



Report of Test

LLIA001367-003A

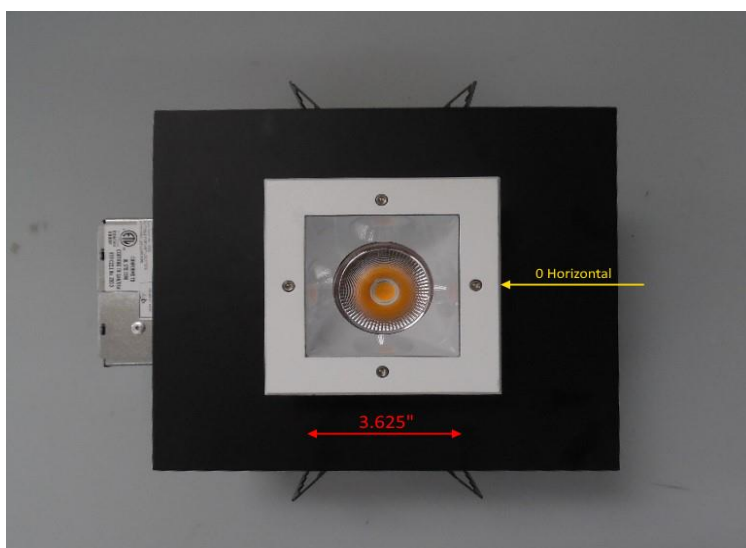
Indoor Distribution Photometry Test Report

Catalog Number: QSI-L263025411CC00

Recessed mounted, formed steel housing, cast white enamel
aluminum reflector with clear glass enclosure.

One Citizen white LED with specular faceted aluminum reflector

One eldoLED ECOdrive 561/S LED driver labeled as 700mA



Prepared For:
Designplan Lighting, Inc
79 Trenton Avenue
Frenchtown, NJ 08825, USA

Performance Summary

Input Voltage	120.0 V	Luminous Flux	2632.4 Lumens
Input Current	0.2387 A	Total Efficacy	93.7 Lm/W
Input Power	28.08 W	Downward Flux	2632.4 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.980		
Current THD	12.8 %		

