

Project Number
15.01230



HUBBELL
Lighting

Date
7/8/2015

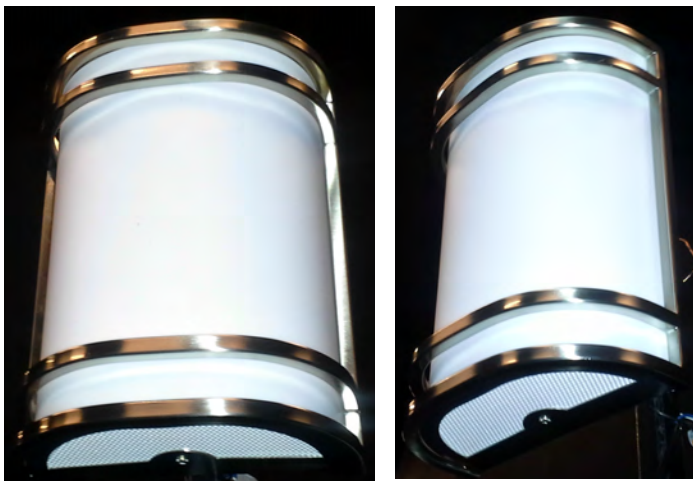
LAB 1

Test Sample Description

Catalog Number: P7088-0930K9
Description: LED Wall Sconce

Test Method: IES LM-79-08 § 10
Preburn Time: 0:30
Time To Stabilize: 8:41
Total Operating Time: 9:35

Input Voltage (Volts): 120.0
Input Current (Amps): 0.154
Input Wattage (Watts): 17.0
Ambient Temp (°C): 25.0



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Checked: D. ROBBINS
Approved: M. WASHBURN





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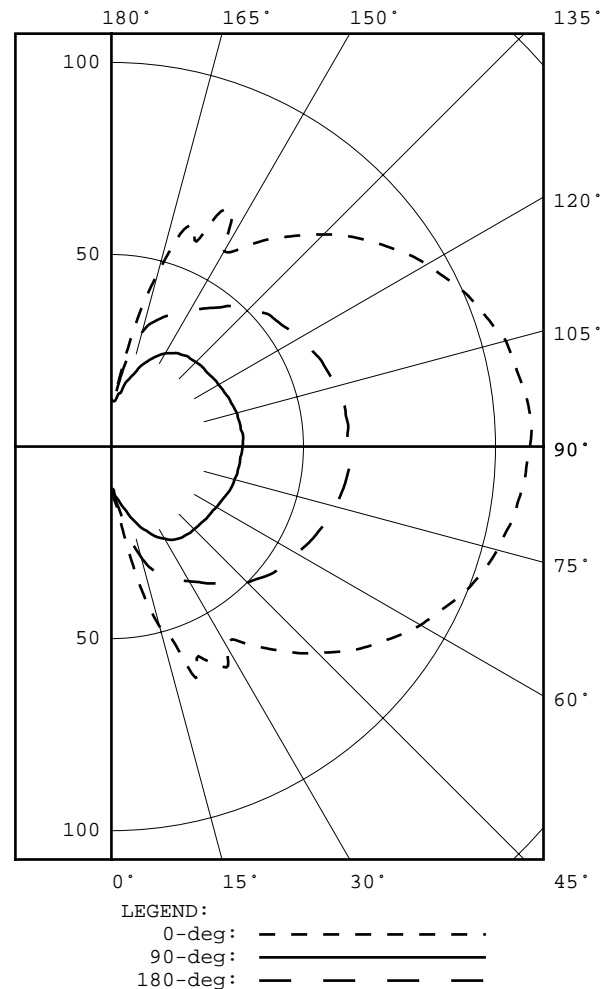
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PREPARED FOR: PROGRESS
CATALOG NUMBER: P7088-0930K9
LUMINAIRE: LED WALL SCONCE
LAMP CAT. NO.: 93047261-4130
LAMP: 40 - Nichia 3000K LEDs
BALLAST: 1 - HAL 17W LED Module
REFRACTOR: Acrylic Diffuser Part # 93053496
MOUNTING: Wall
REVISED: 06/17/2015
NOTE: DATA SHOWN IS ABSOLUTE FOR THE
SAMPLE PROVIDED.

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CANDELA DISTRIBUTION						FLUX
	0.0	45.0	90.0	135.0	180.0	
0	12	12	12	12	12	
5	16	15	13	12	14	2
15	49	36	19	24	30	8
25	62	47	25	29	37	18
35	63	54	29	28	44	26
45	76	60	30	25	50	35
55	88	68	31	24	54	44
65	97	75	32	23	58	52
75	104	80	33	22	60	58
85	108	83	34	21	62	61
90	109	84	34	20	62	
95	109	84	34	21	62	62
105	106	81	34	22	61	59
115	99	77	33	23	58	53
125	90	70	32	24	55	45
135	78	61	31	26	51	36
145	65	58	30	29	44	27
155	68	54	25	30	38	18
165	47	35	18	24	31	8
175	15	14	12	14	14	1
180	12	12	12	12	12	



ZONAL LUMEN ZONE	SUMMARY LUMENS	%FIXT
0- 30	28	4.5
0- 40	54	8.8
0- 60	133	21.7
0- 90	304	49.7
90-120	173	28.3
90-130	218	35.6
90-150	280	45.7
90-180	307	50.3
0-180	611	100.0

TOTAL INPUT WATTS = 17.0 EFFICACY = 35.9 Lm/W
CIE TYPE - DIRECT-INDIRECT
PLANE : 0-DEG 90-DEG 180-DEG

SPACING CRITERIA : 4.7 2.8 3.7



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PLANE : 0-DEG 90-DEG
LUMINOUS LENGTH : 3.000 7.000
HEIGHT OF SIDE :10.000 10.000

LUMINANCE DATA IN CANDELA/SQ METER

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 90-DEG	AVERAGE 180-DEG
45	1828.	1306.	1206.
55	1958.	1316.	1206.
65	2080.	1379.	1232.
75	2206.	1495.	1279.
85	2336.	1646.	1347.



