

Project Number
17.02767



HUBBELL
Lighting

Date
10/31/2017

LAB 5
Sphere

Test Sample Description

Catalog Number: P5675-2030K

Description: 5" LED Direct/Indirect Wall-Mount Cylinder with Two 17W Light Engines

Photometry

IES LM-79-08 § 10

Test Method: IES LM-46-04

Preburn Time: 0:00

Time To Stabilize: 1:00

Total Operating Time: 3:00

Input Voltage (Volts): 120.1

Input Current (Amps): 0.307

Input Wattage (Watts): 34.4

Ambient Temp (°C): 25.0

Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1

Preburn Time: 2:00

Time To Stabilize: 1:19

Total Operating Time: 3:19

Input Voltage (Volts): 120.0

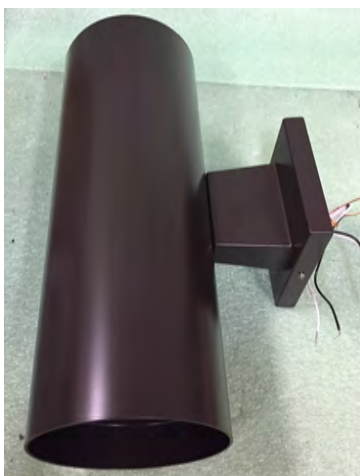
Input Current (Amps): 0.306

Input Wattage (Watts): 33.9

Ambient Temp (°C): 24.0

PF @ 120V: 0.931

THD @ 120V (%): 40.5



Hubbell Lighting, Inc.

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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 - 3000K LED Modules

