

Project Number  
16.00297



**HUBBELL**  
Lighting

Date  
2/8/2016

LAB 6

**Test Sample Description**

**Catalog Number:** P5329-2030K9  
**Description:** LED Mini-Pendant w/ 1 9W HAL LED Module & Clear Shade Refractor Part # 93068718

**Test Method:** IES LM-79-08 § 10  
**Preburn Time:** 0:10  
**Time To Stabilize:** 1:50  
**Total Operating Time:** 3:24  
  
**Input Voltage (Volts):** 120.1  
**Input Current (Amps):** 0.067  
**Input Wattage (Watts):** 7.5  
**Ambient Temp (°C):** 24.4



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**Checked:** D. ROBBINS  
**Approved:** D. BLACK





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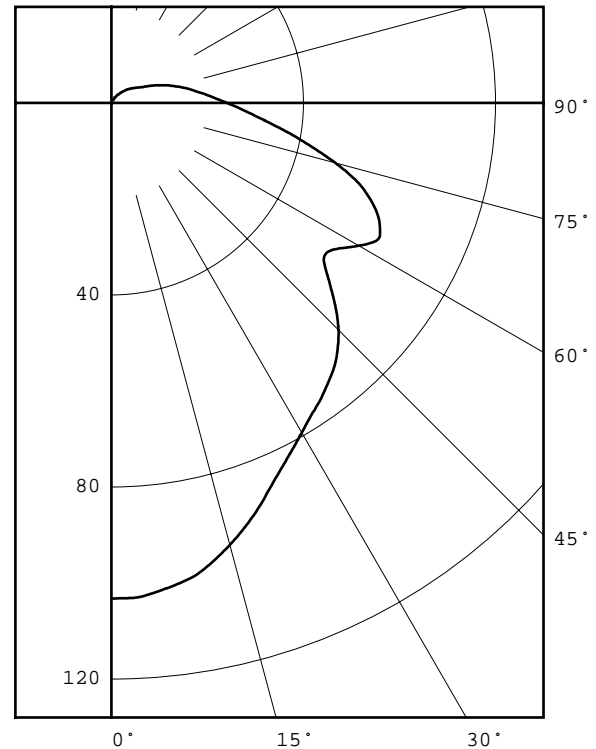
REPORT NUMBER: 16.00297  
ISSUE DATE: 02/08/16  
PREPARED FOR: PROGRESS  
CATALOG NUMBER: P5329-2030K9  
LUMINAIRE: LED Mini-Pendant w/ 1 9W HAL LED Module & Clear Shade  
Refractor Part # 93068718  
LAMP CAT. NO.: 93049180-3130  
LAMP: 20- 93049180-3130 3000K LEDs  
MOUNTING: Ceiling  
NOTE: DATA SHOWN IS ABSOLUTE FOR THE  
SAMPLE PROVIDED.

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DEG	CANDELA	LUMENS
0	103	
5	102	10
15	95	27
25	84	39
35	76	47
45	67	51
55	55	51
65	62	60
75	48	51
85	30	33
90	24	
95	20	22
105	14	14
115	8	8
125	5	5
135	3	3
145	2	1
155	0	0
165	0	0
175	0	0
180	0	0

ZONAL LUMEN	SUMMARY	
ZONE	LUMENS	%FIXT
0- 30	75	17.8
0- 40	123	29.1
0- 60	225	53.3
0- 90	369	87.4
90-120	44	10.5
90-130	49	11.7
90-150	53	12.5
90-180	53	12.6
0-180	422	100.0

TOTAL INPUT WATTS = 7.5  
EFFICACY = 56.3 Lm/W  
CIE TYPE - SEMI-DIRECT  
LUMINAIRE SPACING CRITERION = 1.2





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LUMINOUS DIAMETER: 3.500  
HEIGHT OF SIDE : 4.250

LUMINANCE DATA IN CANDELA/SQ METER

ANGLE AVERAGE

IN DEG

45	5984.
55	4779.
65	5448.
75	4439.
85	2959.



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CANDELA DISTRIBUTION

	0.0
0.0	103
5.0	102
10.0	100
15.0	95
20.0	90
25.0	84
30.0	79
35.0	76
40.0	72
45.0	67
50.0	60
55.0	55
60.0	60
65.0	62
70.0	57
75.0	48
80.0	38
85.0	30
90.0	24
95.0	20
100.0	17
105.0	14
110.0	11
115.0	8
120.0	6
125.0	5
130.0	4
135.0	3
140.0	2
145.0	2
150.0	1
155.0	0
160.0	0
165.0	0
170.0	0
175.0	0
180.0	0



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ZONAL LUMEN SUMMARY

0- 5	2.
5- 10	7.
10- 15	12.
15- 20	15.
20- 25	18.
25- 30	21.
30- 35	23.
35- 40	25.
40- 45	26.
45- 50	26.
50- 55	25.
55- 60	26.
60- 65	30.
65- 70	30.
70- 75	28.
75- 80	23.
80- 85	18.
85- 90	15.
90- 95	12.
95-100	10.
100-105	8.
105-110	6.
110-115	5.
115-120	4.
120-125	3.
125-130	2.
130-135	2.
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	2
5- 10	7
10- 15	12
15- 20	15
20- 25	18
25- 30	21
30- 35	23
35- 40	25
40- 45	26
45- 50	26
50- 55	25
55- 60	26
60- 65	30
65- 70	30
70- 75	28
75- 80	23
80- 85	18
85- 90	15
90- 95	12
95-100	10
100-105	8
105-110	6
110-115	5
115-120	4
120-125	3
125-130	2
130-135	2
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	10
0- 20	37
0- 30	75
0- 40	123
0- 50	174
0- 60	225
0- 70	285
0- 80	336
0- 90	369
0-100	391
0-110	405
0-120	413
0-130	418
0-140	421
0-150	422
0-160	422
0-170	422
0-180	422



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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	116	116	116	116	112	112	112	112	112	104	104	104	97	97	97	90	90	90	87
1	102	96	90	85	98	92	87	83	86	81	78	79	76	73	74	71	69	65	65
2	91	81	73	66	87	78	71	64	73	66	61	67	62	58	62	58	54	51	51
3	82	70	61	53	79	68	59	52	63	55	49	58	52	47	54	49	45	42	42
4	75	61	52	44	71	59	50	43	55	47	41	51	45	39	47	42	37	35	35
5	69	55	45	37	65	53	43	37	49	41	35	46	39	33	42	37	32	29	29
6	63	49	39	32	60	47	38	32	44	36	30	41	34	29	38	32	28	25	25
7	58	44	35	28	56	43	34	28	40	32	27	37	31	26	35	29	25	22	22
8	54	40	31	25	52	39	30	25	36	29	24	34	28	23	32	26	22	20	20
9	51	37	28	22	49	36	28	22	34	26	21	32	25	20	30	24	20	18	18
10	48	34	26	20	46	33	25	20	31	24	19	29	23	19	28	22	18	16	16

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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2/8/2016

### *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:* 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.*