This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 12/15/2020

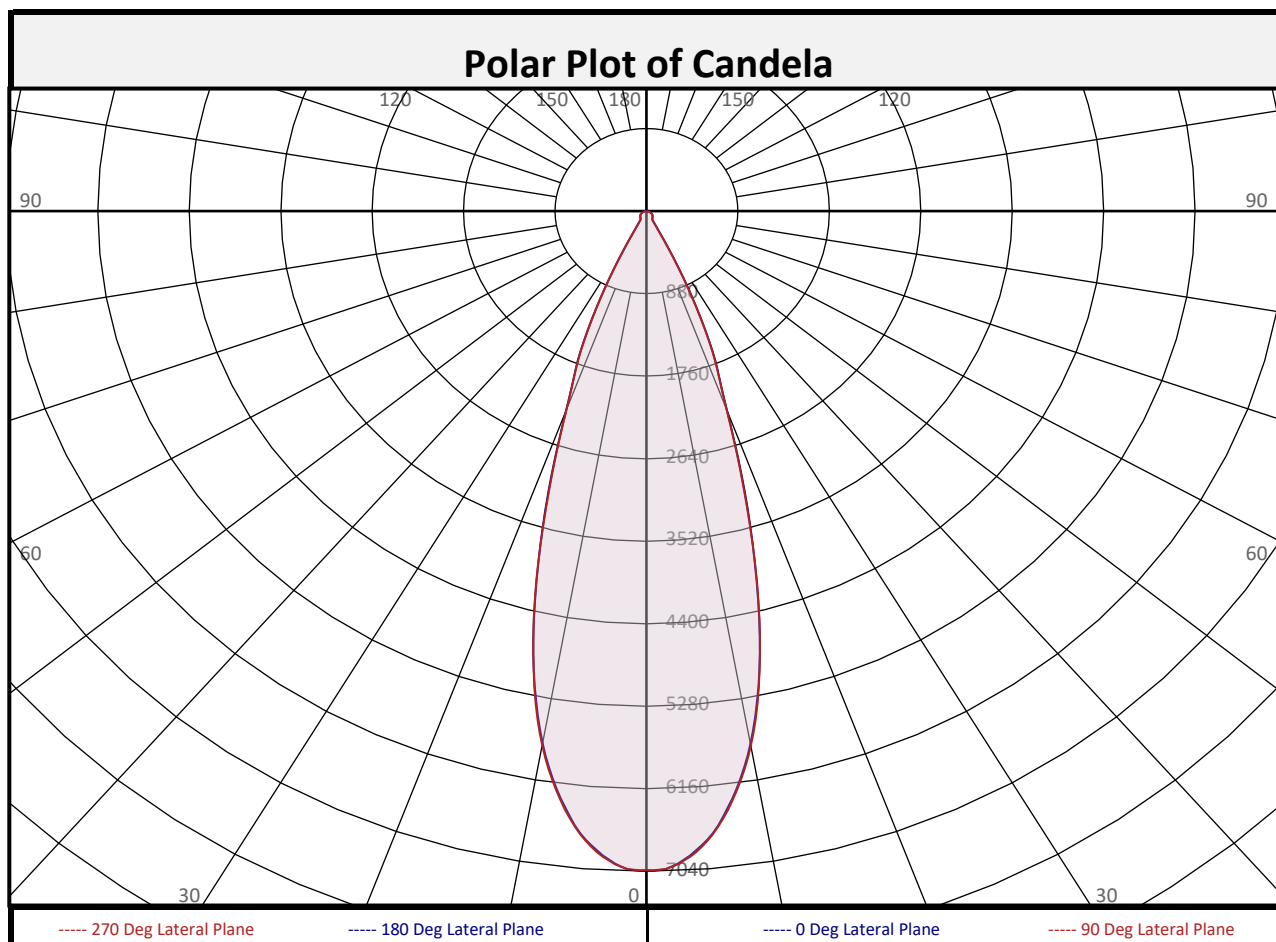
Report date: 12/18/2020

Signed: _____



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Zonal Flux Summary											
Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total	
0-10	612.5	23.3%		90-100	0.0	0.0%		0-20	1718	65.3%	
10-20	1105	42.0%		100-110	0.0	0.0%		0-30	2320	88.1%	
20-30	602.4	22.9%		110-120	0.0	0.0%		0-40	2433	92.4%	
30-40	112.5	4.3%		120-130	0.0	0.0%		0-60	2557	97.1%	
40-50	62.9	2.4%		130-140	0.0	0.0%		0-80	2628	99.8%	
50-60	61.3	2.3%		140-150	0.0	0.0%		10-90	2020	76.7%	
60-70	47.6	1.8%		150-160	0.0	0.0%		20-50	777.8	29.5%	
70-80	24.0	0.9%		160-170	0.0	0.0%		40-90	199.8	7.6%	
80-90	4.1	0.2%		170-180	0.0	0.0%		60-90	75.7	2.9%	
0-90	2632	100.0%		90-180	0.0	0.0%		0-180	2632	100.0%	



