

Project Number
17.01047



Date
4/12/2017

LAB 1

Test Sample Description

Catalog Number: P8080-2830K
Description: 4" LED RD RETROFIT 600LM

Test Method: IES LM-79-08 § 10
Preburn Time: 0:05
Time To Stabilize: 0:45
Total Operating Time: 1:36

Input Voltage (Volts): 120.0
Input Current (Amps): 0.075
Input Wattage (Watts): 8.8
Ambient Temp (°C): 24.3



Hubbell Lighting, Inc.

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www.hubbellighting.com

Checked: M. HALL
Approved: D. BLACK





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LUMINAIRE: 4" LED RD RETROFIT 600LM

LAMP: 1 - 3000K LED

MOUNTING: Ceiling

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

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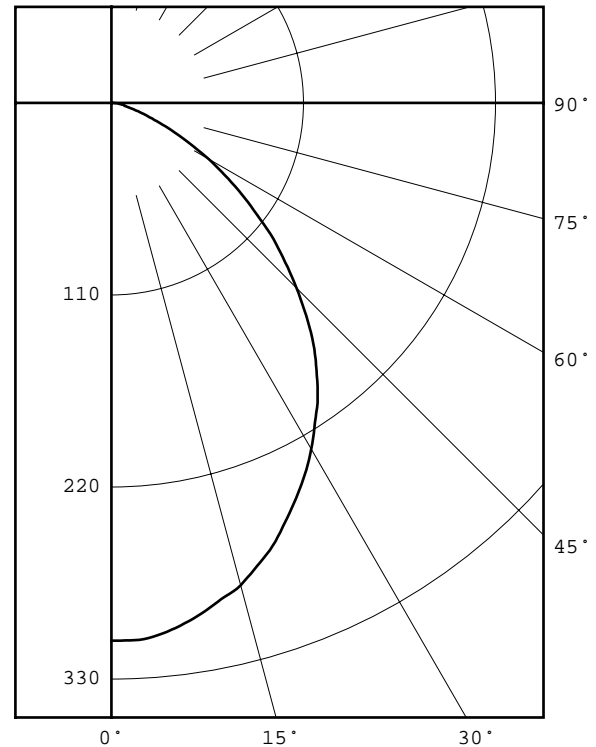
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DEG	CANDELA	LUMENS
0	308	
5	306	29
15	286	80
25	250	115
35	206	128
45	150	116
55	91	81
65	40	40
75	11	13
85	4	4
90	0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	224	37.0
0- 40	353	58.1
0- 60	550	90.6
0- 90	607	100.0
90-180	0	0.0
0-180	607	100.0

EFFICACY = 69.0 lm/W
CIE TYPE - DIRECT
LUMINAIRE SPACING CRITERION = 1.12
LUMINOUS DIAMETER: 4.000

LUMINANCE DATA IN CANDELA/SQ M	
ANGLE	AVERAGE
IN DEG	
45	26165.
55	19569.
65	11674.
75	5242.
85	5661.





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CANDELA DISTRIBUTION

0.0	308
2.5	308
5.0	306
7.5	302
10.0	297
12.5	291
15.0	286
17.5	278
20.0	270
22.5	260
25.0	250
27.5	240
30.0	229
32.5	217
35.0	206
37.5	193
40.0	180
42.5	165
45.0	150
47.5	135
50.0	121
52.5	105
55.0	91
57.5	77
60.0	64
62.5	51
65.0	40
67.5	30
70.0	22
72.5	16
75.0	11
77.5	8
80.0	7
82.5	5
85.0	4
87.5	1
90.0	0



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		7
5- 10		22
10- 15		35
15- 20		46
20- 25		54
25- 30		61
30- 35		64
35- 40		64
40- 45		61
45- 50		55
50- 55		46
55- 60		36
60- 65		25
65- 70		15
70- 75		8
75- 80		5
80- 85		3
85- 90		1

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		29
10- 20		80
20- 30		115
30- 40		128
40- 50		116
50- 60		81
60- 70		40
70- 80		13
80- 90		4



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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	119	116	116	116	116	111	111	111	111	106	106	106	102	102	102	100
1	111	107	103	100	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88	88
2	102	96	90	85	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77	77
3	95	86	79	73	73	92	84	78	72	81	76	71	79	74	70	76	72	69	67	67
4	88	77	69	63	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59	59
5	81	70	62	56	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52	52
6	75	63	55	50	50	74	62	55	49	61	54	49	59	53	49	58	52	48	46	46
7	70	58	50	44	44	69	57	50	44	56	49	44	54	48	44	53	48	43	42	42
8	66	53	45	40	40	64	53	45	40	51	45	40	50	44	39	49	43	39	38	38
9	62	49	42	36	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34	34
10	58	46	38	33	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31	31

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: 09/09/2016

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL / HLI LAB 1 - Test Distance: 31.75'	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	176F47B	11/7/2017

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