

Project Number
17.02761



HUBBELL
Lighting

Date
10/16/2017
Rev 1: 11/14/2017

LAB 1
Sphere

Test Sample Description

Catalog Number: P5642-2030K
Description: 6" 29W LED Direct / Indirect Wall-Mount Cylinder

Revision 1: Changed report format from roadway

Photometry

Test Method: IES LM-79-08 § 10
Preburn Time: 00:20
Time To Stabilize: 3:40
Total Operating Time: 4:40

Input Voltage (Volts): 119.9
Input Current (Amps): 0.525
Input Wattage (Watts): 58.9
Ambient Temp (°C): 25.3
PF @ 120V: 0.935

Sphere

Test Method: IES LM-79-08 § 9.1 & 12.1
Preburn Time: 0:30
Time To Stabilize: 1:21
Total Operating Time: 1:51

Input Voltage (Volts): 120.0
Input Current (Amps): 0.520
Input Wattage (Watts): 57.9
Ambient Temp (°C): 24.0



Hubbell Lighting, Inc.

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



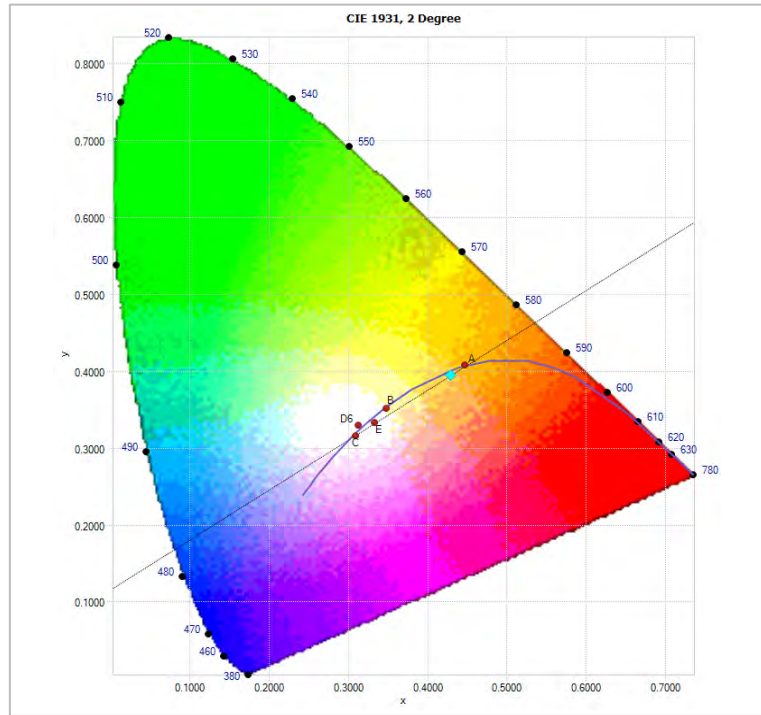
This report shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.