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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles									
Vertical (Gamma) Angles		0	22.5	45	67.5	90	112.5	135	157.5	180
	0	7029	7029	7029	7029	7029	7029	7029	7029	7029
	2.5	6965	6971	6974	6974	6972	6974	6974	6971	6965
	5	6728	6725	6723	6732	6739	6732	6723	6725	6728
	7.5	6319	6326	6343	6342	6337	6342	6343	6326	6319
	10	5759	5764	5790	5781	5782	5781	5790	5764	5759
	12.5	5011	5026	5037	5037	5018	5037	5037	5026	5011
	15	4089	4099	4130	4110	4105	4110	4130	4099	4089
	17.5	3139	3167	3188	3164	3110	3164	3188	3167	3139
	20	2256	2385	2446	2375	2250	2375	2446	2385	2256
	22.5	1730	1801	1888	1792	1712	1792	1888	1801	1730
	25	1144	1395	1503	1385	1138	1385	1503	1395	1144
	27.5	557	853	1291	853	553	853	1291	853	557
	30	164	359	1059	357	155	357	1059	359	164
	32.5	103	139	642	131	102	131	642	139	103
	35	98	98	267	97	98	97	267	98	98
	37.5	94	93	97	92	94	92	97	93	94
	40	90	88	87	88	90	88	87	88	90
	42.5	87	85	83	84	87	84	83	85	87
	45	83	81	79	81	83	81	79	81	83
	47.5	80	78	76	78	80	78	76	78	80
	50	77	76	74	76	77	76	74	76	77
	52.5	73	73	71	73	73	73	71	73	73
	55	69	69	68	69	69	69	68	69	69
	57.5	65	64	64	65	64	65	64	64	65
	60	60	60	59	61	60	61	59	60	60
	62.5	54	55	53	55	54	55	53	55	54
	65	48	49	47	49	48	49	47	49	48
	67.5	42	42	41	43	42	43	41	42	42
	70	36	36	34	36	36	36	34	36	36
	72.5	29	29	28	30	29	30	28	29	29
	75	23	23	21	23	23	23	21	23	23
	77.5	17	17	16	17	17	17	16	17	17
	80	11	11	10	11	12	11	10	11	11
	82.5	7	6	6	7	7	7	6	6	7
	85	3	3	3	3	3	3	3	3	3
	87.5	1	1	1	1	1	1	1	1	1
90	0	0	0	0	0	0	0	0	0	



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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles									
		0	22.5	45	67.5	90	112.5	135	157.5	180
	90	0	0	0	0	0	0	0	0	0
Vertical (Gamma) Angles	92.5	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0
	102.5	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0
	107.5	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0
	112.5	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0
	117.5	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0
	122.5	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0
	127.5	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0
	132.5	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0
	137.5	0	0	0	0	0	0	0	0	0
	140	0	0	0	0	0	0	0	0	0
	142.5	0	0	0	0	0	0	0	0	0
	145	0	0	0	0	0	0	0	0	0
	147.5	0	0	0	0	0	0	0	0	0
	150	0	0	0	0	0	0	0	0	0
	152.5	0	0	0	0	0	0	0	0	0
	155	0	0	0	0	0	0	0	0	0
	157.5	0	0	0	0	0	0	0	0	0
	160	0	0	0	0	0	0	0	0	0
	162.5	0	0	0	0	0	0	0	0	0
	165	0	0	0	0	0	0	0	0	0
	167.5	0	0	0	0	0	0	0	0	0
	170	0	0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0	0	0	
175	0	0	0	0	0	0	0	0	0	
177.5	0	0	0	0	0	0	0	0	0	
180	0	0	0	0	0	0	0	0	0	



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Coefficients of Utilization/Room 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
RCR																						
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102	100
1	114	112	109	107		112	109	107	105		105	104	102		102	100	99		98	97	96	95
2	109	105	101	98		107	103	100	97		100	97	95		97	95	93		94	93	91	90
3	105	99	95	91		103	98	94	91		95	92	89		93	90	88		91	88	86	85
4	101	94	89	86		99	93	89	85		91	87	84		89	86	83		87	85	82	81
5	97	90	85	81		95	89	84	81		87	83	80		86	82	79		84	81	79	77
6	93	86	81	77		92	85	80	77		84	79	76		82	79	76		81	78	75	74
7	90	82	77	74		89	82	77	73		80	76	73		79	76	73		78	75	72	71
8	87	79	74	71		86	78	74	70		77	73	70		76	73	70		76	72	70	68
9	84	76	71	68		83	76	71	68		75	70	67		74	70	67		73	70	67	66
10	81	73	68	65		80	73	68	65		72	68	65		71	68	65		71	67	65	64

For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are lambertian reflectors. 2) Incident flux on each surface is uniformly distributed. 3) The room is spectrally neutral. When luminaires are not evenly distributed throughout the room, or do not exhibit lateral symmetry, CU values may differ from actual performance.

