

Project Number
16.00027



Date
1/12/2016

Test Sample Description

Catalog Number: P5643-3030K
Description: 6" square cylinder down light wall mount LED

Photometry

Test Method: IES LM-79-08 § 10
Preburn Time: 0:00
Time To Stabilize: 10:15
Total Operating Time: 10:50

Input Voltage (Volts): 120.0
Input Current (Amps): 0.273
Input Wattage (Watts): 30.4
Ambient Temp (°C): 24.9
PF @ 277V: 0.989
THD @ 277V (%): 7.94

Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1
Preburn Time: 1:40
Time To Stabilize: 1:13
Total Operating Time: 2:53

Input Voltage (Volts): 120.0
Input Current (Amps): 0.272
Input Wattage (Watts): 30.2
Ambient Temp (°C): 24.4



Hubbell Lighting, Inc.

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

Checked (sphere): M. ELLMANN
Checked (photometry): R. WILLIAMS / B. FLAUM
Approved: M. WASHBURN



This report shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

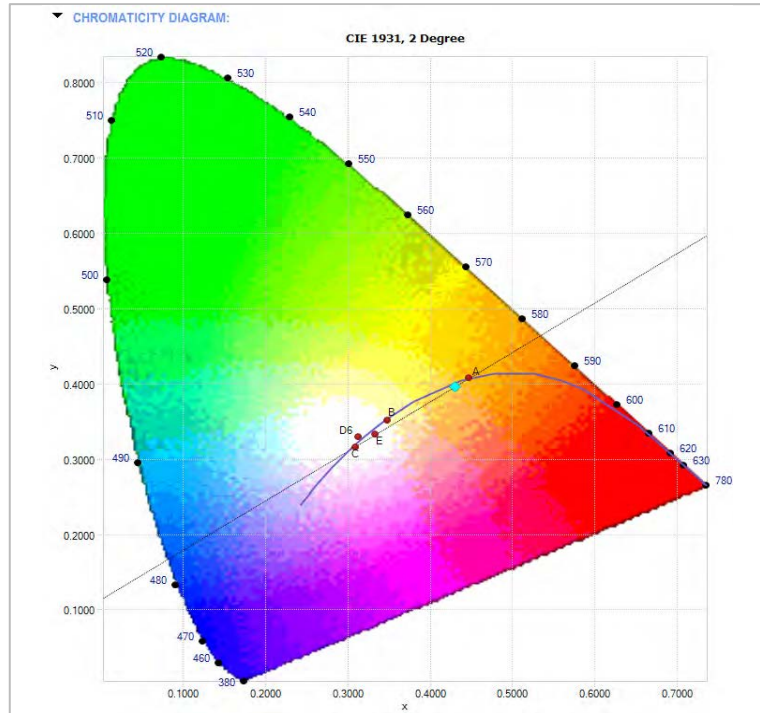


Lamp Cat#: 93047261-4030
 Lamp Desc: 40 - Nichia 3000K LEDs
 Driver Desc: 1 - CC driver

