

Lab 4  
Sphere

**Test Sample Description**

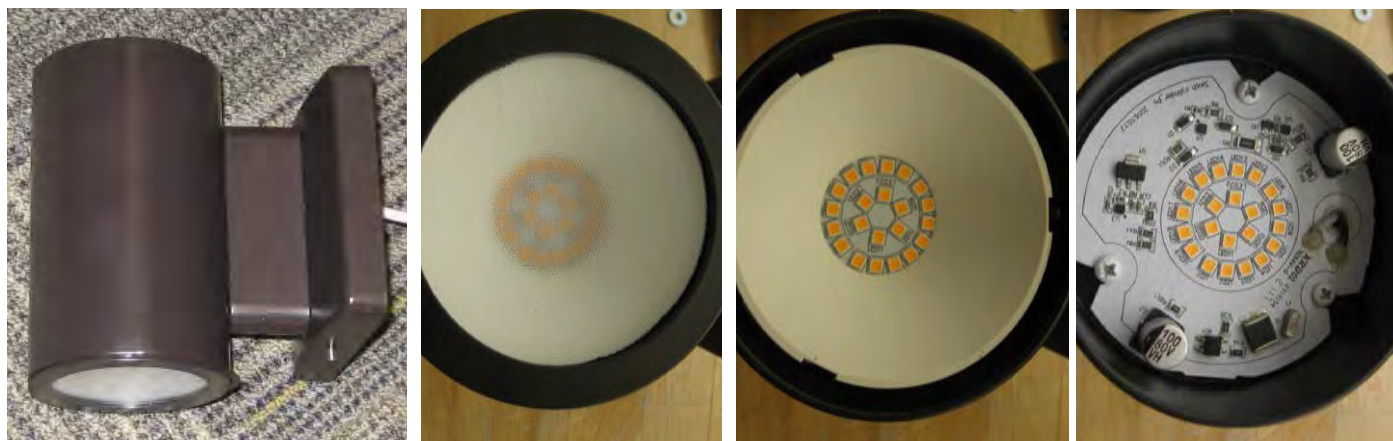
Catalog Number: P563000-020-30K  
Description: 3" Wall-Mount Cylinder, Bronze w/ Textured, Opal Glass Lens; Tested as Down-Light

**Photometry**

Test Method: IES LM-79-08 § 10  
Preburn Time: 20:10  
Time To Stabilize: 0:30  
Total Operating Time: 20:40  
  
Input Voltage (Volts): 120.0  
Input Current (Amps): 0.103  
Input Wattage (Watts): 12.3  
Ambient Temp (°C): 24.8

**Sphere**

Test Method: IES LM-79-08 § 9.1 & 12.1  
Preburn Time: 1:00  
Time To Stabilize: 1:05  
Total Operating Time: 2:05  
  
Input Voltage (Volts): 120.0  
Input Current (Amps): 0.100  
Input Wattage (Watts): 11.9  
Ambient Temp (°C): 24.0