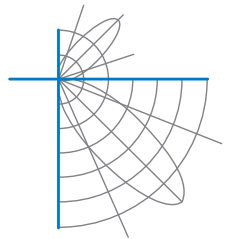
Circle of Light Plot

Height(ft)	Illuminance at Nadir (fc)	Ground-level distance to half-of-nadir illuminance (ft)	
		0-180 deg	90-270 deg
6.0	195.2	3.31	3.32
8.0	109.8	4.41	4.42
10.0	70.3	5.52	5.53
12.0	48.8	6.62	6.63
14.0	35.9	7.73	7.74
16.0	27.5	8.83	8.85

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	829075	829075	829075
45	13850	13135	13835
55	14251	14050	14246
65	13455	13223	13419
75	10519	9760	10457
85	4110	3572	4041

Spacing Criterion

0 degree plane:	0.6
90 degree plane:	0.6
180 degree plane:	0.6
270 degree plane:	0.6



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UGR TABLE - CORRECTED

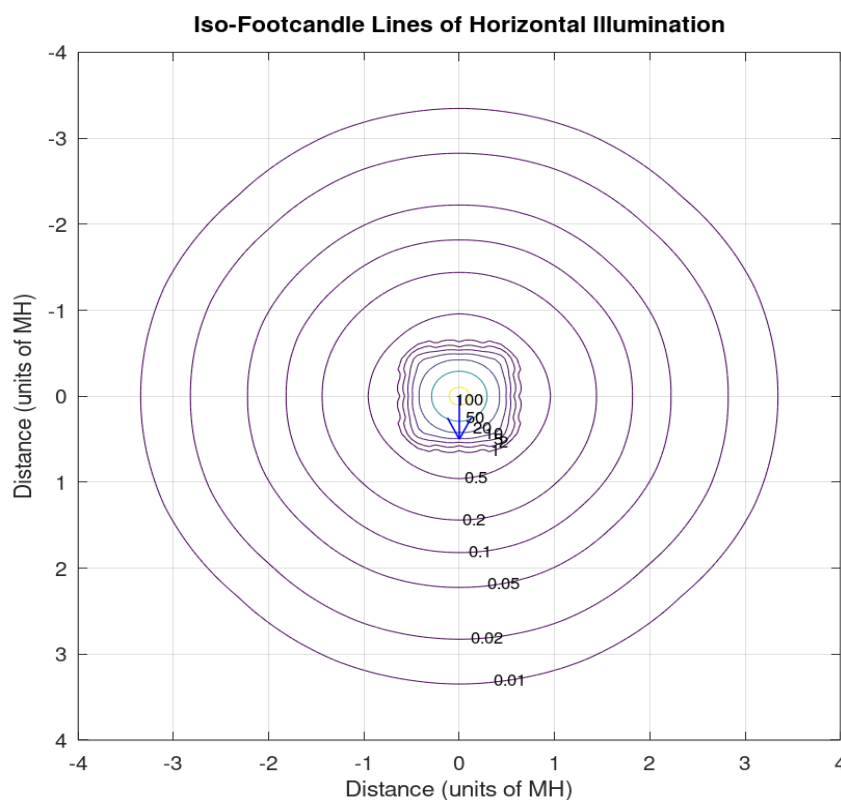
Reflectances											
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30	
Walls	50	30	50	30	30	50	30	50	30	30	
Floor Cavity	20	20	20	20	20	20	20	20	20	20	
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	15.5	16.5	15.9	16.8	17.1	15.6	16.6	15.9	16.9	17.2
	3H	17.2	18.1	17.6	18.5	18.8	17.2	18.1	17.6	18.5	18.8
	4H	17.8	18.6	18.2	18.9	19.3	17.8	18.6	18.2	18.9	19.3
	6H	18.0	18.8	18.4	19.1	19.5	18.0	18.8	18.5	19.2	19.6
	8H	18.1	18.8	18.5	19.1	19.6	18.1	18.8	18.5	19.2	19.6
	12H	18.0	18.7	18.5	19.1	19.5	18.1	18.7	18.5	19.1	19.5
4H	2H	16.0	16.8	16.4	17.2	17.6	16.1	16.9	16.5	17.2	17.6
	3H	17.9	18.6	18.3	19.0	19.4	17.9	18.6	18.3	19.0	19.4
	4H	18.5	19.1	19.0	19.5	20.0	18.6	19.1	19.0	19.6	20.0
	6H	18.8	19.4	19.3	19.8	20.3	18.9	19.4	19.4	19.9	20.3
	8H	18.9	19.4	19.4	19.8	20.3	18.9	19.4	19.4	19.9	20.3
	12H	18.9	19.3	19.4	19.8	20.3	18.9	19.3	19.4	19.8	20.3
8H	4H	18.6	19.1	19.1	19.6	20.0	18.7	19.1	19.1	19.6	20.1
	6H	19.0	19.4	19.5	19.9	20.4	19.1	19.5	19.6	20.0	20.4
	8H	19.1	19.4	19.6	20.0	20.5	19.2	19.5	19.7	20.0	20.5
	12H	19.1	19.4	19.7	19.9	20.5	19.2	19.5	19.7	20.0	20.6
12H	4H	18.6	19.0	19.1	19.5	20.0	18.6	19.0	19.1	19.5	20.0
	6H	19.0	19.4	19.5	19.8	20.4	19.1	19.4	19.6	19.9	20.4
	8H	19.1	19.4	19.7	19.9	20.5	19.2	19.5	19.7	20.0	20.5