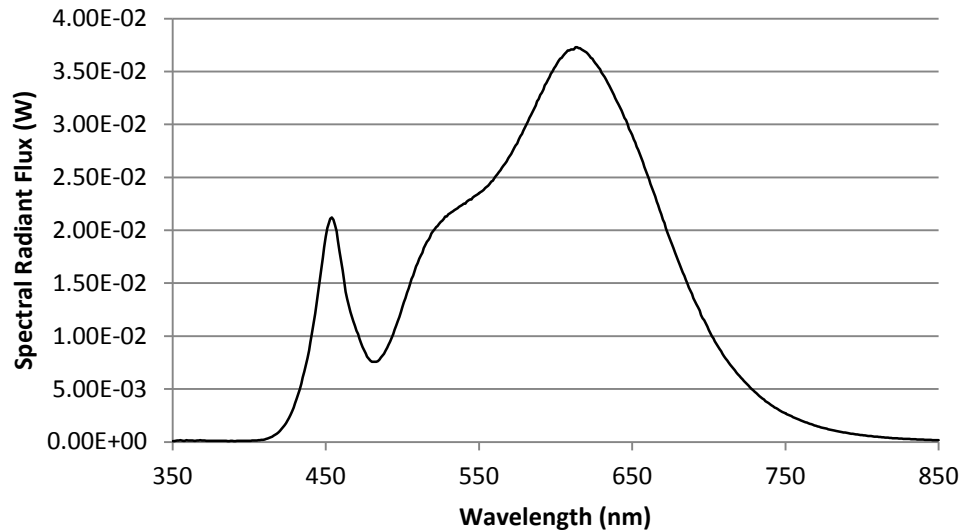
Efficacy: 61.7 LPW S/P Ratio: 1.4 LM/LM

Spectral Results

Name	Value	Unit
Φ	6.36	watts
$\Phi(v)$	1864	lumens
$\Phi(v')$	2664	lm'
Chrom x	0.4303	
Chrom y	0.3969	
Chrom u	0.2494	
Chrom v	0.345	
Duv	0.002	
Chrom u'	0.2494	
Chrom v'	0.5175	
CCT	3053	K
Purity	48.3	%
λ (dom)	583.3	nm
FWHM	161	nm
λ (peak)	613.9	nm
λ (center)	595.6	nm
λ (centroid)	590.4	nm
SDCM	Cool White	
RA	92	
Corr. Coef.	0.001966493	
Correlation	0.0054	
R1	92.4	
R2	95.7	
R3	97.3	
R4	92.2	
R5	92.0	
R6	94.5	
R7	90.5	
R8	78.7	
R9	51.7	
R10	89.0	
R11	93.2	
R12	80.0	
R13	93.5	
R14	98.0	



Spectral Distribution of Radiant Flux



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ISSUE DATE: 01/12/16
PREPARED FOR: PROGRESS
CATALOG NUMBER: P5643-3030K
LUMINAIRE: 6" square cylinder down light wall mount LED
LAMP CAT. NO.: 93047261-4030
LAMP: 40- Nichia 3000K LEDs
REFRACTOR: Sabic polycarbonate LUX7430C-NAT, Lens 93047259-3
MOUNTING: Wall
NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

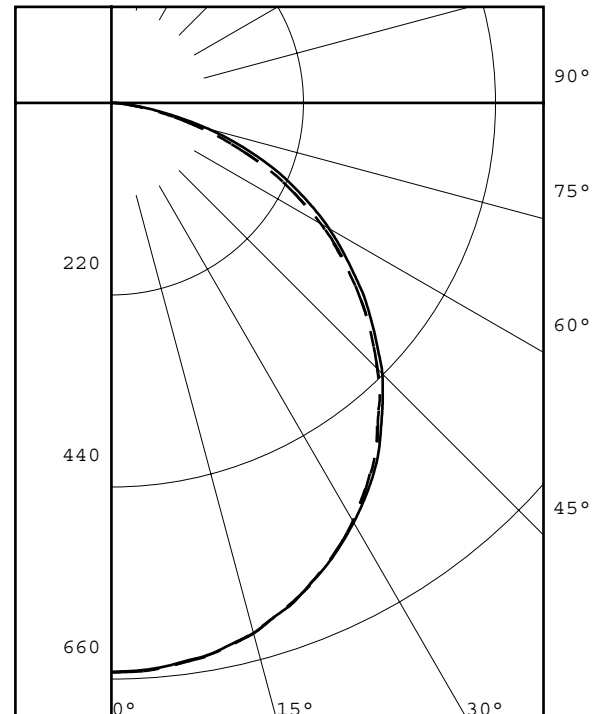
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CANDELA DISTRIBUTION						FLUX
	0.0	22.5	45.0	67.5	90.0	
0	652	652	652	652	652	
5	650	650	649	649	650	62
15	628	628	629	629	629	177
25	583	583	584	583	584	269
35	518	520	522	520	517	325
45	431	435	439	434	431	335
55	329	336	338	335	331	299
65	220	227	233	227	219	224
75	99	107	115	108	98	114
85	14	17	17	16	15	22
90	0	0	0	0	0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	508	27.8
0- 40	833	45.6
0- 60	1467	80.3
0- 90	1826	100.0
90-180	0	0.0
0-180	1826	100.0

TOTAL INPUT WATTS = 30.4
EFFICACY = 60.1 Lm/W
CIE TYPE - DIRECT
PLANE : 0-DEG 90-DEG
SPACING CRITERIA : 1.3 1.3
PLANE : 0-DEG 90-DEG
LUMINOUS LENGTH : 6.000 6.000

LUMINANCE DATA IN CANDELA/SQ METER			
ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	26234.	26721.	26234.
55	24688.	25363.	24838.
65	22405.	23729.	22303.
75	16463.	19124.	16297.
85	6914.	8395.	7407.