Lamp Cat#: NA
Lamp Desc: 2 - 3000K LEDs
Driver Desc: NA

Efficacy: 31.5 LPW S/P Ratio: 1.4 LM/LM

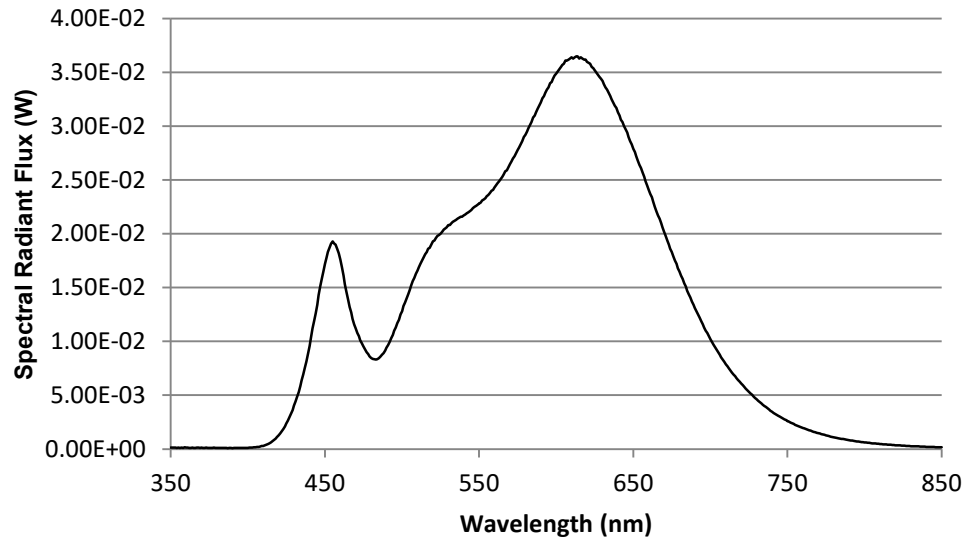
Chromaticity Diagram



Spectral Results

Name	Value	Unit
Φ	6.23	watts
Φ(v)	1823	lumens
Φ(v')	2635	lm'
Chrom x	0.4292	
Chrom y	0.3955	
Chrom u	0.2492	
Chrom v	0.3445	
Duv	0.0024	
Chrom u'	0.2492	
Chrom v'	0.5168	
CCT	3062	K
Purity	47.5	%
λ (dom)	583.5	nm
FWHM	159.4	nm
λ (peak)	613.3	nm
λ (center)	595.4	nm
λ (centroid)	589.5	nm
SDCM	Cool White	
RA	92	
Corr. Coef.	0.002365278	
Correlation	0.0054	
R1	92.5	
R2	96.4	
R3	97.9	
R4	92.0	
R5	92.4	
R6	95.3	
R7	89.8	
R8	78.0	
R9	51.0	
R10	90.8	
R11	93.2	
R12	82.4	
R13	93.9	
R14	98.8	

Spectral Distribution of Radiant Flux



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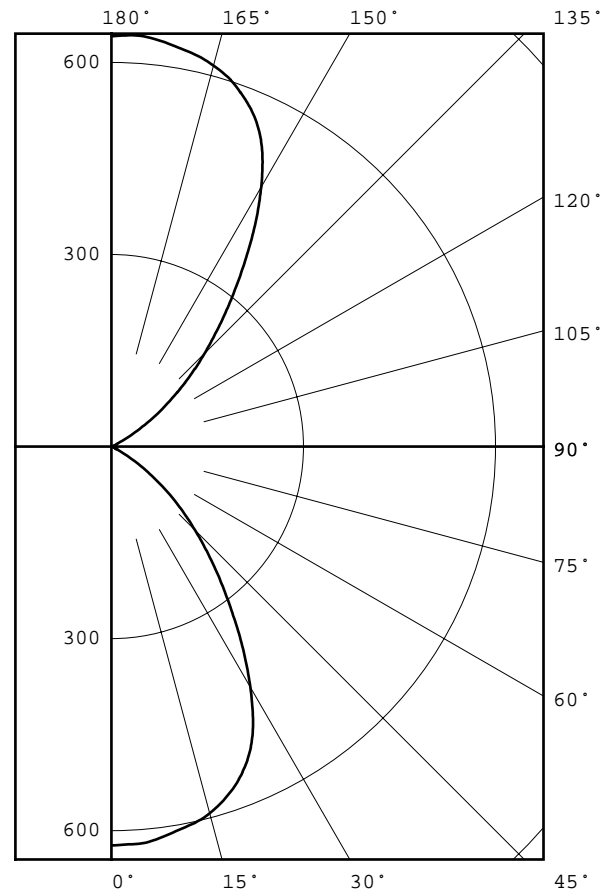
REPORT NUMBER: 17.02761
ISSUE DATE: 10/12/17
PREPARED FOR: PROGRESS
CATALOG NUMBER: P5642-2030K
LUMINAIRE: 6" LED Cylinder 29W wall up and down light
LAMP: 2- 3000 K LEDs
MOUNTING: Wall
LM-80 DATA AVAILABLE FROM MANUFACTURER FOR SOLID STATE SOURCE

PAGE: 3 OF 8

DEG	CANDELA	LUMENS
	0.0	
0	623	
5	621	59
15	593	167
25	516	234
35	340	213
45	185	143
55	69	63
65	9	11
75	2	2
85	0	0
90	0	
95	0	0
105	2	3
115	10	13
125	83	75
135	206	159
145	372	232
155	545	248
165	616	173
175	642	61
180	641	

