WALL

PAGE: 2 OF 9

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

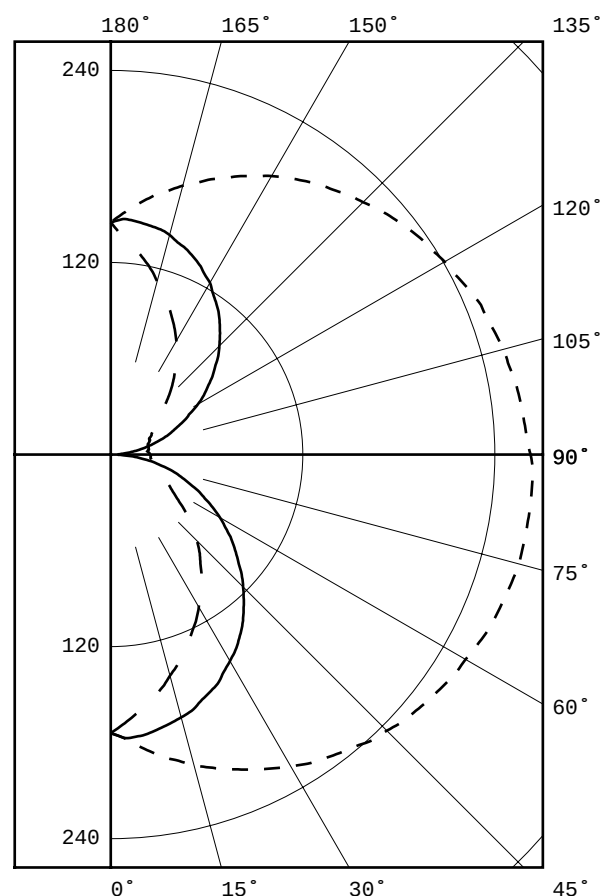
*** THE ORIGINAL DATA CAME FROM TEST16.00247.IES ***

CANDELA DISTRIBUTION

	0.0	45.0	90.0	135.0	180.0
0	174	174	174	174	174
5	182	181	177	166	164
15	201	192	170	149	143
25	217	197	158	130	121
35	232	199	140	107	98
45	244	198	117	83	76
55	253	192	92	60	53
65	260	186	65	38	39
75	264	180	40	26	31
85	264	174	14	18	25
90	263	173	4	16	24
95	259	170	9	15	23
105	254	170	29	19	24
115	246	171	51	25	28
125	236	172	74	41	34
135	223	174	96	60	51
145	209	174	115	81	71
155	192	170	131	102	92
165	174	163	142	121	112
175	155	152	147	138	133
180	145	145	145	145	145

FLUX

17
48
75
96
108
112
109
104
98
94
95
95
95
90
80
63
40
14



LEGEND:
0-deg: - - - - -
90-deg: _____
180-deg: — — — —

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	140	9.8
0- 40	236	16.5
0- 60	456	31.8
0- 90	767	53.5
90-120	284	19.8
90-130	379	26.4
90-150	549	38.3
90-180	666	46.5
0-180	1433	100.0

TOTAL INPUT WATTS = 37.0
EFFICACY = 38.7 Lm/W
CIE TYPE - DIRECT-INDIRECT
PLANE : 0-DEG 90-DEG 180-DEG
SPACING CRITERIA : 2.0 1.3 1.0



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REPORT NUMBER: P16.00920
ISSUE DATE: 04/14/16
PREPARED FOR: PROGRESS

PAGE: 3 OF 9

PLANE : 0-DEG 90-DEG
BEAM ANGLE (50%) : 205.5 X 77.5 DEGREES
FIELD ANGLE (10%): 329.0 X 160.4 DEGREES



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REPORT NUMBER: P16.00920
ISSUE DATE: 04/14/16
PREPARED FOR: PROGRESS

PAGE: 4 OF 9

PLANE	:	0-DEG	90-DEG
LUMINOUS LENGTH	:	2.500	22.000
HEIGHT OF SIDE	:	2.250	2.250

LUMINANCE DATA IN CANDELA/SQ METER

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 90-DEG	AVERAGE 180-DEG
45	5116.	4229.	1594.
55	5437.	3943.	1139.
65	5915.	3554.	887.
75	6592.	3151.	774.
85	7560.	2086.	716.



