

Project Number
20.00290



HUBBELL
Lighting

Date
3/5/2020

Photometric Test Report

Lab 5
Sphere

Test Sample Description

Catalog Number: P350114-009-30

Description: 10" Brushed Nickel Flush-Mount Box w/ AC LED Module and Etched Glass Shade

Photometry

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

Preburn Time: 0:10

Time To Stabilize: 1:28

Total Operating Time: 2:48

Input Voltage (Volts): 120.3

Input Current (Amps): 0.147

Input Wattage (Watts): 17.3

Ambient Temp (°C): 25.9

PF @ 120V: 0.984

THD @ 120V (%): 16.59

Sphere

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

Preburn Time: 0:10

Time To Stabilize: 1:32

Total Operating Time: 1:42

Input Voltage (Volts): 120.0

Input Current (Amps): 0.146

Input Wattage (Watts): 17.3

Ambient Temp (°C): 24



Hubbell Lighting, Inc.

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

Checked (sphere): B. LEE
Checked (photometry): M. OLALDE
Approved: P. McCARTHY

NVLAP
TESTING
NVLAP LAB CODE: 201003-0

* 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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Lamp Cat#: 93047261-5230

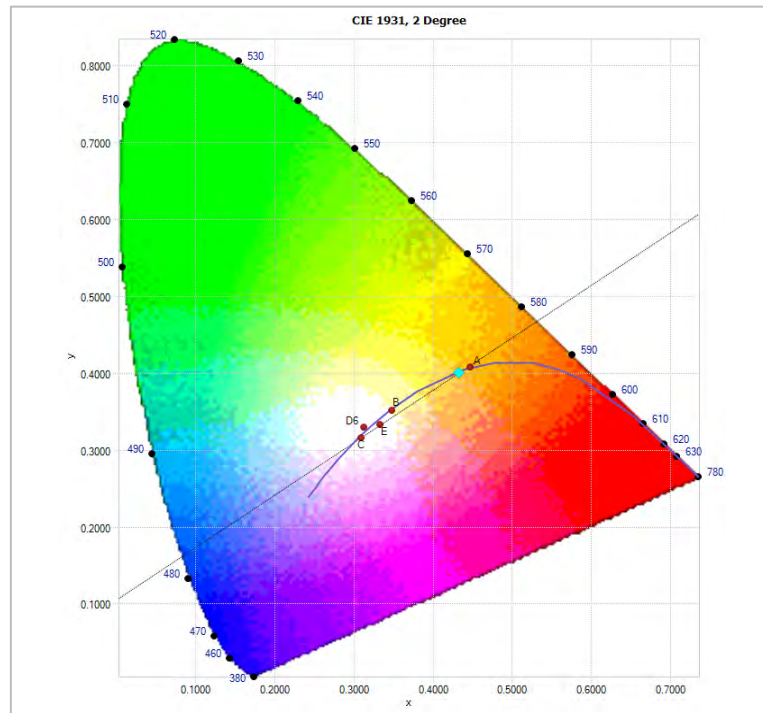
Lamp Desc: 40 - Nichia 3000K LEDs

Efficacy: 63.5 LPW

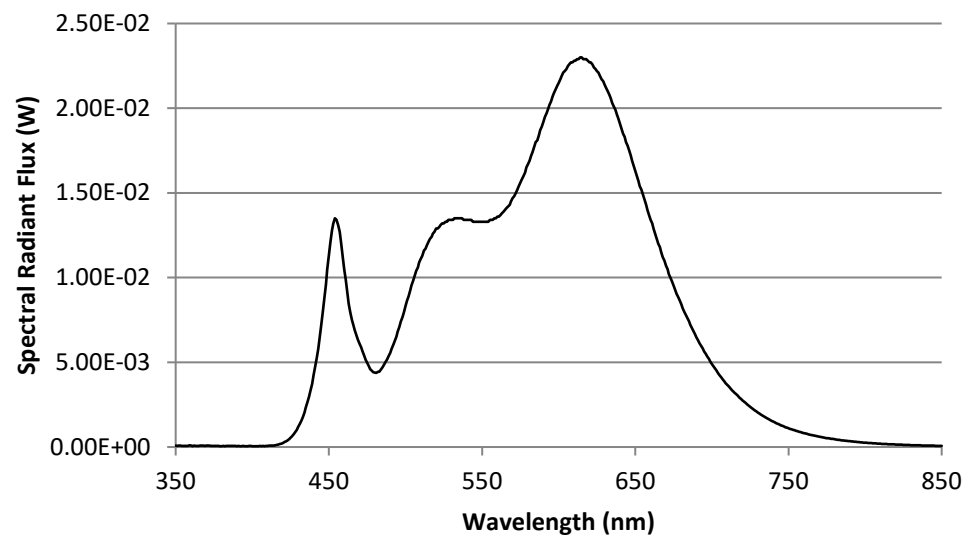
S/P Ratio: 1.5 LM'/LM

Spectral Results

Name	Value	Unit
Φ	3.63	watts
$\Phi(v)$	1099	lumens
$\Phi(v')$	1612	lm'
Chrom x	0.432	
Chrom y	0.4006	
Chrom u	0.2489	
Chrom v	0.3462	
Duv	0.0008	
Chrom u'	0.2489	
Chrom v'	0.5193	