ZONAL ZONE	LUMEN LUMENS	SUMMARY %FIXT
0- 30	459	24.8
0- 40	672	36.2
0- 60	878	47.3
0- 90	891	48.0
90-120	16	0.9
90-130	91	4.9
90-150	483	26.0
90-180	965	52.0
0-180	1856	100.0

EFFICACY = 31.5 Lm/W
CIE TYPE - DIRECT-INDIRECT





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LUMINOUS DIAMETER: 6.000

LUMINANCE DATA IN CANDELA/SQ M

ANGLE AVERAGE

IN DEG

45	14337.
55	6592.
65	1167.
75	423.
85	0.



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CANDELA DISTRIBUTION

0.0	623	160.0	589
2.5	622	162.5	605
3.0	622	165.0	616
5.0	621	167.5	625
7.5	615	170.0	631
10.0	608	172.5	637
12.5	602	175.0	642
15.0	593	177.5	643
17.5	580	180.0	641
20.0	564		
22.5	543		
25.0	516		
27.5	479		
30.0	434		
32.5	387		
35.0	340		
37.5	296		
40.0	256		
42.5	219		
45.0	185		
47.5	153		
50.0	124		
52.5	95		
55.0	69		
57.5	46		
60.0	25		
62.5	12		
65.0	9		
67.5	7		
70.0	5		
72.5	3		
75.0	2		
77.5	1		
80.0	1		
82.5	0		
85.0	0		
87.5	0		
90.0	0		
92.5	0		
95.0	0		
97.5	0		
100.0	1		
102.5	1		
105.0	2		
107.5	4		
110.0	6		
112.5	8		
115.0	10		
117.5	16		
120.0	35		
122.5	57		
125.0	83		
127.5	110		
130.0	140		
132.5	172		
135.0	206		
137.5	242		
140.0	282		
142.5	325		
145.0	372		
147.5	421		
150.0	468		
152.5	511		
155.0	545		
157.5	570		



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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	15
5- 10	44
10- 15	71
15- 20	95
20- 25	113
25- 30	121
30- 35	114
35- 40	99
40- 45	81
45- 50	62
50- 55	42
55- 60	21
60- 65	7
65- 70	4
70- 75	2
75- 80	1
80- 85	0
85- 90	0
90- 95	0
95-100	0
100-105	1
105-110	2
110-115	4
115-120	9
120-125	27
125-130	48
130-135	70
135-140	90
140-145	109
145-150	124
150-155	129
155-160	119
160-165	99
165-170	74
170-175	46
175-180	15

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	59
0- 20	225
0- 30	459
0- 40	672
0- 50	815
0- 60	878
0- 70	889
0- 80	891
0- 90	891
0-100	892
0-110	894
0-120	908
0-130	982
0-140	1142
0-150	1374
0-160	1622
0-170	1795
0-180	1856



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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	107	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48
1	99	95	92	89	89	91	88	85	83	75	73	71	62	61	60	51	50	49	44
2	92	85	80	76	76	84	79	75	71	68	64	62	57	55	53	47	45	44	40
3	85	77	70	65	65	78	71	66	62	61	57	54	52	49	47	43	41	40	36
4	79	69	62	57	57	73	65	59	54	56	51	48	47	44	42	40	38	36	32
5	73	63	55	50	50	67	59	52	48	51	46	42	44	40	37	37	34	33	29
6	68	57	50	45	45	63	53	47	42	46	42	38	40	37	34	34	32	30	27
7	63	52	45	40	40	58	49	42	38	43	38	34	37	33	31	32	29	27	25
8	59	48	41	36	36	55	45	39	34	39	35	31	34	31	28	29	27	25	23
9	55	44	37	32	32	51	41	35	31	36	32	28	32	28	26	28	25	23	21
10	52	41	34	30	30	48	38	32	28	34	29	26	30	26	23	26	23	21	19

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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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: 07/10/2017

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL/HLI LAB 1 - Test Distance: 31.74'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27071V	11/2/2017
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	176F4E3	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>Aux Lamp Supply</i>	Labsphere / LPS-100-0833	0331159372	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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