



Lab 1
Sphere

Test Sample Description

Catalog Number: P300207-009-30

Description: 4ft LED Circular -Cross-Section Vanity with Acrylic Refractor and Decorative Trim

Photometry

IES LM-46-04
Test Method: IES LM-79-08 §10

Preburn Time: 1:00

Time To Stabilize: 1:45

Total Operating Time: 3:50

Input Voltage (Volts): 119.9

Input Current (Amps): 0.372

Input Wattage (Watts): 43.6

Ambient Temp (°C): 24.9

Sphere

IES LM-16-93
Test Method: IES LM-79-08 §12.1

Preburn Time: 8:00

Time To Stabilize: 2:51

Total Operating Time: 10:51

Input Voltage (Volts): 120.0

Input Current (Amps): 0.370

Input Wattage (Watts): 43.4

Ambient Temp (°C): 24.5



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Checked (sphere): B. LEE
Checked (photometry): D. ROBBINS
Approved: P. McCARTHY

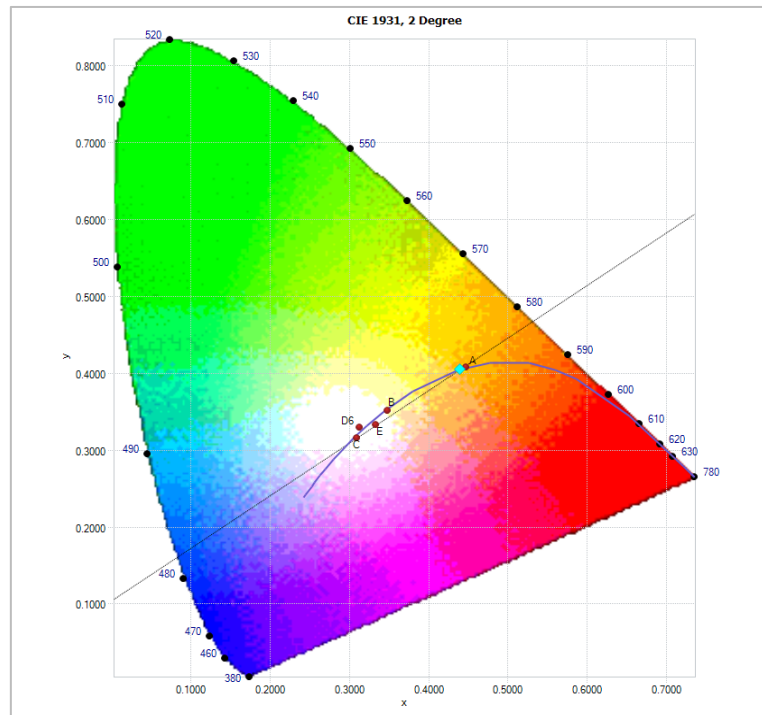




Lamp Cat#: 2835 0.5W
 Lamp Desc: 88 - Edison 3000K LEDs
 Driver Desc: 2 - Becky BQE36-0550-40-TD
 Programmed to 550mA

