

Project Number
19.01761



HUBBELL
Lighting

Date
10/3/2019

Photometric Test Report

Lab 1
Sphere

Test Sample Description

Catalog Number: P710071-159-30
Description: 1-LT LED Wall Sconce

Photometry

Test Methods: IES LM-46-04
IES LM-79-08 §10

Preburn Time: 0:10
Time To Stabilize: 1:34
Total Operating Time: 3:41

Input Voltage (Volts): 120.1
Input Current (Amps): 0.080
Input Wattage (Watts): 9.5
Ambient Temp (°C): 26.1
PF @ 120V: 0.991
THD @ 120V (%): 12.7

Sphere

Test Methods: IES LM-16-93
IES LM-79-08 §12.1

Preburn Time: 0:10
Time To Stabilize: 0:53
Total Operating Time: 1:53

Input Voltage (Volts): 120.1
Input Current (Amps): 0.079
Input Wattage (Watts): 9.4
Ambient Temp (°C): 24



Hubbell Lighting, Inc.

701 Millennium Boulevard
Greenville, SC 29607
www.hubbellighting.com

Checked (sphere): M.ELLMANN
Checked (photometry): D.ROBBINS
Approved: P. McCARTHY



* This customer-provided information was not verified by the laboratory. Note that LED manufacturer and part # are unverifiable by the lab.

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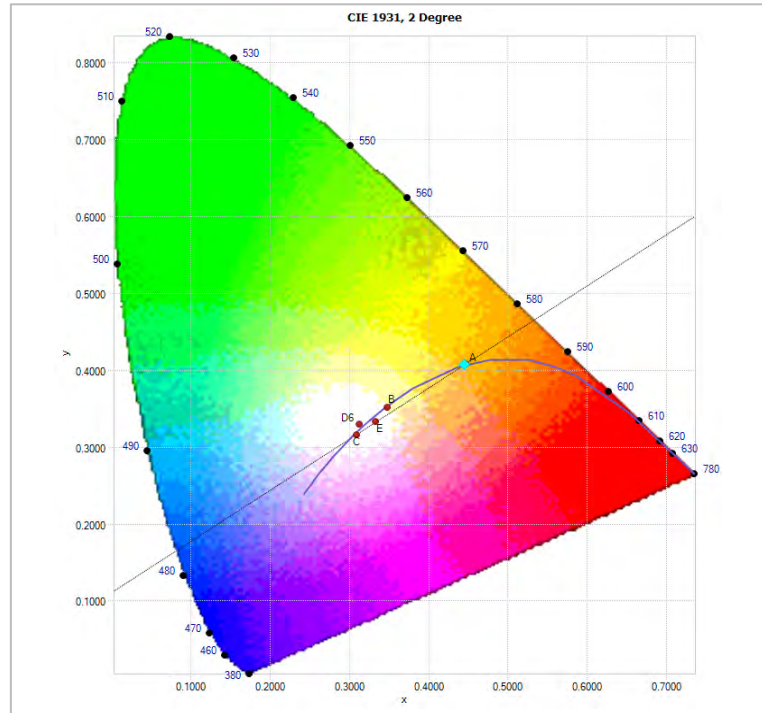
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Lamp Cat#: 93070270-3330
Lamp Desc: 20 - Nichia 3000K LEDs

