

Project Number
17.02768



Date
10/20/2017

LAB 5
Sphere

Test Sample Description

Catalog Number: P5675-3130K
Description: 5" 17W LED Direct/Indirect Cylinder

Photometry

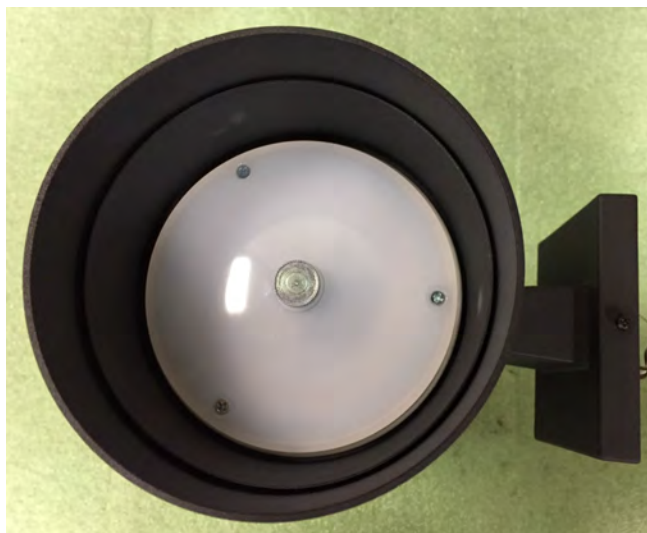
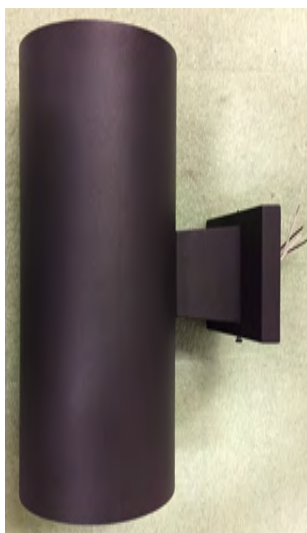
Test Method: IES LM-79-08 § 10
Preburn Time: 00:00
Time To Stabilize: 1:00
Total Operating Time: 3:00

Input Voltage (Volts): 120.2
Input Current (Amps): 0.303
Input Wattage (Watts): 33.9
Ambient Temp (°C): 26.0

Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1
Preburn Time: 1:00
Time To Stabilize: 1:26
Total Operating Time: 2:26

Input Voltage (Volts): 120.0
Input Current (Amps): 0.301
Input Wattage (Watts): 33.5
Ambient Temp (°C): 24.0
PF @ 120V: 0.929
THD @ 120V (%): 40.7



Hubbell Lighting, Inc.