Efficacy: 78.7 LPW S/P Ratio: 1.4 LM/LM

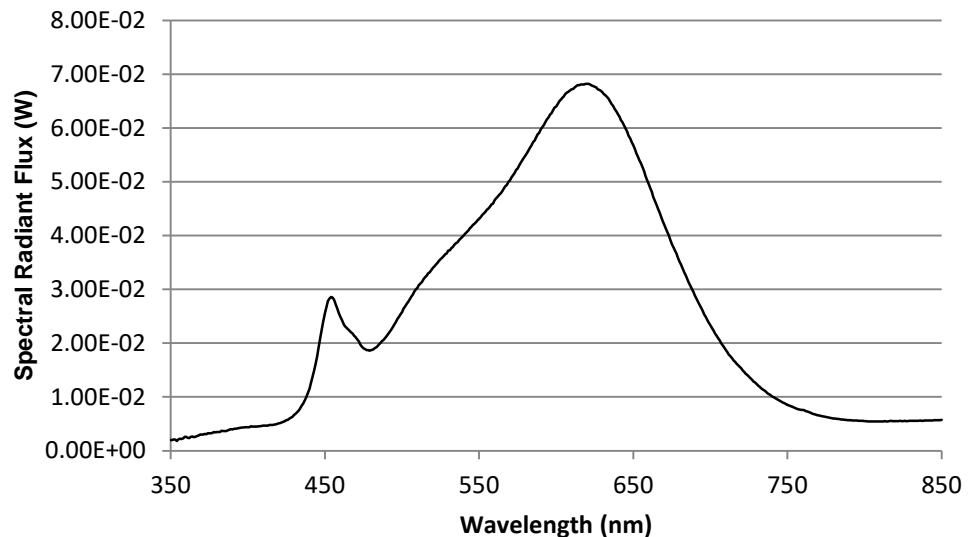
Chromaticity Diagram



Spectral Results

Name	Value	Unit
Φ	12.66	watts
Φ(v)	3416	lumens
Φ(v')	4838	lm'
Chrom x	0.4391	
Chrom y	0.4056	
Chrom u	0.2513	
Chrom v	0.3482	
Duv	0.0001	
Chrom u'	0.2513	
Chrom v'	0.5223	
CCT	2974	K
Purity	53.6	%
λ (dom)	582.8	nm
FWHM	161.4	nm
λ (peak)	619.3	nm
λ (center)	601.0	nm
λ (centroid)	599.1	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.000355542	
Correlation	0.0054	
R1	92.6	
R2	97.0	
R3	98.7	
R4	92.1	
R5	92.6	
R6	96.8	
R7	91.2	
R8	80.3	
R9	56.5	
R10	92.2	
R11	93.0	
R12	85.9	
R13	93.8	
R14	99.6	

Spectral Distribution of Radiant Flux





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LUMINAIRE: 4ft LED Circular-Cross-Section Vanity
with Acrylic Refractor and Decorative Trim

LAMP CAT. NO.: 2835 0.5W

LAMP: 88- Edison 3000K LEDs

BALLAST CATALOG NUMBER: BQE36-0550-40-TD

BALLAST: 2- Becky - Programmed to 550mA

MOUNTING: Wall

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



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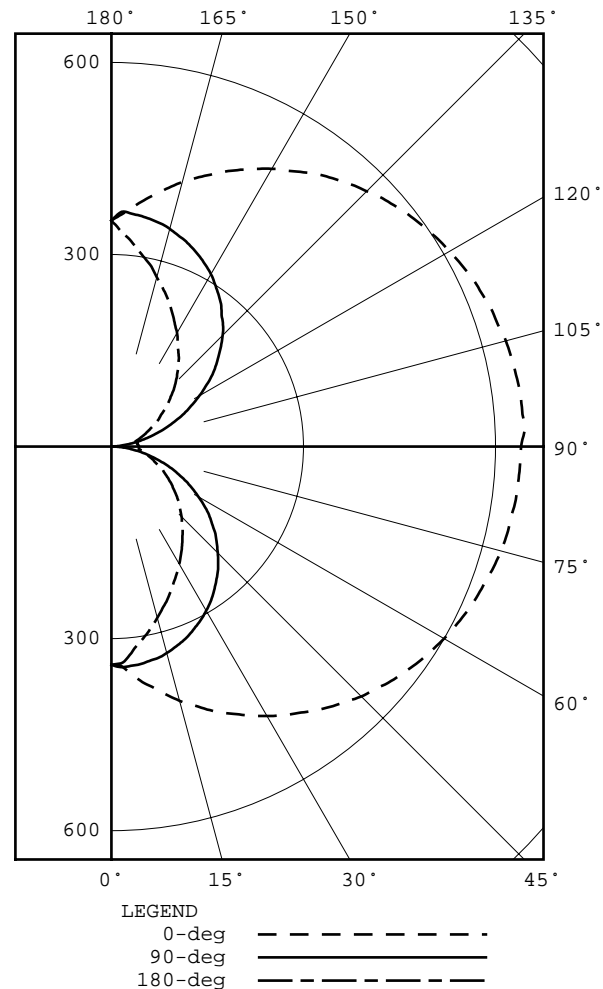
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CANDELA DISTRIBUTION

	0.0	45.0	90.0	135.0	180.0	FLUX
0	341	341	341	341	341	
5	357	350	344	328	327	33
15	411	383	334	289	277	95
25	461	407	311	247	232	152
35	508	424	278	204	192	197
45	552	431	235	161	155	229
55	586	434	186	122	120	245
65	612	431	129	85	89	247
75	630	425	70	52	62	238
85	638	417	21	31	43	225
90	640	416	4	28	43	
95	644	419	14	27	41	223
105	638	427	66	39	44	232
115	622	437	128	71	68	243
125	597	442	191	111	102	244
135	564	441	246	154	142	230
145	523	434	291	199	182	200
155	477	420	327	246	227	155
165	428	397	352	290	274	98
175	375	367	365	331	325	34
180	353	353	353	353	353	

ZONAL ZONE	LUMEN LUMENS	SUMMARY %FIXT
0- 30	280	8.4
0- 40	477	14.4
0- 60	951	28.6
0- 90	1660	50.0
90-120	699	21.0
90-130	943	28.4
90-150	1373	41.4
90-180	1660	50.0
0-180	3320	100.0

EFFICACY = 76.1 lm/W
CIE TYPE - GENERAL DIFFUSE
PLANE : 0-DEG 90-DEG 180-DEG
SPACING CRITERIA : 2.20 1.29 0.95
SHIELDING ANGLES : 90 90





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PLANE : 0-DEG 90-DEG
LUMINOUS LENGTH : 3.000 46.500
HEIGHT OF SIDE : 3.000 3.000

LUMINANCE DATA IN CANDELA/SQ M
ANGLE AVERAGE AVERAGE AVERAGE
IN DEG 0-DEG 90-DEG 180-DEG
45 4337. 3469. 1218.
55 4675. 3299. 957.
65 5117. 2979. 744.
75 5715. 2422. 562.
85 6543. 1541. 441.