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



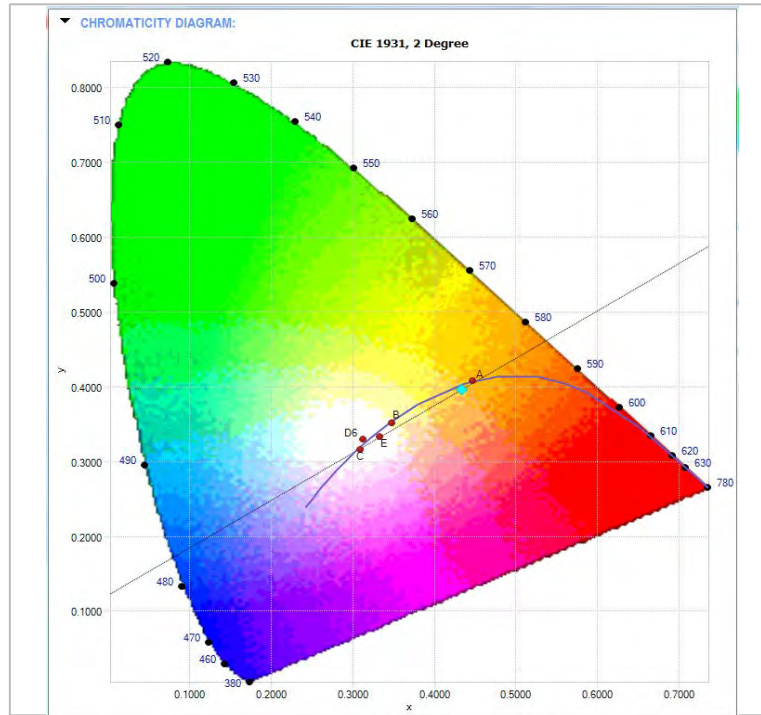


Lamp Cat#: NF2L757GRT-V1  
 Lamp Desc: 22 - Nichia 3000K LEDs  
 Driver Desc: NA

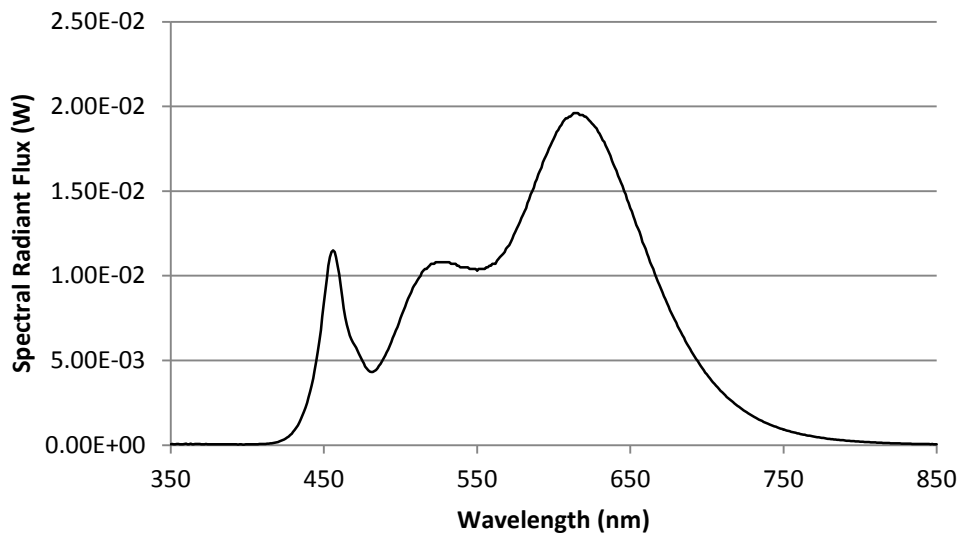
Efficacy: 76.0 LPW      S/P Ratio: 1.5 LM/LM

**Spectral Results**

Name	Value	Unit
Φ	3.05	watts
Φ(v)	904	lumens
Φ(v')	1360	lm'
Chrom x	0.4334	
Chrom y	0.3967	
Chrom u	0.2515	
Chrom v	0.3453	
Duv	0.0026	
Chrom u'	0.2515	
Chrom v'	0.5179	
CCT	2996	K
Purity	49.2	%
λ (dom)	583.8	nm
FWHM	156	nm
λ (peak)	615	nm
λ (center)	589.5	nm
λ (centroid)	587.3	nm
SDCM	Cool White	
RA	94	
Corr. Coef.	0.002514625	
Correlation	0.0054	
R1	98.5	
R2	97.4	
R3	95.5	
R4	98.9	
R5	98.0	
R6	91.0	
R7	89.8	
R8	82.4	
R9	63.0	
R10	94.7	
R11	92.1	
R12	84.4	
R13	97.6	
R14	98.4	



**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: 17.02582  
ISSUE DATE: 09/28/17  
PREPARED FOR: PROGRESS  
CATALOG NUMBER: P563000-020-30K  
LUMINAIRE: 3" Wall-Mount Cylinder, Bronze w/ Textured,  
Opal Glass Lens; Tested as Down-Light  
LAMP CAT. NO.: NF2L757GRT-V1  
LAMP: 22- Nichia 3000K LEDs

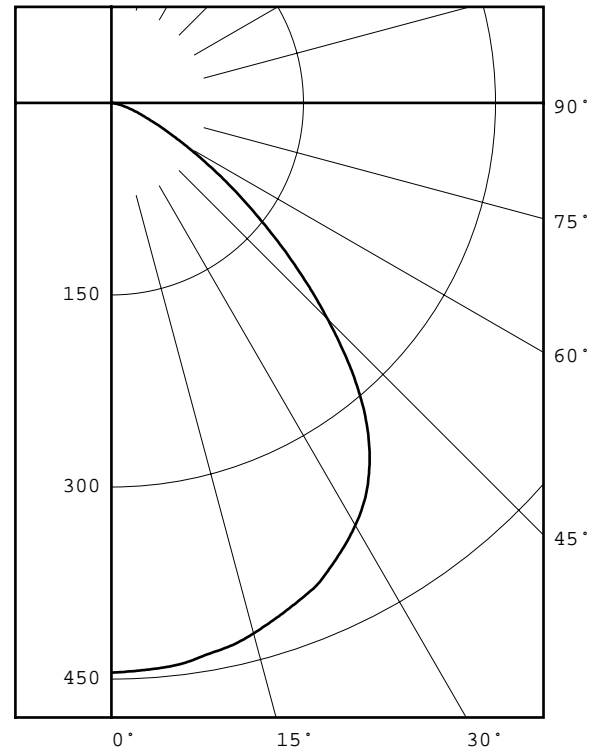
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DEG	CANDELA	LUMENS
0	445	
5	443	42
15	429	121
25	402	185
35	351	218
45	239	183
55	114	103
65	38	40
75	10	12
85	1	1
90	0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	348	38.5
0- 40	566	62.5
0- 60	853	94.2
0- 90	905	100.0
90-180	0	0.0
0-180	905	100.0

TOTAL INPUT WATTS = 12.276  
EFFICACY = 73.7 Lm/W  
CIE TYPE - DIRECT  
LUMINAIRE SPACING CRITERION = 1.3  
LUMINOUS DIAMETER: 2.625

LUMINANCE DATA IN CANDELA/SQ METER	
ANGLE	AVERAGE
IN DEG	
45	96770.
55	56904.
65	25743.
75	11062.
85	3285.