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

Checked (sphere): B. LEE
Checked (photometry): R. WILLIAMS
Approved: P. McCARTHY



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


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Lamp Cat#: n/a

Lamp Desc: 2 - n/a 3000K LEDs

Driver Desc: n/a

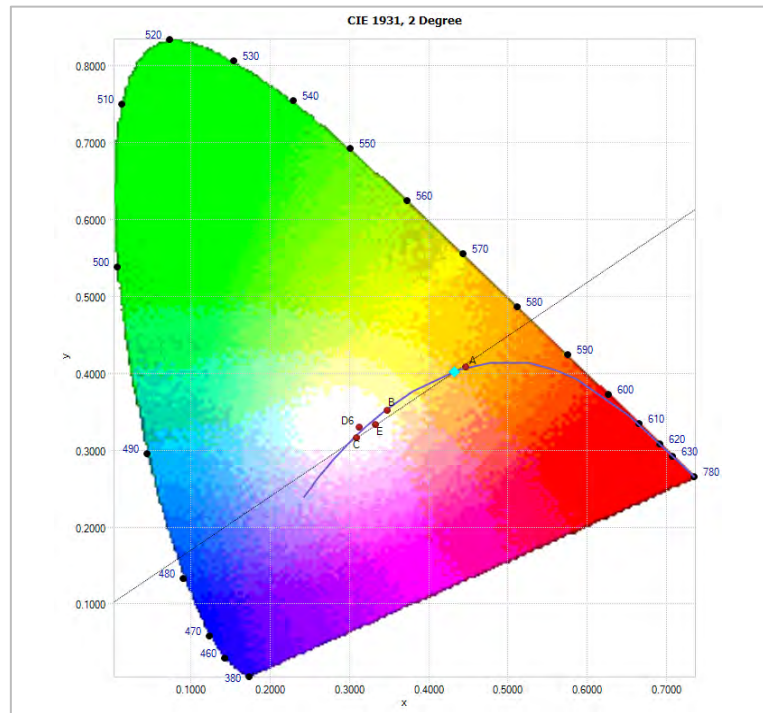
Efficacy: 29.2 LPW

S/P Ratio: 1.5 LM'/LM

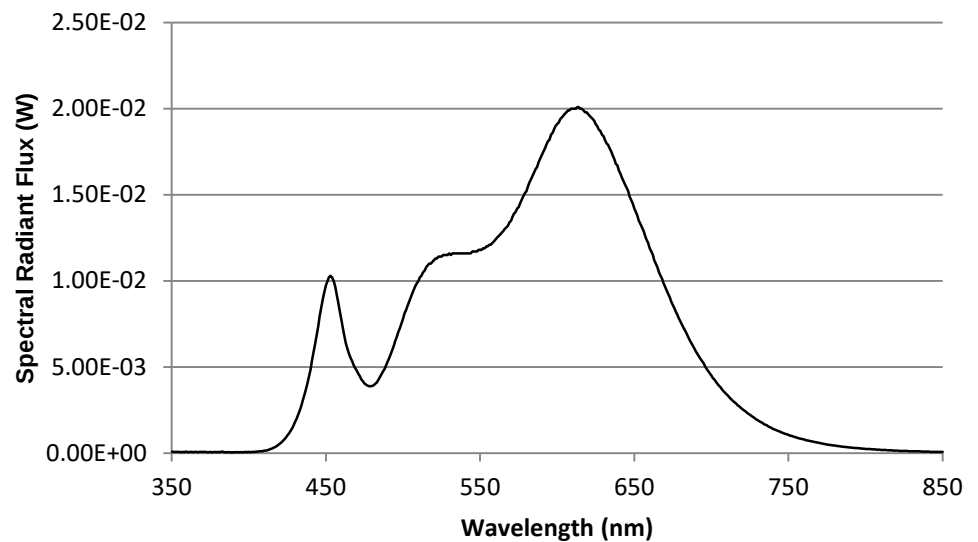
Spectral Results

Name	Value	Unit
Φ	3.22	watts
$\Phi(v)$	977	lumens
$\Phi(v')$	1423	lm'
Chrom x	0.4321	
Chrom y	0.402	
Chrom u	0.2483	
Chrom v	0.3466	
Duv	0.0002	
Chrom u'	0.2483	
Chrom v'	0.5199	
CCT	3064	K
Purity	50.4	%
λ (dom)	582.6	nm
FWHM	158	nm
λ (peak)	613	nm
λ (center)	589.2	nm
λ (centroid)	586.9	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.000213452	
Correlation	0.0054	
R1	94.2	
R2	97.1	
R3	98.8	
R4	95.6	
R5	94.7	
R6	96.9	
R7	90.3	
R8	77.9	
R9	49.3	
R10	93.4	
R11	96.8	
R12	85.4	
R13	95.5	
R14	99.4	

Chromaticity Diagram



Spectral Distribution of Radiant Flux



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REPORT NUMBER: 17.02768

PAGE: 3 OF 9

ISSUE DATE: 10/20/17

PREPARED FOR: PROGRESS

CATALOG NUMBER: P5675-3130K

LUMINAIRE: 5" 17W LED Direct/Indirect Cylinder

LAMP: 2- 3000K LED Modules

MOUNTING: Wall

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



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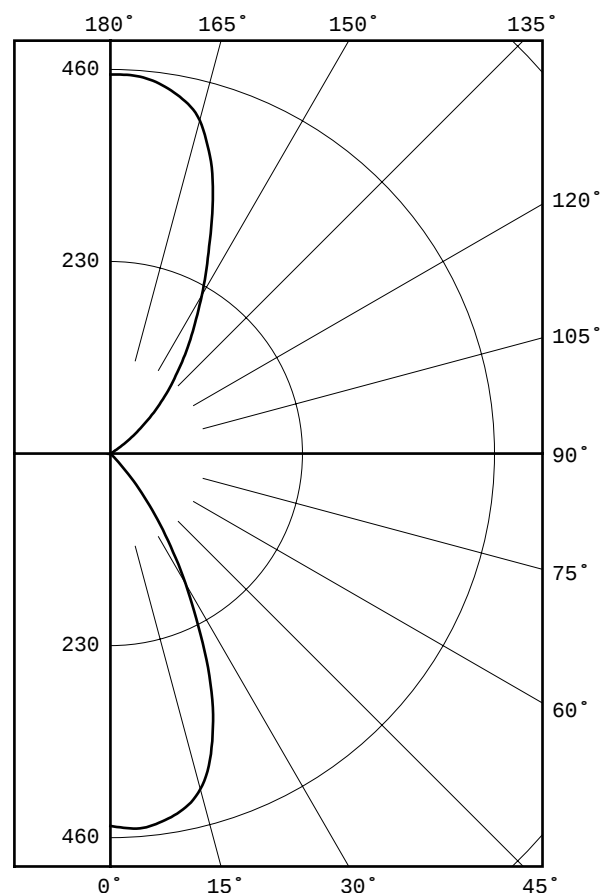
REPORT NUMBER: 17.02768
ISSUE DATE: 10/20/17
PREPARED FOR: PROGRESS
CATALOG NUMBER: P5675-3130K