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CANDELA DISTRIBUTION
LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0.0	341	341	341	341	341	341	341	341	341
5.0	357	355	350	348	344	334	328	328	327
10.0	383	379	367	355	340	321	308	304	301
15.0	411	402	383	360	334	306	289	282	277
20.0	437	425	396	362	324	289	269	259	255
25.0	461	447	407	360	311	270	247	237	232
30.0	486	466	415	356	296	250	226	215	212
35.0	508	485	424	349	278	229	204	195	192
40.0	531	502	429	339	258	205	182	175	173
45.0	552	518	431	327	235	183	161	156	155
50.0	570	532	434	314	212	158	141	138	138
55.0	586	544	434	299	186	134	122	120	120
60.0	600	554	433	281	157	110	103	103	104
65.0	612	561	431	263	129	87	85	86	89
70.0	621	567	428	244	100	66	67	71	73
75.0	630	572	425	226	70	47	52	58	62
80.0	634	575	421	210	44	31	40	49	52
85.0	638	577	417	198	21	18	31	39	43
90.0	640	577	416	191	4	12	28	39	43
95.0	644	583	419	194	14	13	27	37	41
100.0	642	581	423	206	38	23	28	36	40
105.0	638	578	427	222	66	39	39	42	44
110.0	631	575	432	242	96	60	54	54	55
115.0	622	569	437	262	128	82	71	69	68
120.0	610	562	439	281	159	105	91	86	85
125.0	597	553	442	299	191	130	111	104	102
130.0	582	542	443	317	218	156	133	125	121
135.0	564	530	441	333	246	182	154	145	142
140.0	545	515	439	345	268	207	177	167	162
145.0	523	499	434	356	291	231	199	187	182
150.0	501	481	428	363	311	254	223	209	205
155.0	477	462	420	368	327	275	246	233	227
160.0	452	442	409	371	341	296	268	256	251
165.0	428	420	397	371	352	313	290	280	274
170.0	401	398	383	368	360	330	311	303	299
175.0	375	374	367	362	365	344	331	327	325
180.0	353	353	353	353	353	353	353	353	353



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		8
5- 10		24
10- 15		40
15- 20		55
20- 25		69
25- 30		82
30- 35		94
35- 40		103
40- 45		111
45- 50		117
50- 55		122
55- 60		124
60- 65		124
65- 70		123
70- 75		120
75- 80		117
80- 85		114
85- 90		111
90- 95		111
95-100		112
100-105		115
105-110		118
110-115		121
115-120		123
120-125		123
125-130		121
130-135		118
135-140		112
140-145		105
145-150		95
150-155		84
155-160		71
160-165		57
165-170		41
170-175		25
175-180		8

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		33
0- 20		128
0- 30		280
0- 40		477
0- 50		705
0- 60		951
0- 70		1198
0- 80		1435
0- 90		1660
0-100		1883
0-110		2116
0-120		2359
0-130		2603
0-140		2833
0-150		3033
0-160		3188
0-170		3286
0-180		3320



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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	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	95	89	84	79		87	82	77	73	68	65	62	56	53	51	45	43	41	36
2	85	76	68	62		78	70	63	58	58	53	49	47	44	40	37	35	32	27
3	77	66	57	50		70	60	53	47	50	44	40	41	37	33	32	29	26	22
4	70	58	49	42		64	53	45	39	44	38	33	36	31	27	28	25	22	18
5	64	51	42	35		58	47	39	33	39	33	28	32	27	23	25	22	19	15
6	59	45	37	30		53	42	34	28	35	29	24	29	24	20	23	19	16	13
7	54	41	32	26		49	38	30	24	32	25	21	26	21	17	21	17	14	11
8	50	37	29	23		46	34	27	21	29	23	18	24	19	15	19	15	12	10
9	47	34	26	20		43	31	24	19	26	20	16	22	17	14	17	14	11	9
10	43	31	23	18		40	28	21	17	24	18	14	20	15	12	16	12	10	8

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.

Project Number
18.00962



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Date
6/6/2018

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>		N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27071V	10/25/2018
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	176F4E3	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	Checked Daily
<i>Thermometer</i>	National Instruments / USB TC01	1912751	10/26/2018
<i>LAMP Power Meter</i>	Yokogawa / WT332	C2QA27075V	10/25/2018
<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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