Driver Desc: n/a

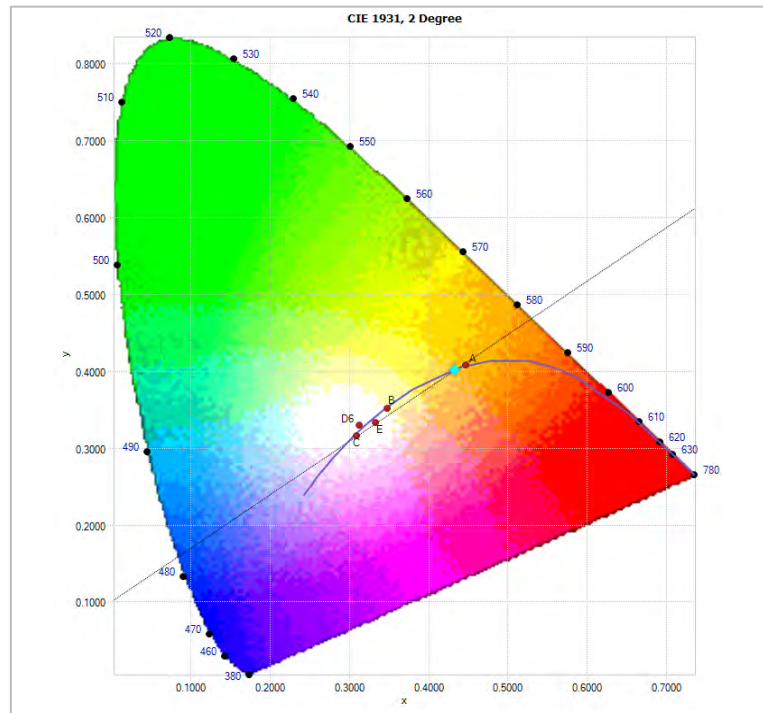
Efficacy: 30.2 LPW

S/P Ratio: 1.5 LM'/LM

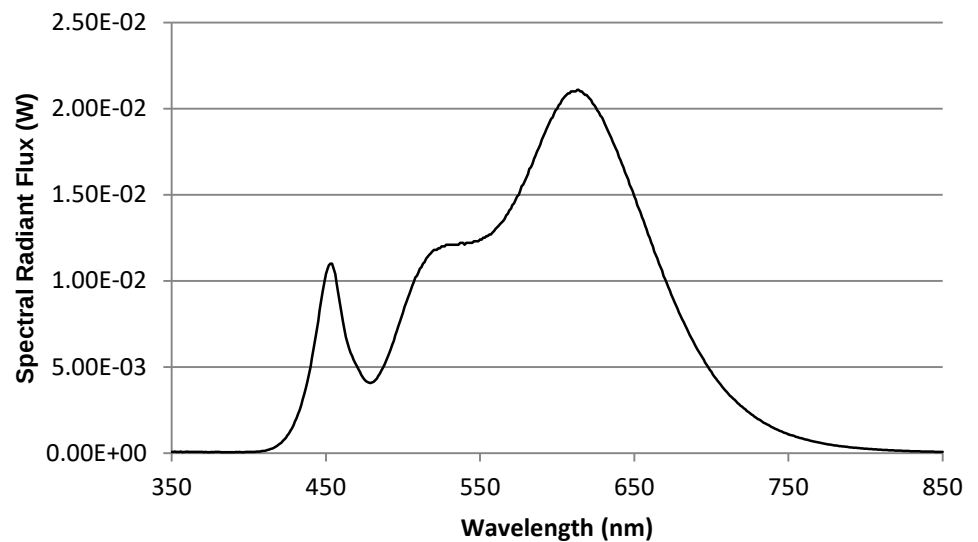
Spectral Results

Name	Value	Unit
Φ	3.38	watts
$\Phi(v)$	1025	lumens
$\Phi(v')$	1495	lm'
Chrom x	0.432	
Chrom y	0.4018	
Chrom u	0.2484	
Chrom v	0.3465	
Duv	0.0002	
Chrom u'	0.2484	
Chrom v'	0.5197	
CCT	3064	K
Purity	50.3	%
λ (dom)	582.6	nm
FWHM	157.8	nm
λ (peak)	613.1	nm
λ (center)	589.1	nm
λ (centroid)	586.8	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.000282627	
Correlation	0.0054	
R1	94.2	
R2	97.2	
R3	98.7	
R4	95.5	
R5	94.7	
R6	96.8	
R7	90.2	
R8	77.8	
R9	49.1	
R10	93.5	
R11	96.8	
R12	85.2	
R13	95.5	
R14	99.4	

Chromaticity Diagram



Spectral Distribution of Radiant Flux



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ISSUE DATE: 10/31/17

PREPARED FOR: PROGRESS

CATALOG NUMBER: P5675-2030K

LUMINAIRE: 5" LED Direct/Indirect Cylinder

LAMP: 2- 17W 3000K LED Modules

MOUNTING: Wall



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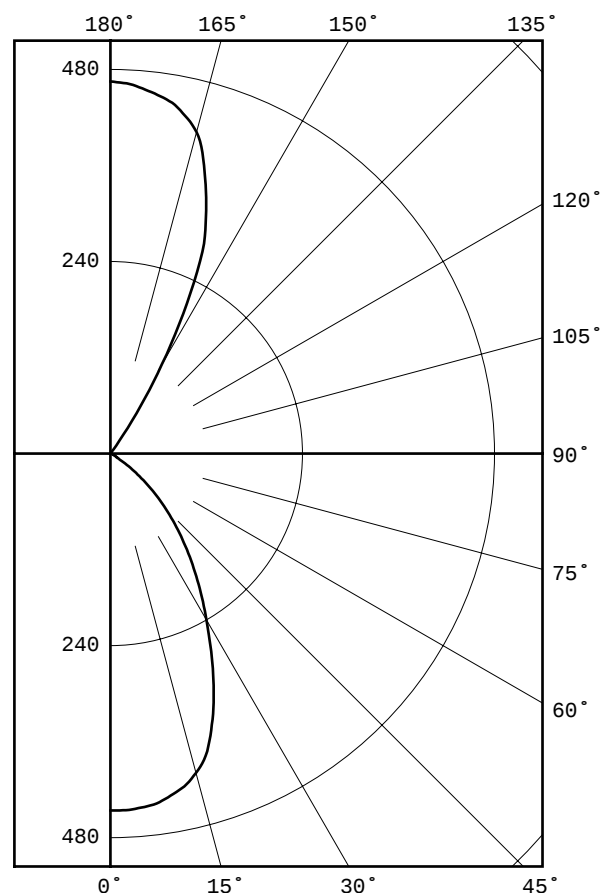
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DEG	CANDELA	LUMENS
0	446	
5	444	42
15	413	115
25	304	139
35	187	117
45	98	76
55	28	26
65	5	5
75	1	1
85	1	1
90	0	
95	0	0
105	0	0
115	0	0
125	0	0
135	0	0
145	20	23
155	265	114
165	416	114
175	458	43
180	465	