Maximum UGR = 20.6



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Iso-Illuminance Plot



The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution of room reflections.

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Test Distance 9.5 m
Ambient Temperature 25.0 °C

Notes

The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Tested in accordance with the applicable sections of IES LM-79-19. Format of reports and angular increments based on IES LM-41-14 and LM-46-04.

The luminous intensity values, and other derived quantities, contained in this report are based on the absolute data, as measured.

Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

This report is free of erasures and corrections.

Photometric intensity values are reported using the CIE C-Gamma coordinate system as defined in CIE publication number 121.

This report may contain data that are not covered by the NVLAP accreditation. Quantities marked with ‡ are not covered.

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the Federal Government.



Report of Test

LLIA001367-003B

Integrating Sphere Report

Catalog Number: QSI-L263025411CC00

Recessed mounted, formed steel housing, cast white enamel
aluminum reflector with clear glass enclosure.

One Citizen white LED with specular faceted aluminum reflector

One eldoLED ECOdrive 561/S LED driver labeled as 700mA



Performance Summary

Voltage	120.0 Vac
Current	0.2372 A
Power	27.93 W
Frequency	59.99 Hz
Power Factor	0.981
Current THD	12.4 %
Total Luminous Flux	2682.0 lm
Efficacy	96.0 lm/W
Chromaticity (x,y)	(0.4303, 0.4030)
(u',v')	(0.2468, 0.5200)
Duv	0.0005
CCT	3106 K
CRI (Ra)	82
R9	3
TM-30: Rf	82
TM-30: Rg	97
TM-30: Rcs,h1	-12

Prepared For:

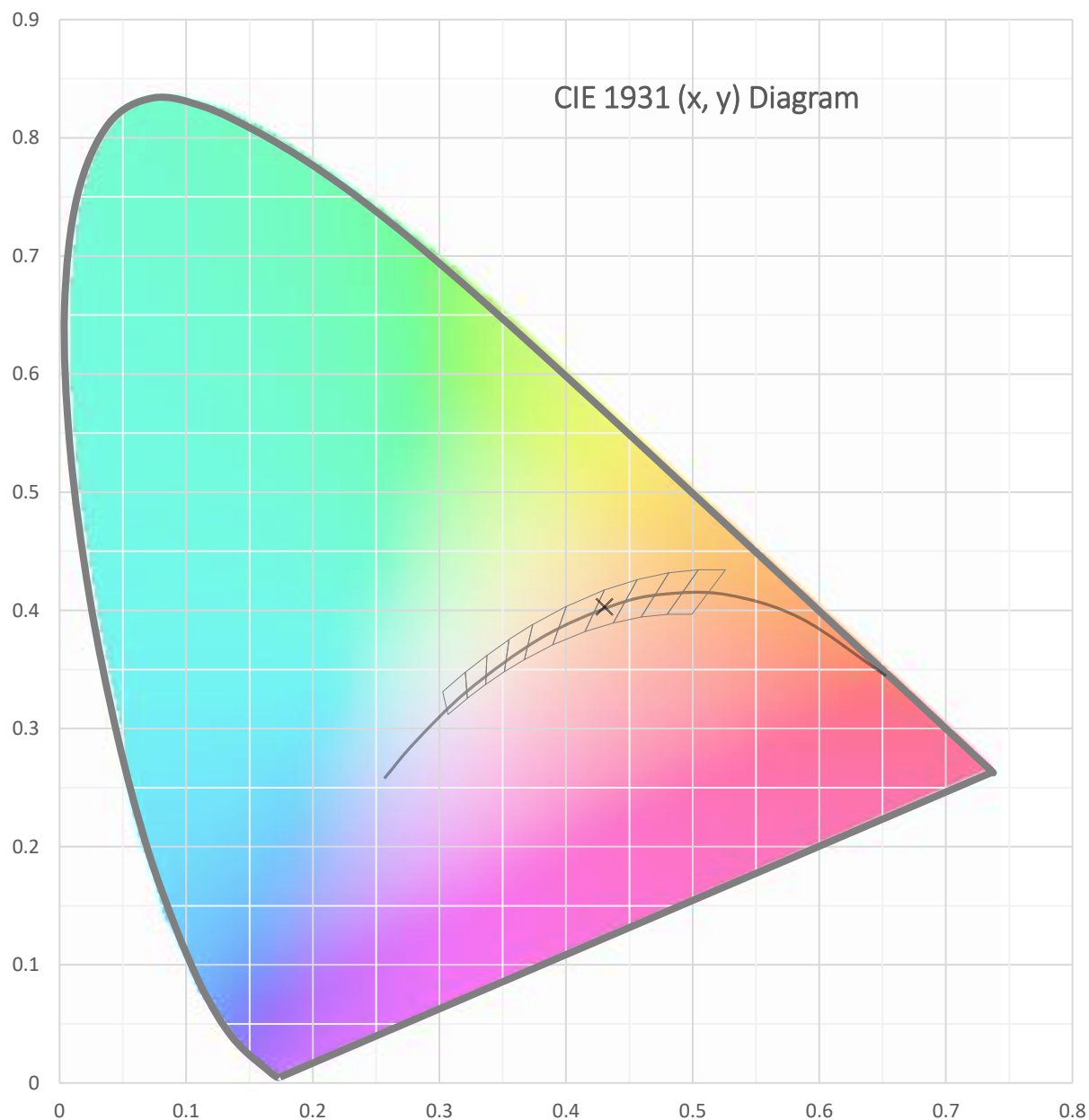
Designplan Lighting, Inc
79 Trenton Avenue
Frenchtown, NJ 08825, USA