CCT	3053	K
Purity	49.9	%
λ (dom)	582.9	nm
FWHM	155.3	nm
λ (peak)	614.2	nm
λ (center)	589.4	nm
λ (centroid)	586.9	nm
SDCM	Cool White	
RA	95	
Corr. Coef.	0.000742885	
Correlation	0.0054	
R1	96.7	
R2	98.4	
R3	98.8	
R4	97.4	
R5	96.8	
R6	96.2	
R7	91.1	
R8	80.7	
R9	55.7	
R10	95.6	
R11	95.6	
R12	82.7	
R13	98.0	
R14	98.8	



Spectral Distribution of Radiant Flux



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PREPARED FOR: PROGRESS

CATALOG NUMBER: P350114-009-30

LUMINAIRE: 10" Brushed Nickel Flush-Mount Box w/ AC
LED Module and Etched Glass Shade

LAMP CAT. NO.: 93047261-5230

LAMP: 40- Nichia 3000K LEDs

MOUNTING: Ceiling

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



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CANDELA DISTRIBUTION

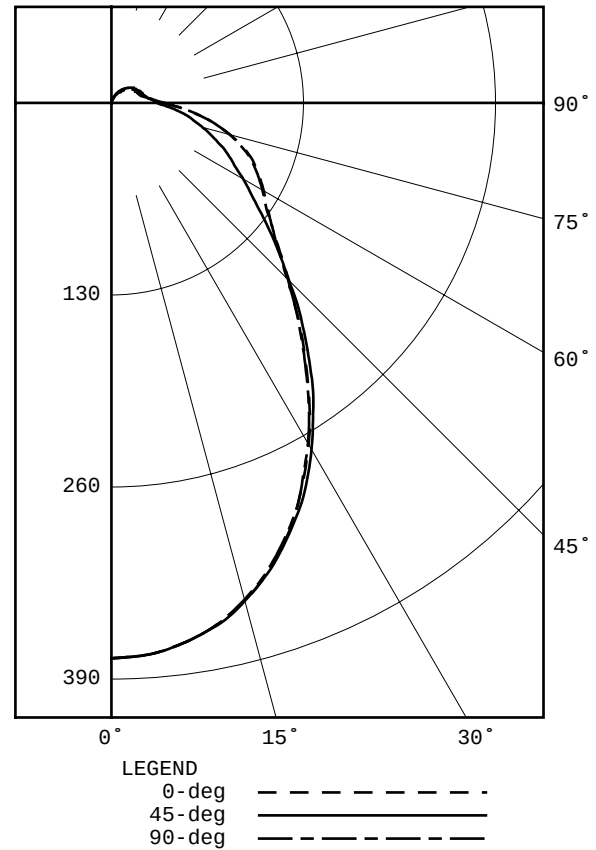
	0.0	22.5	45.0	67.5	90.0
0	376	376	376	376	376
5	373	373	373	373	373
15	349	349	349	348	348
25	299	300	302	300	299
35	232	235	238	234	231
45	169	170	170	169	168
55	130	126	120	126	129
65	109	101	89	101	108
75	83	77	64	77	83
85	50	48	41	48	50
90	36	36	31	36	36
95	28	29	27	29	28
105	20	22	22	22	20
115	18	20	20	20	18
125	16	17	18	17	16
135	12	13	14	13	12
145	9	9	10	9	9
155	5	5	6	5	5
165	2	2	0	1	2
175	0	0	0	0	0
180	0	0	0	0	0

FLUX

35
98
138
147
132
113
99
79
51
31
23
20
15
10
6
2
0
0

ZONAL ZONE	LUMEN LUMENS	SUMMARY LUMENS	%FIXT
0- 30		271	27.1
0- 40		418	41.8
0- 60		663	66.2
0- 90		892	89.2
90-120		74	7.4
90-130		90	8.9
90-150		105	10.5
90-180		108	10.8
0-180		1000	100.0