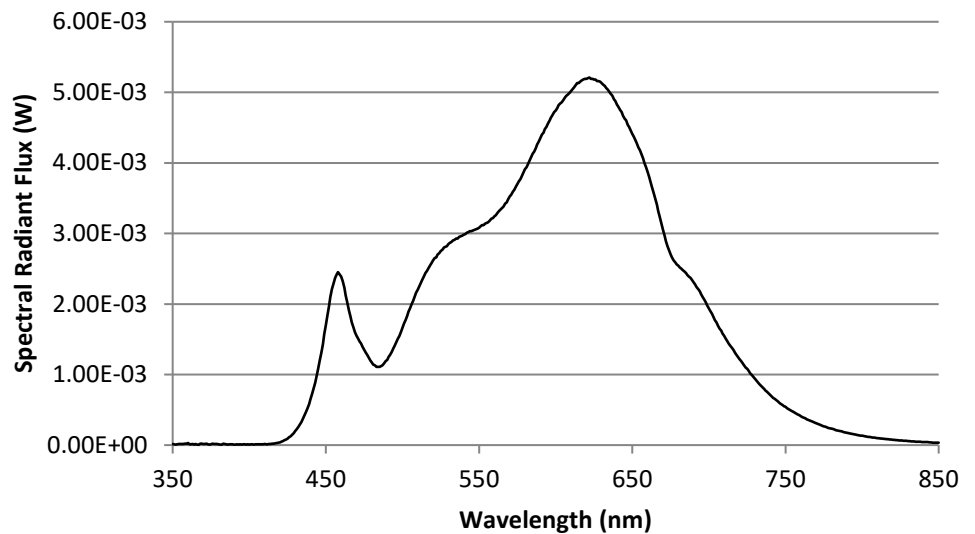
Efficacy: 26.5 LPW S/P Ratio: 1.4 LM/LM

Spectral Results

Name	Value	Unit
Φ	0.89	watts
$\Phi(v)$	249	lumens
$\Phi(v')$	345	lm'
Chrom x	0.4451	
Chrom y	0.4076	
Chrom u	0.2544	
Chrom v	0.3493	
Duv	0.0001	
Chrom u'	0.2544	
Chrom v'	0.524	
CCT	2892	K
Purity	56	%
λ (dom)	583.2	nm
FWHM	158.2	nm
λ (peak)	621.9	nm
λ (center)	598.6	nm
λ (centroid)	599.9	nm
SDCM	Cool White	
RA	94	
Corr. Coef.	0.000377046	
Correlation	0.0054	
R1	95.3	
R2	97.9	
R3	99.0	
R4	95.1	
R5	94.7	
R6	97.1	
R7	92.4	
R8	83.6	
R9	63.6	
R10	93.8	
R11	97.0	
R12	80.8	
R13	96.5	
R14	98.6	



Spectral Distribution of Radiant Flux



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PREPARED FOR: PROGRESS

CATALOG NUMBER: P710071-159-30

LUMINAIRE: 1-LT LED Wall Sconce

LAMP CAT. NO.: 93070270-3330

LAMP: 20- Nichia 3000K LEDs

MOUNTING: Wall

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



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CANDELA DISTRIBUTION

	0.0	45.0	90.0	135.0	180.0
0	24.6	24.6	24.6	24.6	24.6
5	32.1	30.3	27.2	26.3	26.0
15	56.2	47.4	33.8	28.2	25.6
25	70.5	54.0	34.2	29.0	34.3
35	35.5	34.6	26.7	32.1	40.2
45	8.9	9.9	15.7	29.0	38.3
55	5.5	6.2	9.8	22.6	33.7
65	4.4	4.6	6.0	16.2	28.4
75	4.8	4.2	3.6	11.5	24.4
85	5.4	4.3	2.4	9.6	22.0
90	5.2	4.1	2.0	9.3	21.7
95	5.2	4.2	2.3	9.6	22.2
105	4.8	4.5	3.8	11.7	24.5
115	4.7	5.0	6.4	16.3	28.5
125	6.3	6.8	10.5	23.1	34.3
135	9.5	11.1	16.8	29.7	39.1
145	44.0	38.4	28.3	32.6	40.5
155	78.9	58.3	36.2	29.7	35.5
165	58.4	48.7	35.2	29.1	26.4
175	33.2	31.8	29.0	28.3	27.9
180	26.1	26.1	26.1	26.1	26.1