Test date: 12/16/2020

Report date: 12/18/2020

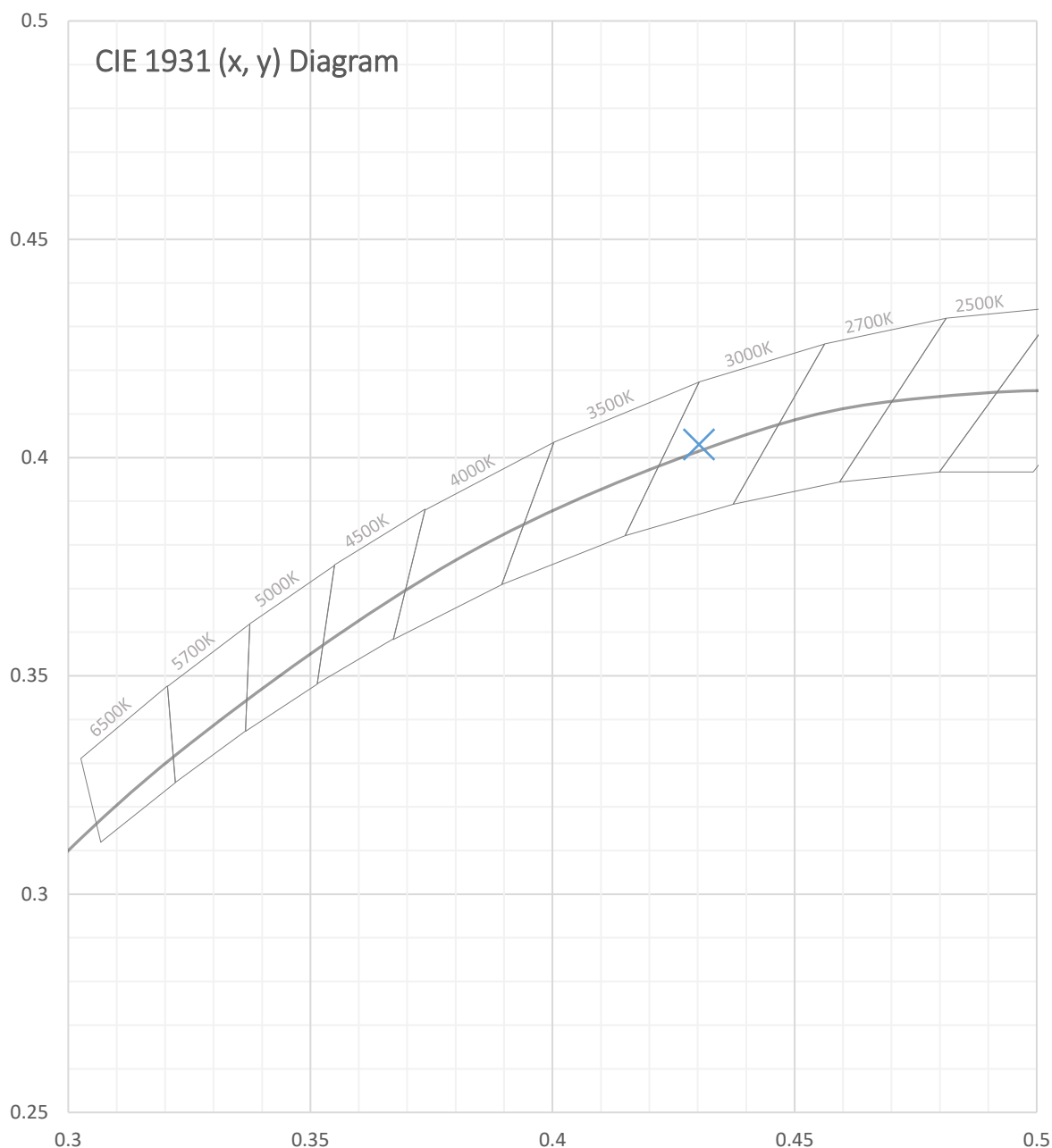


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Test Report Number: LLIA001367-003B





Test Report Number: LLIA001367-003B

Total Radiant Flux	8.107 W
Total Luminous Flux	2682.0 Lm
Chromaticity CIE 1931 (x, y)	(0.4303, 0.4030)
Chromaticity CIE 1976 (u', v')	(0.2468, 0.5200)
Correlated Color Temperature (CCT)	3106 K
Color Rendering Index (Ra)	82
R1	80
R2	89
R3	97
R4	81
R5	80
R6	87
R7	83
R8	59
R9	3
R10	75
R11	81
R12	71
R13	82
R14	98
TM-30: Rf	82
TM-30: Rg	97
TM-30: Rcs,h1	-12
Distance from Planckian Locus (Duv)	0.0005
Scotopic/Photopic Ratio $\frac{V_{\lambda}}{V_{\lambda}^p}$	1.358