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REPORT NUMBER: P16.00920
ISSUE DATE: 04/14/16
PREPARED FOR: PROGRESS

PAGE: 5 OF 9

CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0.0	174	174	174	174	174	174	174	174	174
5.0	182	183	181	178	177	169	166	165	164
10.0	192	192	187	180	174	164	158	155	154
15.0	201	200	192	180	170	157	149	145	143
20.0	209	207	195	179	164	148	140	135	132
25.0	217	213	197	177	158	140	130	124	121
30.0	225	219	199	173	149	129	118	113	110
35.0	232	224	199	168	140	119	107	101	98
40.0	238	228	199	162	129	107	95	90	87
45.0	244	231	198	155	117	95	83	78	76
50.0	249	234	195	146	104	82	72	67	65
55.0	253	236	192	138	92	70	60	56	53
60.0	256	237	189	128	79	58	49	45	44
65.0	260	239	186	119	65	46	38	38	39
70.0	262	240	183	109	52	34	30	34	34
75.0	264	241	180	103	40	24	26	30	31
80.0	264	240	177	95	27	16	21	27	28
85.0	264	239	174	88	14	13	18	24	25
90.0	263	238	173	85	4	11	16	23	24
95.0	259	234	170	83	9	10	15	22	23
100.0	257	232	169	86	19	12	17	23	24
105.0	254	230	170	90	29	15	19	23	24
110.0	250	228	170	96	40	22	21	25	26
115.0	246	225	171	102	51	31	25	27	28
120.0	241	222	172	109	63	41	31	31	31
125.0	236	218	172	118	74	52	41	36	34
130.0	230	214	174	124	85	62	50	44	41
135.0	223	210	174	131	96	73	60	54	51
140.0	216	205	174	137	106	84	71	64	61
145.0	209	199	174	142	115	94	81	74	71
150.0	201	193	172	146	124	104	92	85	82
155.0	192	186	170	150	131	113	102	95	92
160.0	183	179	167	152	137	122	112	105	102
165.0	174	172	163	153	142	130	121	115	112
170.0	165	163	158	152	145	136	130	125	123
175.0	155	155	152	150	147	142	138	135	133
180.0	145	145	145	145	145	145	145	145	145



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REPORT NUMBER: P16.00920
ISSUE DATE: 04/14/16
PREPARED FOR: PROGRESS

PAGE: 6 OF 9

ZONAL LUMEN SUMMARY

0- 5	4.
5- 10	12.
10- 15	20.
15- 20	28.
20- 25	35.
25- 30	41.
30- 35	46.
35- 40	50.
40- 45	53.
45- 50	55.
50- 55	56.
55- 60	56.
60- 65	55.
65- 70	54.
70- 75	53.
75- 80	51.
80- 85	50.
85- 90	48.
90- 95	47.
95-100	47.
100-105	47.
105-110	48.
110-115	48.
115-120	48.
120-125	48.
125-130	47.
130-135	46.
135-140	44.
140-145	42.
145-150	38.
150-155	34.
155-160	29.
160-165	23.
165-170	17.
170-175	10.
175-180	3.



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REPORT NUMBER: P16.00920
ISSUE DATE: 04/14/16
PREPARED FOR: PROGRESS

PAGE: 7 OF 9

5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	4
5- 10	12
10- 15	20
15- 20	28
20- 25	35
25- 30	41
30- 35	46
35- 40	50
40- 45	53
45- 50	55
50- 55	56
55- 60	56
60- 65	55
65- 70	54
70- 75	53
75- 80	51
80- 85	50
85- 90	48
90- 95	47
95-100	47
100-105	47
105-110	48
110-115	48
115-120	48
120-125	48
125-130	47
130-135	46
135-140	44
140-145	42
145-150	38
150-155	34
155-160	29
160-165	23
165-170	17
170-175	10
175-180	3

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	17
0- 20	65
0- 30	140
0- 40	236
0- 50	344
0- 60	456
0- 70	565
0- 80	669
0- 90	767
0-100	861
0-110	956
0-120	1051
0-130	1146
0-140	1236
0-150	1316
0-160	1379
0-170	1419
0-180	1433



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REPORT NUMBER: P16.00920
ISSUE DATE: 04/14/16

PAGE: 8 OF 9

PREPARED FOR: PROGRESS

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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	54
1	95	90	85	80	88	83	78	74	70	67	64	58	56	53	48	46	44	39
2	86	77	69	63	79	71	64	59	60	55	50	50	46	42	40	37	35	30
3	78	67	58	51	71	61	54	48	52	46	41	43	38	35	35	31	28	24
4	71	58	49	43	65	54	46	40	46	39	34	38	33	29	31	27	24	20
5	65	52	43	36	59	48	40	34	40	34	29	34	29	25	27	23	20	17
6	59	46	37	31	54	43	35	29	36	30	25	30	25	21	25	21	18	15
7	55	41	33	27	50	38	31	25	33	26	22	27	22	19	22	18	15	13
8	51	38	29	24	47	35	27	22	30	24	19	25	20	16	20	17	14	11
9	47	34	26	21	43	32	25	20	27	21	17	23	18	15	19	15	12	10
10	44	31	24	19	41	29	22	17	25	19	15	21	16	13	17	14	11	9

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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4/14/2016

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: 08/04/2015

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL / HLI LAB 5 - Test Distance: 56.0'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27072V	11/10/2016
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	1912722	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.