

Project Number
8888



HUBBELL
Lighting

Date
4/10/2014

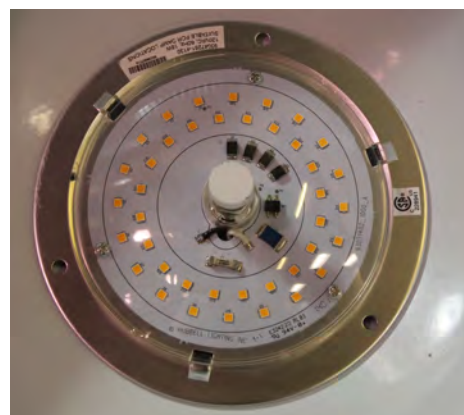
Lab #1

Test Sample Description

Catalog Number: P5188-0930K9
Description: 1-LT. PENDANT, 17W LED MODULE

Test Method: IES LM-79-08 § 10
Preburn Time: 00:00
Time To Stabilize: 1:34
Total Operating Time: 3:42

Input Voltage (Volts): 120.1
Input Current (Amps): 0.144
Input Wattage (Watts): 16.1
Ambient Temp (°C): 25.9



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NVLAP[®]
NVLAP LAB CODE: 201003-0



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REPORT NUMBER: 8888
ISSUE DATE: 04/10/14
PREPARED FOR: PROGRESS
CATALOG NUMBER: P5188-0930K9
LUMINAIRE: 1-LT. PENDANT, 17W LED MODULE
LAMP: 1- HAL LED WAFER
BALLAST: NO DRIVER REQUIRED
MOUNTING: PENDANT
NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.
ACCREDITED LABORATORY CODE 201003-0

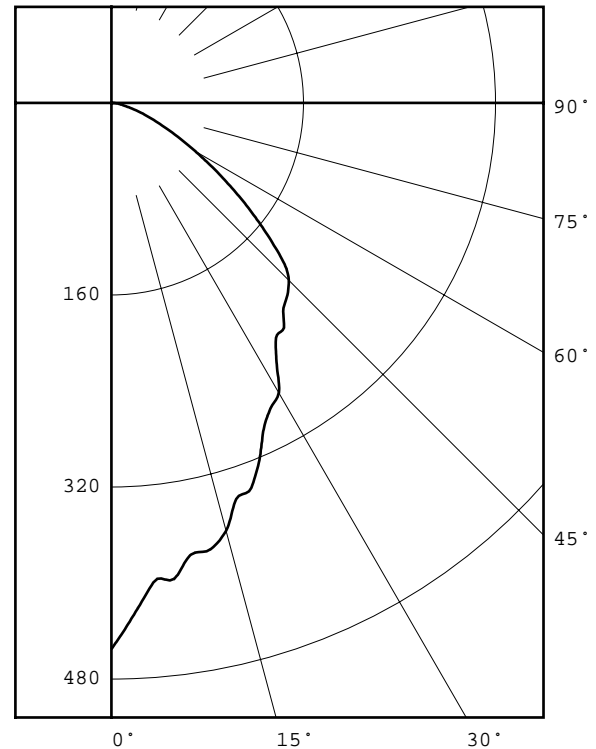
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DEG	CANDELA	LUMENS
0	455	
5	401	38
15	369	103
25	300	140
35	239	154
45	209	157
55	121	109
65	51	52
75	17	19
85	4	5
90	0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	281	36.2
0- 40	435	55.9
0- 60	701	90.2
0- 90	777	100.0
90-180	0	0.0
0-180	777	100.0

TOTAL INPUT WATTS = 16.1
EFFICACY = 48.3 Lm/W
CIE TYPE - DIRECT
LUMINAIRE SPACING CRITERION = 0.9
LUMINOUS DIAMETER: 10.000

LUMINANCE DATA IN CANDELA/SQ METER	
ANGLE	AVERAGE
IN DEG	
45	5831.
55	4162.
65	2381.
75	1296.
85	905.



Checked	<i>D. BLACK</i>
Approved	<i>M. WASHBURN</i>



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CANDELA DISTRIBUTION

	0.0
0.0	455
2.5	427
5.0	401
7.5	400
10.0	382
12.5	381
15.0	369
17.5	346
20.0	341
22.5	322
25.0	300
27.5	287
30.0	279
32.5	256
35.0	239
37.5	236
40.0	223
42.5	217
45.0	209
47.5	193
50.0	168
52.5	144
55.0	121
57.5	100
60.0	81
62.5	65
65.0	51
67.5	40
70.0	31
72.5	23
75.0	17
77.5	12
80.0	9
82.5	7
85.0	4
87.5	2
90.0	0



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ZONAL LUMEN SUMMARY

0- 5	10.
5- 10	28.
10- 15	45.
15- 20	58.
20- 25	67.
25- 30	73.
30- 35	76.
35- 40	78.
40- 45	80.
45- 50	77.
50- 55	63.
55- 60	46.
60- 65	32.
65- 70	20.
70- 75	12.
75- 80	7.
80- 85	4.
85- 90	1.



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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	10
5- 10	28
10- 15	45
15- 20	58
20- 25	67
25- 30	73
30- 35	76
35- 40	78
40- 45	80
45- 50	77
50- 55	63
55- 60	46
60- 65	32
65- 70	20
70- 75	12
75- 80	7
80- 85	4
85- 90	1

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	38
0- 20	141
0- 30	281
0- 40	435
0- 50	592
0- 60	701
0- 70	753
0- 80	772
0- 90	777



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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	
0	119	119	119	119	116	116	116	116	111	111	111	111	106	106	106	102	102	102	100
1	111	107	103	100	108	105	101	99	100	98	95	97	94	93	93	91	90	88	88
2	102	95	90	85	100	93	88	84	90	86	82	87	83	80	84	81	78	76	76
3	94	85	78	73	92	84	77	72	81	75	71	78	73	69	76	72	68	66	66
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58	58
5	81	69	61	55	79	68	61	55	66	59	54	64	58	54	62	57	53	51	51
6	75	63	55	49	73	62	54	49	60	53	48	59	53	48	57	52	48	46	46
7	70	57	49	44	68	57	49	44	55	48	43	54	48	43	53	47	43	41	41
8	65	53	45	40	64	52	45	39	51	44	39	50	43	39	49	43	39	37	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	32	42	36	32	31	31

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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4/10/2014

Goniophotometer Calibration

Calibration Lamp: GE 1000W, 120V, T6, CL (FEL)

Lamp Number: ITL78966-1000-36

Calibration Current: 8.300 Amps DC

Total Luminous Flux: 25829.0 Lumens

Calibration Date: 3/27/2014

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 210	91K308525	11/11/2014
Power Analyzer	Yokogawa / WT 210	91K308582	11/11/2014
Power Source	Voltage-Regulated House Power	N/A	N/A
Thermometer	National Instruments/USB-TC01	176F4E3	2/21/2015

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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.