ZONAL ZONE	LUMEN	SUMMARY LUMENS	%FIXT
0- 30		296	36.3
0- 40		413	50.6
0- 60		515	63.1
0- 90		522	63.9
90-120		0	0.0
90-130		0	0.0
90-150		23	2.8
90-180		295	36.1
0-180		817	100.0

EFFICACY = 23.8 lm/W
CIE TYPE - SEMI-DIRECT
LUMINAIRE SPACING CRITERION = 0.94
PLANE : 0-DEG 90-DEG
SHIELDING ANGLES : 90 90





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LUMINOUS DIAMETER: 5.000

LUMINANCE DATA IN CANDELA/SQ M
ANGLE AVERAGE
IN DEG

45	10941.
55	3854.
65	934.
75	305.
85	906.



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CANDELA DISTRIBUTION

0.0	446
5.0	444
10.0	434
15.0	413
20.0	368
25.0	304
30.0	240
35.0	187
40.0	140
45.0	98
50.0	60
55.0	28
60.0	9
65.0	5
70.0	2
75.0	1
80.0	1
85.0	1
90.0	0
95.0	0
100.0	1
105.0	0
110.0	0
115.0	0
120.0	0
125.0	0
130.0	0
135.0	0
140.0	0
145.0	20
150.0	129
155.0	265
160.0	349
165.0	416
170.0	445
175.0	458
180.0	465



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5-DEGREE		
ZONAL	LUMEN	SUMMARY
0- 5		11
5- 10		31
10- 15		50
15- 20		65
20- 25		70
25- 30		69
30- 35		63
35- 40		54
40- 45		44
45- 50		32
50- 55		19
55- 60		7
60- 65		3
65- 70		2
70- 75		1
75- 80		1
80- 85		1
85- 90		0
90- 95		0
95-100		0
100-105		0
105-110		0
110-115		0
115-120		0
120-125		0
125-130		0
130-135		0
135-140		0
140-145		2
145-150		21
150-155		50
155-160		65
160-165		63
165-170		51
170-175		32
175-180		11

10-DEGREE		
ZONAL	LUMEN	SUMMARY
0- 10		42
10- 20		115
20- 30		139
30- 40		117
40- 50		76
50- 60		26
60- 70		5
70- 80		1
80- 90		1
90-100		0
100-110		0
110-120		0
120-130		0
130-140		0
140-150		23
150-160		114
160-170		114
170-180		43



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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	110	110	110	110	104	104	104	104	91	91	91	80	80	80	69	69	69	64
1	103	100	97	94	97	94	92	89	84	82	80	74	72	71	65	64	63	59
2	96	90	86	81	91	86	81	78	76	73	71	68	66	64	60	59	57	54
3	90	82	76	71	85	78	73	68	70	66	63	63	60	57	56	54	52	49
4	84	75	68	63	79	71	65	61	64	60	56	58	55	52	52	50	48	45
5	78	68	61	56	74	65	59	54	59	54	51	54	50	47	49	46	43	41
6	73	63	56	51	69	60	54	49	55	50	46	50	46	43	45	42	40	38
7	68	58	51	46	65	55	49	45	51	46	42	46	42	39	42	39	37	35
8	64	53	47	42	61	51	45	41	47	42	38	43	39	36	40	36	34	32
9	60	50	43	38	57	48	42	37	44	39	35	40	36	33	37	34	32	30
10	57	46	40	35	54	44	39	35	41	36	33	38	34	31	35	32	29	28

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	C2QA2702V	10/25/2018
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	1912722	10/26/2018

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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