PAGE: 4 OF 9

DEG	CANDELA	LUMENS
0	446	
5	450	43
15	416	115
25	272	123
35	104	65
45	2	8
55	1	0
65	0	0
75	0	0
85	0	0
90	0	
95	0	0
105	1	0
115	2	2
125	17	18
135	83	64
145	167	104
155	282	130
165	413	114
175	452	43
180	454	

ZONAL ZONE	LUMEN	SUMMARY LUMENS	%FIXT
0- 30		280	33.8
0- 40		346	41.7
0- 60		354	42.7
0- 90		354	42.7
90-120		3	0.3
90-130		21	2.5
90-150		189	22.8
90-180		476	57.3
0-180		830	100.0

EFFICACY = 24.5 lm/W
CIE TYPE - GENERAL DIFFUSE
LUMINAIRE SPACING CRITERION = 0.83
PLANE : 0-DEG 90-DEG
SHIELDING ANGLES : 90 90





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CATALOG NUMBER: P5675-3130K

PAGE: 5 OF 9

LUMINOUS DIAMETER: 5.000

LUMINANCE DATA IN CANDELA/SQ M
ANGLE AVERAGE
IN DEG

45	223.
55	138.
65	0.
75	0.
85	0.



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PAGE: 6 OF 9

CANDELA DISTRIBUTION

0.0	446
5.0	450
10.0	440
15.0	416
20.0	358
25.0	272
30.0	180
35.0	104
40.0	43
45.0	2
50.0	1
55.0	1
60.0	0
65.0	0
70.0	0
75.0	0
80.0	0
85.0	0
90.0	0
95.0	0
100.0	0
105.0	1
110.0	1
115.0	2
120.0	4
125.0	17
130.0	47
135.0	83
140.0	122
145.0	167
150.0	219
155.0	282
160.0	357
165.0	413
170.0	439
175.0	452
180.0	454



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PREPARED FOR: PROGRESS
CATALOG NUMBER: P5675-3130K

PAGE: 7 OF 9

5-DEGREE		
ZONAL	LUMEN	SUMMARY
0- 5		11
5- 10		32
10- 15		51
15- 20		64
20- 25		66
25- 30		57
30- 35		41
35- 40		24
40- 45		8
45- 50		1
50- 55		0
55- 60		0
60- 65		0
65- 70		0
70- 75		0
75- 80		0
80- 85		0
85- 90		0
90- 95		0
95-100		0
100-105		0
105-110		0
110-115		1
115-120		1
120-125		4
125-130		14
130-135		26
135-140		38
140-145		48
145-150		56
150-155		63
155-160		67
160-165		63
165-170		51
170-175		32
175-180		11

10-DEGREE		
ZONAL	LUMEN	SUMMARY
0- 10		43
10- 20		115
20- 30		123
30- 40		65
40- 50		8
50- 60		0
60- 70		0
70- 80		0
80- 90		0
90-100		0
100-110		0
110-120		2
120-130		18
130-140		64
140-150		104
150-160		130
160-170		114
170-180		43



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PAGE: 8 OF 9

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	105	105	105	105	96	96	96	96	79	79	79	64	64	64	49	49	49	43
1	98	95	92	89	90	87	85	82	73	71	69	59	58	57	47	46	46	40
2	92	86	81	77	84	79	75	72	67	64	61	55	53	52	44	43	43	38
3	85	78	72	68	78	72	67	63	61	58	55	51	49	47	42	41	40	35
4	80	71	65	60	73	66	61	57	57	53	50	48	45	43	40	38	37	33
5	75	65	59	54	69	61	55	51	52	48	45	45	42	40	38	36	34	31
6	70	60	53	49	65	56	50	46	49	45	41	42	39	37	36	34	32	29
7	66	55	49	44	61	52	46	42	46	41	38	39	36	34	34	32	30	28
8	62	51	45	41	57	48	43	39	43	38	35	37	34	32	32	30	28	26
9	58	48	42	37	54	45	40	36	40	36	33	35	32	30	30	28	27	25
10	55	45	39	35	51	42	37	33	38	33	31	33	30	28	29	27	25	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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Goniophotometer Calibration

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

Lamp Number: ITL78966-1000-38

Calibration Current: 8.300 Amps DC

Total Luminous Flux: 25889.0 Lumens

Calibration Date: 09/08/2016

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	11/2/2017
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	1912722	11/7/2017

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	11/2/2017
<i>LAMP Power Meter</i>	Yokogawa / WT332	C2QA27075V	11/1/2017
<i>Power Supply</i>	Chroma / 61602	616020002113	N/A
<i>Power Supply PF/THD</i>	Voltage-Regulated House Power	N/A	N/A
<i>Aux Lamp Supply</i>	Labsphere / LPS-100-0833	0331159372	10/31/2017
<i>Cal Lamp Supply</i>	Labsphere / LPS-150-0268	1218148505	12/1/2017
<i>Spectrometer</i>	Labsphere / CDS 1100	0624117792	N/A

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