

Project Number
17.02765



Date
10/13/2017
Rev 1: 11/14/2017

Lab 6
Sphere

Test Sample Description

Catalog Number: P5674-3130K
Description: 5" 17W LED Down-Light Cylinder

Revision 1: Changed report format from roadway

Photometry

Test Method: IES LM-79-08 § 10
Preburn Time: 1:00
Time To Stabilize: 3:00
Total Operating Time: 4:10

Input Voltage (Volts): 120.1
Input Current (Amps): 0.151
Input Wattage (Watts): 16.9
Ambient Temp (°C): 24.1

Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1
Preburn Time: 8:00
Time To Stabilize: 1:05
Total Operating Time: 9:05

Input Voltage (Volts): 120.0
Input Current (Amps): 0.151
Input Wattage (Watts): 16.8
Ambient Temp (°C): 24.0
PF @ 120V: 0.93
THD @ 120V (%): 40.6



Hubbell Lighting, Inc.

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

Revised By: D. ROBBINS
Revision Approval: P. McCARTHY



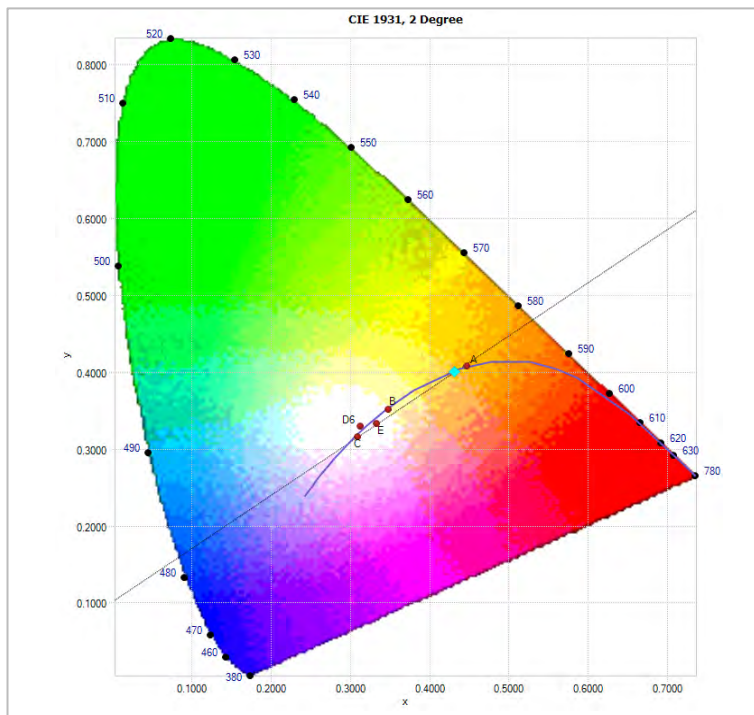

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Lamp Desc: 1 - 3000K LED Module

Efficacy: 29.8 LPW

S/P Ratio: 1.5 LM'/LM

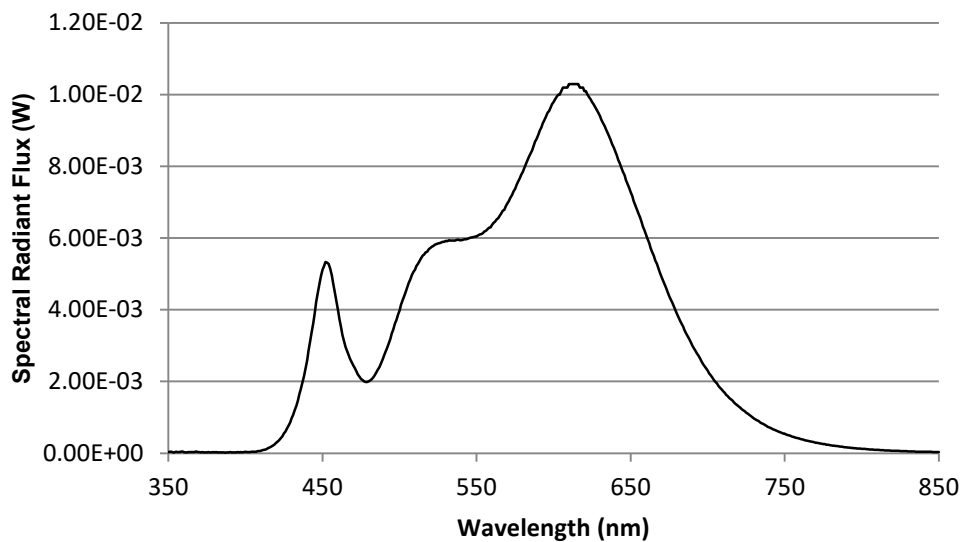
Chromaticity Diagram



Spectral Results

Name	Value	Unit
Φ	1.65	watts
$\Phi(v)$	501	lumens
$\Phi(v')$	731	lm'
Chrom x	0.4313	
Chrom y	0.4009	
Chrom u	0.2483	
Chrom v	0.3462	
Duv	0.0005	
Chrom u'	0.2483	
Chrom v'	0.5193	
CCT	3069	K
Purity	49.8	%
λ (dom)	582.7	nm
FWHM	157.8	nm
λ (peak)	612.9	nm
λ (center)	589.1	nm
λ (centroid)	586.5	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.000515798	
Correlation	0.0054	
R1	94.1	
R2	97.0	
R3	98.6	
R4	95.3	
R5	94.6	
R6	96.8	
R7	90.1	
R8	77.6	
R9	48.8	
R10	93.3	
R11	96.6	
R12	85.6	
R13	95.3	
R14	99.4	