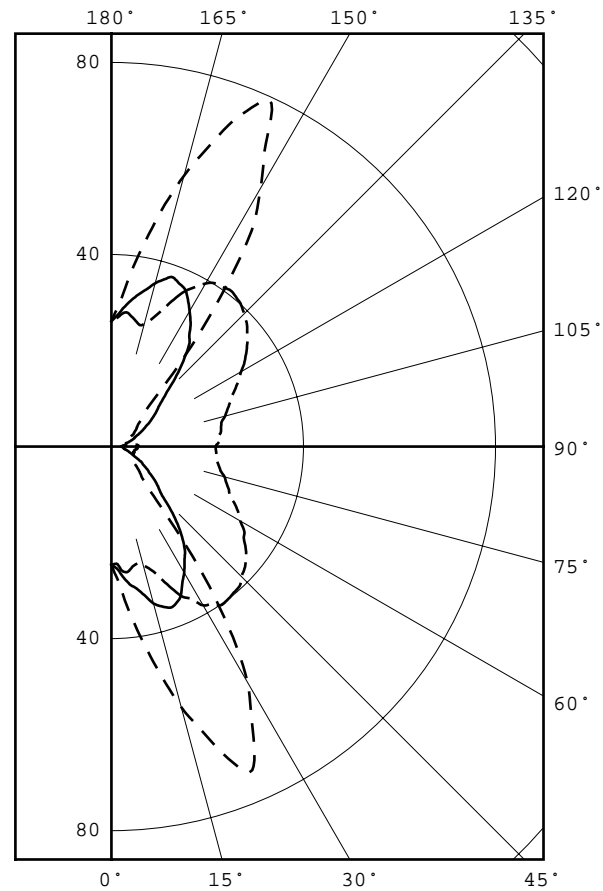
FLUX

3
11
19
20
16
13
11
9
8
8
9
11
14
16
22
20
11
3

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	33	14.7
0- 40	53	23.6
0- 60	81	36.5
0- 90	109	48.8
90-120	28	12.6
90-130	42	18.7
90-150	80	35.7
90-180	114	51.2
0-180	223	100.0

EFFICACY = 23.5 lm/W
CIE TYPE - GENERAL DIFFUSE
PLANE : 0-DEG 90-DEG 180-DEG
SPACING CRITERIA : 1.52 1.53 2.11
SHIELDING ANGLES : 90 90



LEGEND
0-deg - - - - -
90-deg _____
180-deg - . - . -



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PLANE : 0-DEG 90-DEG
LUMINOUS LENGTH : 3.250 6.000
HEIGHT OF SIDE : 9.000 9.000

LUMINANCE DATA IN CANDELA/SQ M
ANGLE AVERAGE AVERAGE AVERAGE
IN DEG 0-DEG 90-DEG 180-DEG
45 265. 706. 1142.
55 154. 432. 943.
65 119. 268. 770.
75 130. 168. 661.
85 151. 121. 614.



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CANDELA DISTRIBUTION
LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0.0	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
5.0	32.1	31.6	30.3	28.7	27.2	26.5	26.3	26.1	26.0
10.0	43.1	41.9	37.8	33.2	30.0	29.4	28.2	26.4	25.4
15.0	56.2	53.4	47.4	39.0	33.8	32.2	28.2	26.3	25.6
20.0	68.1	64.4	55.0	43.2	35.7	33.0	27.9	28.4	28.7
25.0	70.5	65.3	54.0	41.5	34.2	31.6	29.0	33.0	34.3
30.0	56.7	53.2	45.0	35.6	30.3	29.7	30.8	36.1	38.2
35.0	35.5	36.1	34.6	29.7	26.7	27.6	32.1	37.5	40.2
40.0	14.7	15.6	18.9	20.1	21.8	24.7	31.3	36.9	39.7
45.0	8.9	9.3	9.9	11.7	15.7	22.0	29.0	35.2	38.3
50.0	7.2	7.4	7.9	9.2	12.5	19.1	26.3	33.0	36.6
55.0	5.5	5.8	6.2	7.2	9.8	15.5	22.6	29.6	33.7
60.0	4.5	4.7	5.3	6.0	7.7	12.3	19.3	26.5	31.0
65.0	4.4	4.4	4.6	5.0	6.0	9.7	16.2	23.4	28.4
70.0	4.7	4.5	4.3	4.2	4.6	7.5	13.6	20.5	26.0
75.0	4.8	4.7	4.2	3.8	3.6	6.1	11.5	18.5	24.4
80.0	4.8	4.5	4.0	3.2	2.7	4.9	10.0	16.5	22.7
85.0	5.4	5.2	4.3	3.3	2.4	4.7	9.6	15.8	22.0
90.0	5.2	4.9	4.1	3.0	2.0	4.1	9.3	15.2	21.7
95.0	5.2	4.9	4.2	3.1	2.3	4.5	9.6	15.9	22.2
100.0	5.2	4.9	4.3	3.5	3.1	5.2	10.3	16.9	23.2
105.0	4.8	4.7	4.5	3.9	3.8	6.2	11.7	18.6	24.5
110.0	4.9	4.7	4.6	4.5	5.1	7.9	13.6	20.8	26.2
115.0	4.7	4.7	5.0	5.4	6.4	10.0	16.3	23.8	28.5
120.0	5.4	5.4	5.8	6.5	8.2	12.8	19.5	26.8	31.2
125.0	6.3	6.3	6.8	7.8	10.5	16.1	23.1	30.3	34.3
130.0	7.4	7.7	8.2	9.3	12.8	19.6	26.6	33.4	36.9
135.0	9.5	9.8	11.1	13.5	16.8	22.6	29.7	35.8	39.1
140.0	20.1	20.9	23.6	23.2	23.3	25.4	31.9	37.7	40.5
145.0	44.0	43.2	38.4	31.9	28.3	27.9	32.6	38.1	40.5
150.0	62.1	59.2	50.5	39.2	32.6	30.8	31.7	36.9	39.2
155.0	78.9	71.3	58.3	44.4	36.2	32.7	29.7	33.6	35.5
160.0	71.2	67.1	57.6	45.1	37.5	34.2	28.8	29.4	30.0
165.0	58.4	55.8	48.7	39.8	35.2	33.2	29.1	27.0	26.4
170.0	44.9	43.6	39.3	34.7	32.1	31.2	29.7	28.0	27.0
175.0	33.2	32.8	31.8	30.1	29.0	28.5	28.3	28.1	27.9
180.0	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26.1