EFFICACY = 57.8 lm/W
CIE TYPE - SEMI-DIRECT
PLANE : 0-DEG 90-DEG
SPACING CRITERIA : 1.09 1.08
SHIELDING ANGLES : 90 90





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PLANE : 0-DEG 90-DEG
LUMINOUS LENGTH : 7.875 7.875
HEIGHT OF SIDE : 2.750 2.750

LUMINANCE DATA IN CANDELA/SQ M
ANGLE AVERAGE AVERAGE AVERAGE
IN DEG 0-DEG 45-DEG 90-DEG
45 4427. 4022. 4401.
55 3780. 3066. 3751.
65 3686. 2556. 3652.
75 3480. 2174. 3480.
85 2873. 1769. 2873.



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**CANDELA DISTRIBUTION
LATERAL ANGLE**

	0.0	22.5	45.0	67.5	90.0
0.0	376	376	376	376	376
5.0	373	373	373	373	373
10.0	364	364	364	364	364
15.0	349	349	349	348	348
20.0	327	328	328	327	326
25.0	299	300	302	300	299
30.0	267	269	271	269	266
35.0	232	235	238	234	231
40.0	199	201	203	200	198
45.0	169	170	170	169	168
50.0	146	145	143	145	145
55.0	130	126	120	126	129
60.0	119	112	103	112	118
65.0	109	101	89	101	108
70.0	98	89	76	89	97
75.0	83	77	64	77	83
80.0	67	63	53	63	67
85.0	50	48	41	48	50
90.0	36	36	31	36	36
95.0	28	29	27	29	28
100.0	23	25	24	25	23
105.0	20	22	22	22	20
110.0	19	21	21	21	19
115.0	18	20	20	20	18
120.0	18	19	19	19	18
125.0	16	17	18	17	16
130.0	14	15	16	15	14
135.0	12	13	14	13	12
140.0	10	11	12	11	10
145.0	9	9	10	9	9
150.0	7	7	8	7	7
155.0	5	5	6	5	5
160.0	3	3	3	3	3
165.0	2	2	0	1	2
170.0	0	0	0	0	0
175.0	0	0	0	0	0
180.0	0	0	0	0	0



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5-DEGREE		
ZONAL	LUMEN	SUMMARY
0- 5		9
5- 10		26
10- 15		42
15- 20		56
20- 25		66
25- 30		72
30- 35		74
35- 40		72
40- 45		69
45- 50		63
50- 55		59
55- 60		55
60- 65		51
65- 70		48
70- 75		43
75- 80		37
80- 85		29
85- 90		22
90- 95		17
95-100		14
100-105		12
105-110		11
110-115		10
115-120		9
120-125		8
125-130		7
130-135		6
135-140		4
140-145		3
145-150		2
150-155		1
155-160		1
160-165		0
165-170		0
170-175		0
175-180		0

10-DEGREE		
ZONAL	LUMEN	SUMMARY
0- 10		35
0- 20		133
0- 30		271
0- 40		418
0- 50		550
0- 60		663
0- 70		762
0- 80		841
0- 90		892
0-100		923
0-110		947
0-120		966
0-130		982
0-140		992
0-150		998
0-160		1000
0-170		1000
0-180		1000



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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	116	116	116	116	113	113	113	113	105	105	105	98	98	98	92	92	92	89
1	105	100	95	91	101	96	92	88	90	87	83	84	82	79	79	77	75	72
2	95	87	80	74	92	84	78	72	79	73	69	74	69	66	69	66	63	60
3	87	76	68	62	84	74	66	60	70	63	58	65	60	56	61	57	53	51
4	80	68	59	53	77	66	58	52	62	55	50	59	53	48	55	50	46	44
5	74	61	52	46	71	59	51	45	56	49	43	53	47	42	50	45	41	38
6	68	55	46	40	66	54	46	40	51	44	38	48	42	37	46	40	36	34
7	64	50	42	36	61	49	41	35	47	39	34	44	38	33	42	37	32	30
8	59	46	38	32	57	45	37	32	43	36	31	41	35	30	39	33	29	27
9	56	43	34	29	54	41	34	29	40	33	28	38	32	27	36	31	27	25
10	52	39	32	27	50	38	31	26	37	30	26	35	29	25	34	28	24	23

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.

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Date
3/5/2020

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 5 - Test Distance: 56.0'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27072V	10/31/2020
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	1912722	10/31/2020

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	10/31/2020
<i>Power Analyzer</i>	Yokogawa / WT332	C2QA27075V	10/31/2020
<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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