Spectral Distribution of Radiant Flux



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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REPORT NUMBER: 17.02765
ISSUE DATE: 10/18/17
PREPARED FOR: PROGRESS
CATALOG NUMBER: P5674-3130K
LUMINAIRE: 5" 17W LED Down-Light Cylinder
LAMP: 1- 3000K LED Module
MOUNTING: Wall
DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

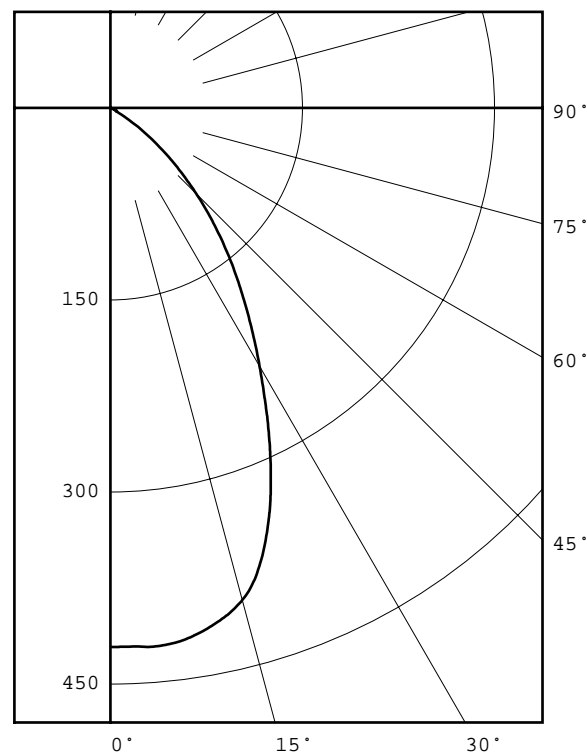
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DEG	CANDELA	LUMENS
	0.0	
0	421	
5	422	40
15	398	111
25	295	135
35	181	113
45	95	73
55	29	26
65	4	4
75	1	1
85	0	0
90	0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	285	56.6
0- 40	399	79.1
0- 60	499	98.9
0- 90	504	100.0
90-180	0	0.0
0-180	504	100.0

EFFICACY = 29.8 Lm/W
CIE TYPE - DIRECT
LUMINAIRE SPACING CRITERION = 1.0
LUMINOUS DIAMETER: 4.875

LUMINANCE DATA IN CANDELA/SQ M	
ANGLE AVERAGE	
IN DEG	
45	11153.
55	4197.
65	786.
75	321.
85	0.





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CANDELA DISTRIBUTION

0.0	421
2.5	421
4.0	422
5.0	422
7.5	420
10.0	415
12.5	408
15.0	398
17.5	381
20.0	356
22.5	327
25.0	295
27.5	263
30.0	233
32.5	206
35.0	181
37.5	158
40.0	136
42.5	115
45.0	95
47.5	76
50.0	59
52.5	43
55.0	29
57.5	15
60.0	6
62.5	5
65.0	4
67.5	3
70.0	2
72.5	2
75.0	1
77.5	1
80.0	1
82.5	0
85.0	0
87.5	0
90.0	0



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5-DEGREE

ZONAL LUMEN SUMMARY

0- 5	10
5- 10	30
10- 15	48
15- 20	62
20- 25	68
25- 30	67
30- 35	61
35- 40	53
40- 45	43
45- 50	31
50- 55	19
55- 60	7
60- 65	2
65- 70	2
70- 75	1
75- 80	1
80- 85	0
85- 90	0

10-DEGREE

ZONAL LUMEN SUMMARY

0- 10	40
0- 20	151
0- 30	285
0- 40	399
0- 50	472
0- 60	499
0- 70	503
0- 80	504
0- 90	504



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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	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	113	110	107	105	110	108	105	103	103	101	100	100	98	97	96	95	94	92
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	88	86	84
3	100	93	87	83	98	91	86	82	89	84	81	86	82	79	84	81	78	76
4	94	86	79	75	92	84	79	74	82	77	73	80	76	72	78	74	71	70
5	88	79	73	68	87	78	72	67	76	71	67	74	70	66	73	69	66	64
6	83	73	67	62	82	72	66	62	71	65	61	69	64	61	68	64	60	59
7	79	68	61	57	77	67	61	57	66	60	56	65	60	56	64	59	56	54
8	74	64	57	52	73	63	57	52	62	56	52	61	56	52	60	55	52	50
9	70	59	53	49	69	59	53	48	58	52	48	57	52	48	56	51	48	46
10	67	56	49	45	65	55	49	45	54	49	45	54	48	45	53	48	45	43

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
10/13/2017
Rev 1: 11/15/2017

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: 09/02/2016

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL / HLI LAB 6 - Test Distance: 31.3'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27076V	11/2/2017
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	1912745	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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