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		1
5- 10		2
10- 15		4
15- 20		7
20- 25		9
25- 30	10	
30- 35	10	
35- 40	10	
40- 45	8	
45- 50	7	
50- 55	7	
55- 60	6	
60- 65	6	
65- 70	5	
70- 75	5	
75- 80	4	
80- 85	4	
85- 90	4	
90- 95	4	
95-100	4	
100-105	4	
105-110	5	
110-115	5	
115-120	6	
120-125	6	
125-130	7	
130-135	8	
135-140	9	
140-145	11	
145-150	11	
150-155	11	
155-160	9	
160-165	7	
165-170	4	
170-175	2	
175-180	1	

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		3
0- 20		14
0- 30		33
0- 40		53
0- 50		68
0- 60		81
0- 70		92
0- 80	101	
0- 90	109	
0-100	117	
0-110	126	
0-120	137	
0-130	151	
0-140	167	
0-150	189	
0-160	209	
0-170	220	
0-180	223	



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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC	80				70				50			30			10			0	
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	107	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	96	92	87	84	84	89	84	81	77	71	68	66	58	57	55	47	46	44	39
2	88	80	73	68	68	80	74	68	63	62	58	54	51	48	46	41	39	37	32
3	80	70	63	57	57	73	65	58	53	55	50	46	45	42	39	37	34	32	28
4	73	62	54	48	48	67	58	51	45	49	43	39	41	36	33	33	30	27	24
5	67	56	47	41	41	62	52	44	39	44	38	34	36	32	29	30	27	24	21
6	62	50	42	36	36	57	46	39	34	39	34	30	33	29	25	27	24	21	18
7	58	45	37	32	32	53	42	35	30	36	30	26	30	26	22	25	21	19	16
8	53	41	33	28	28	49	38	31	26	33	27	23	28	23	20	23	20	17	15
9	50	37	30	25	25	46	35	28	23	30	25	21	25	21	18	21	18	15	13
10	46	34	27	22	22	43	32	25	21	28	22	19	23	19	16	20	16	14	12

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 TEST SAMPLE.

Project Number
19.01761



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Date
10/31/2019

Goniophotometer Calibration

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

Lamp Number: ITL78966-1000-66

Calibration Current: 8.300 Amps DC

Total Luminous Flux: 23013.0 Lumens

Calibration Date: 08/20/2019

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: 31.74'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27071V	10/31/2019
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	176F4E3	10/31/2019

3-Meter-Sphere Calibration

Calibration Lamp: EIKO 28V75W/E10

Lamp Number: SCL-1400-K136

Calibration Current: 2.679 Amps

Total Luminous Flux: 1429 Lumens

Test Equipment Used - Color & SPD; THD & Power Factor

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>3-Meter Sphere</i>	Labsphere / LMS-3M	N/A	Calibration Checked Daily
<i>Thermometer</i>	National Instruments / USB TC01	1912751	10/31/2019
<i>Power Analyzer</i>	Yokogawa / WT332	C2QA27074V	10/31/2019
<i>Power Supply</i>	Chroma / 61602	616020002113	N/A
<i>Aux Lamp Supply</i>	GW Instek / PSU 150-10	GER221028	N/A
<i>Cal Lamp Supply</i>	Labsphere / LPS-150-0268	1218148505	N/A
<i>Spectrometer</i>	Labsphere / CDS 1100	0624117792	N/A

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