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CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0.0	12	12	12	12	12	12	12	12	12
5.0	16	16	15	13	13	14	12	14	14
10.0	30	28	23	17	16	17	19	21	22
15.0	49	46	36	24	19	19	24	28	30
20.0	64	55	45	30	22	23	28	32	35
25.0	62	60	47	34	25	26	29	33	37
30.0	60	59	56	39	28	27	29	35	41
35.0	63	60	54	42	29	27	28	39	44
40.0	70	66	55	43	30	26	27	40	47
45.0	76	72	60	44	30	24	25	42	50
50.0	82	77	64	47	31	23	25	42	53
55.0	88	82	68	49	31	22	24	43	54
60.0	93	87	72	51	32	22	23	44	56
65.0	97	91	75	53	32	21	23	45	58
70.0	101	95	78	55	33	21	22	46	59
75.0	104	98	80	56	33	21	22	46	60
80.0	106	100	82	57	34	22	22	47	61
85.0	108	102	83	58	34	22	21	47	62
90.0	109	102	84	58	34	21	20	47	62
95.0	109	102	84	59	34	21	21	47	62
100.0	108	101	83	58	34	22	22	47	62
105.0	106	100	81	57	34	22	22	46	61
110.0	103	97	79	55	33	21	23	46	59
115.0	99	93	77	54	33	22	23	45	58
120.0	95	89	73	52	32	22	24	44	57
125.0	90	84	70	50	32	23	24	43	55
130.0	84	79	66	47	32	23	25	42	54
135.0	78	73	61	44	31	25	26	42	51
140.0	71	67	57	43	31	26	27	41	48
145.0	65	61	58	41	30	27	29	39	44
150.0	59	62	55	38	28	27	30	36	41
155.0	68	62	54	34	25	26	30	33	38
160.0	62	59	45	29	22	24	29	32	35
165.0	47	41	35	22	18	20	24	29	31
170.0	28	26	21	17	14	17	19	21	23
175.0	15	14	14	13	12	13	14	13	14
180.0	12	12	12	12	12	12	12	12	12



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ZONAL LUMEN SUMMARY

0- 5	0.
5- 10	1.
10- 15	3.
15- 20	5.
20- 25	8.
25- 30	10.
30- 35	12.
35- 40	14.
40- 45	16.
45- 50	19.
50- 55	21.
55- 60	23.
60- 65	25.
65- 70	27.
70- 75	28.
75- 80	30.
80- 85	30.
85- 90	31.
90- 95	31.
95-100	31.
100-105	30.
105-110	29.
110-115	27.
115-120	25.
120-125	23.
125-130	21.
130-135	19.
135-140	17.
140-145	14.
145-150	12.
150-155	10.
155-160	8.
160-165	5.
165-170	3.
170-175	1.
175-180	0.



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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	0
5- 10	1
10- 15	3
15- 20	5
20- 25	8
25- 30	10
30- 35	12
35- 40	14
40- 45	16
45- 50	19
50- 55	21
55- 60	23
60- 65	25
65- 70	27
70- 75	28
75- 80	30
80- 85	30
85- 90	31
90- 95	31
95-100	31
100-105	30
105-110	29
110-115	27
115-120	25
120-125	23
125-130	21
130-135	19
135-140	17
140-145	14
145-150	12
150-155	10
155-160	8
160-165	5
165-170	3
170-175	1
175-180	0

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	2
0- 20	10
0- 30	28
0- 40	54
0- 50	89
0- 60	133
0- 70	184
0- 80	242
0- 90	304
0-100	366
0-110	424
0-120	477
0-130	521
0-140	557
0-150	584
0-160	602
0-170	610
0-180	611



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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	93	86	80	75	85	79	74	69	65	61	58	53	50	47	41	39	37	31
2	82	73	64	57	75	66	59	53	55	49	44	44	39	36	34	30	28	23
3	74	62	53	46	67	57	49	42	47	40	35	37	32	28	28	25	21	17
4	67	54	45	37	61	49	41	34	40	34	28	32	27	23	24	21	17	13
5	61	48	38	31	55	43	35	29	36	29	24	28	23	19	22	17	14	11
6	56	42	33	26	51	39	30	24	32	25	20	25	20	16	19	15	12	9
7	51	38	29	22	47	34	26	21	28	22	17	23	17	14	17	13	10	7
8	48	34	25	19	43	31	23	18	26	19	15	21	15	12	16	12	9	6
9	44	31	23	17	40	28	21	16	23	17	13	19	14	10	14	11	8	5
10	41	28	20	15	37	26	19	14	21	15	11	17	12	9	13	10	7	5

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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