LEGEND:
0-deg: ————
45-deg: - - - - -
90-deg: ————



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CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0.0	652	652	652	652	652
2.5	652	651	651	651	652
5.0	650	650	649	649	650
7.5	646	645	645	646	646
10.0	642	642	642	642	643
12.5	636	635	635	635	635
15.0	628	628	629	629	629
17.5	618	618	618	618	618
20.0	609	608	609	609	608
22.5	596	596	596	597	597
25.0	583	583	584	583	584
27.5	569	569	570	569	569
30.0	553	553	555	554	554
32.5	535	537	539	537	536
35.0	518	520	522	520	517
37.5	498	500	503	500	499
40.0	474	479	481	478	475
42.5	455	457	460	457	454
45.0	431	435	439	434	431
47.5	406	411	413	410	406
50.0	382	385	389	385	382
52.5	356	361	365	360	356
55.0	329	336	338	335	331
57.5	303	310	313	310	305
60.0	277	284	288	283	277
62.5	247	256	261	256	248
65.0	220	227	233	227	219
67.5	190	199	206	198	190
70.0	158	168	176	168	158
72.5	129	138	146	137	128
75.0	99	107	115	108	98
77.5	71	79	83	80	71
80.0	48	53	55	53	47
82.5	28	32	33	32	28
85.0	14	17	17	16	15
87.5	6	7	7	7	7
90.0	0	0	0	0	0



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ZONAL LUMEN SUMMARY

0- 5	16.
5- 10	46.
10- 15	75.
15- 20	102.
20- 25	125.
25- 30	144.
30- 35	158.
35- 40	167.
40- 45	169.
45- 50	166.
50- 55	157.
55- 60	143.
60- 65	124.
65- 70	100.
70- 75	72.
75- 80	42.
80- 85	18.
85- 90	4.



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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	16
5- 10	46
10- 15	75
15- 20	102
20- 25	125
25- 30	144
30- 35	158
35- 40	167
40- 45	169
45- 50	166
50- 55	157
55- 60	143
60- 65	124
65- 70	100
70- 75	72
75- 80	42
80- 85	18
85- 90	4

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	62
0- 20	239
0- 30	508
0- 40	833
0- 50	1167
0- 60	1467
0- 70	1690
0- 80	1804
0- 90	1826



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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	119	119	119	119	119	116	116	116	116	111	111	111	111	106	106	106	102	102	102	100
1	109	104	100	97	97	106	102	98	95	98	95	92	94	92	89	90	88	87	84	84
2	99	91	84	79	79	97	89	83	78	86	81	76	82	78	74	79	76	73	71	71
3	91	80	72	66	66	88	79	71	65	76	69	64	73	67	63	70	66	62	59	59
4	83	71	62	56	56	81	70	61	55	67	60	54	65	59	54	63	57	53	51	51
5	76	63	54	48	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44	44
6	70	57	48	42	42	68	56	48	42	54	47	41	53	46	41	51	45	40	38	38
7	65	52	43	37	37	63	51	43	37	49	42	36	48	41	36	47	40	36	34	34
8	61	47	39	33	33	59	46	38	33	45	38	33	44	37	32	43	37	32	30	30
9	57	43	35	30	30	55	43	35	29	42	34	29	40	34	29	39	33	29	27	27
10	53	40	32	27	27	52	39	32	27	38	31	27	37	31	26	37	31	26	25	25

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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Date
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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 08/04/2015

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL / HLI LAB 5 - Test Distance: 56.0'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27072V	11/10/2016
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	1912722	11/10/2016

Sphere Calibration

Calibration Lamp: EIKO 28V75W/E10

Lamp Number: SCL-1400-J136

Calibration Current: 2.679 Amps

Total Luminous Flux: 1427 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	Calibrated Weekly
<i>Thermometer</i>	National Instruments / USB TC01	1912751	11/10/2016
<i>LAMP Power Meter</i>	Yokogawa / WT332	C2QA27075V	11/10/2016
<i>Power Supply</i>	Chroma / 61602	616020002113	N/A
<i>Aux Lamp Supply</i>	Labsphere / LPS-100-0833	031159372	11/10/2016
<i>Cal Lamp Supply</i>	Labsphere / LPS-150-0268	1218148605	11/10/2016
<i>Spectrometer</i>	Labsphere / CDS 1100	0624117792	N/A

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