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CANDELA DISTRIBUTION

	0.0
0.0	445
2.5	444
5.0	443
7.5	441
10.0	437
12.5	434
15.0	429
17.5	423
20.0	417
22.5	411
25.0	402
27.5	392
30.0	381
32.5	368
35.0	351
37.5	330
40.0	304
42.5	273
45.0	239
47.5	205
50.0	172
52.5	141
55.0	114
57.5	89
60.0	68
62.5	51
65.0	38
67.5	28
70.0	21
72.5	15
75.0	10
77.5	7
80.0	4
82.5	2
85.0	1
87.5	0
90.0	0



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ZONAL LUMEN SUMMARY

0- 5	11.
5- 10	31.
10- 15	51.
15- 20	70.
20- 25	86.
25- 30	99.
30- 35	108.
35- 40	110.
40- 45	101.
45- 50	83.
50- 55	62.
55- 60	42.
60- 65	25.
65- 70	15.
70- 75	8.
75- 80	4.
80- 85	1.
85- 90	0.



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5-DEGREE  
ZONAL LUMEN SUMMARY

0- 5	11
5- 10	31
10- 15	51
15- 20	70
20- 25	86
25- 30	99
30- 35	108
35- 40	110
40- 45	101
45- 50	83
50- 55	62
55- 60	42
60- 65	25
65- 70	15
70- 75	8
75- 80	4
80- 85	1
85- 90	0

10-DEGREE  
ZONAL LUMEN SUMMARY

0- 10	42
0- 20	163
0- 30	348
0- 40	566
0- 50	749
0- 60	853
0- 70	892
0- 80	904
0- 90	905



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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	119	119	119	119	119	116	116	116	116	116	111	111	111	111	111	106	106	106	106	102	102	102	102	100
1	111	108	105	102	102	109	106	103	100	100	101	99	97	97	97	98	96	94	94	94	93	91	89	89
2	104	97	92	87	87	101	95	90	86	86	92	88	84	84	84	89	85	82	82	86	83	80	79	79
3	96	87	81	75	75	94	86	80	75	75	83	78	73	73	73	80	76	72	72	78	74	71	69	69
4	89	79	72	66	66	87	78	71	65	65	75	69	65	65	65	73	68	64	64	71	67	63	61	61
5	83	72	64	58	58	81	71	63	58	58	69	62	57	57	57	67	61	57	57	65	60	56	54	54
6	77	65	57	52	52	75	64	57	52	52	63	56	51	51	51	61	55	51	51	60	54	50	49	49
7	72	60	52	46	46	70	59	52	46	46	57	51	46	46	46	56	50	46	46	55	49	45	44	44
8	67	55	47	42	42	66	54	47	42	42	53	46	42	42	42	52	46	41	41	51	45	41	39	39
9	63	51	43	38	38	61	50	43	38	38	49	42	38	38	38	48	42	38	38	47	41	37	36	36
10	59	47	40	35	35	58	46	39	35	35	45	39	35	35	35	45	39	34	34	44	38	34	33	33

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.

Project Number  
17.02582



**HUBBELL**  
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Date  
09/28/2017

### *Goniophotometer Calibration*

Calibration Lamp: Osram ST8-HA4-250-840 22 W/4000 K  
Lamp Number: RM B6-28  
Ballast: Vossloh Schwabe LN 36.149  
Ballast Number: RM B6-28  
Calibration Voltage/Frequency: 220Vac / 50hz  
Total Luminous Flux: 2463 Lumens  
Calibration Date: 01/19/2017

<i>Test Equipment Used</i>			
<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	LMT/GO-DS 1600 Lab 4- Test Dist.: 31.0'	10B6231	02/17/2019
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27074V	11/02/2017
<i>Power Source</i>	Chroma / 61604	616040003897	10/27/2017
<i>Thermometer</i>	LMT / ATS-4Ch	10B623-3	12/14/2017

### *Sphere Calibration*

Calibration Lamp: EIKO 28V75W/E10  
Lamp Number: SCL-1400-J136  
Calibration Current: 2.679 Amps  
Total Luminous Flux: 1427 Lumens

<i>Test Equipment Used - Color &amp; SPD; THD &amp; Power Factor</i>			
<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	031159372	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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