Electrical Data

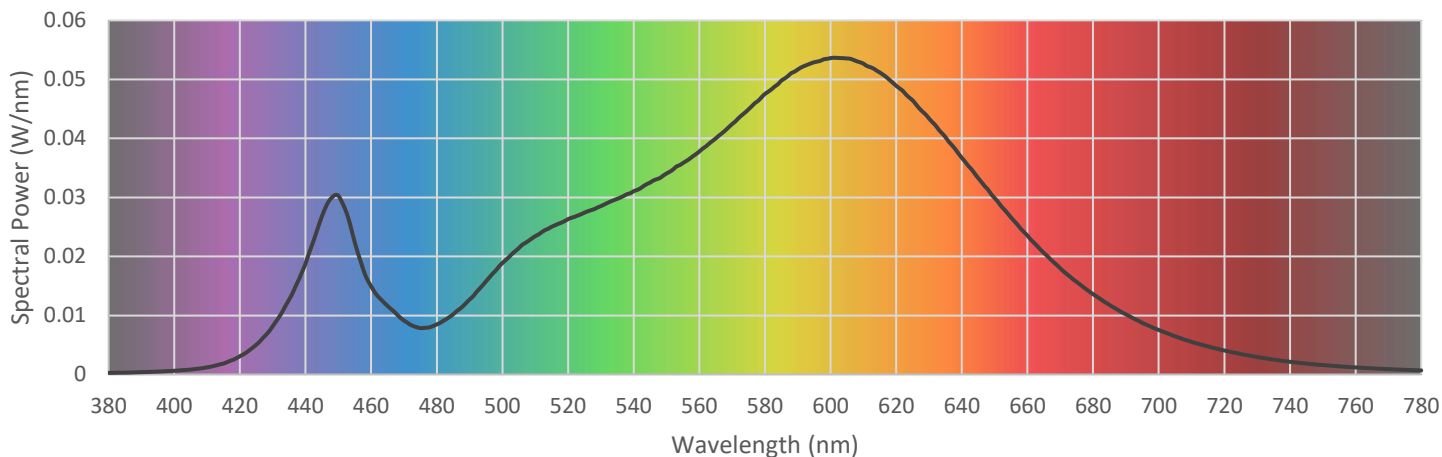
Voltage	120.0 Vac
Current	0.2372 A
Power	27.93 W
Frequency	59.99 Hz
Power Factor	0.981
Current THD	12.4 %



Test Report Number: LLIA001367-003B

Summary Spectral Power Distribution (wavelength - nm, spectral power - W/nm)

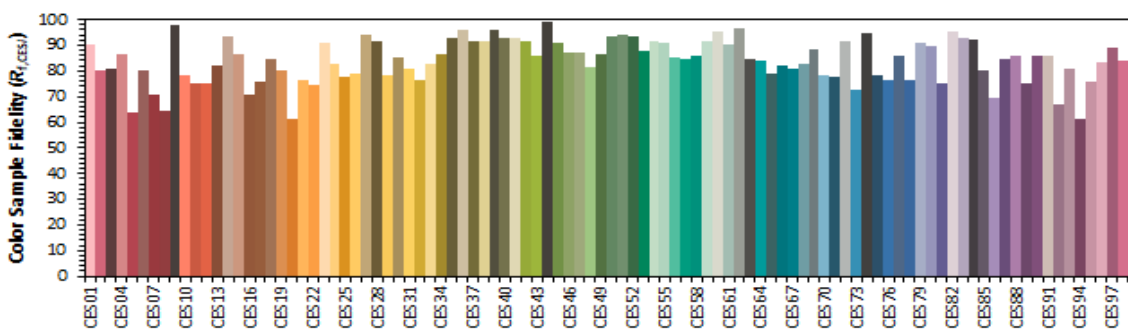
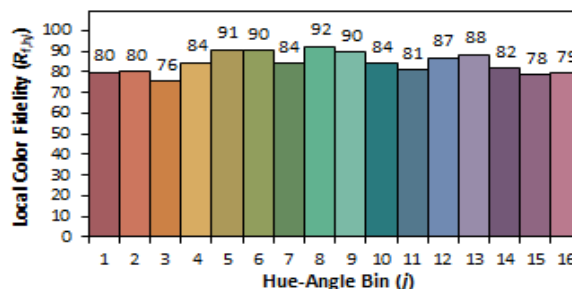
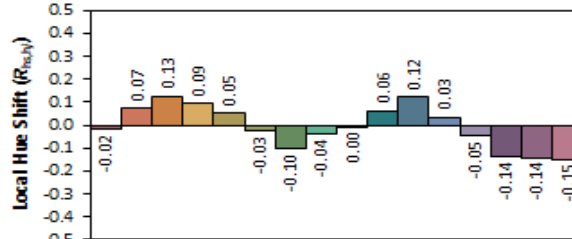
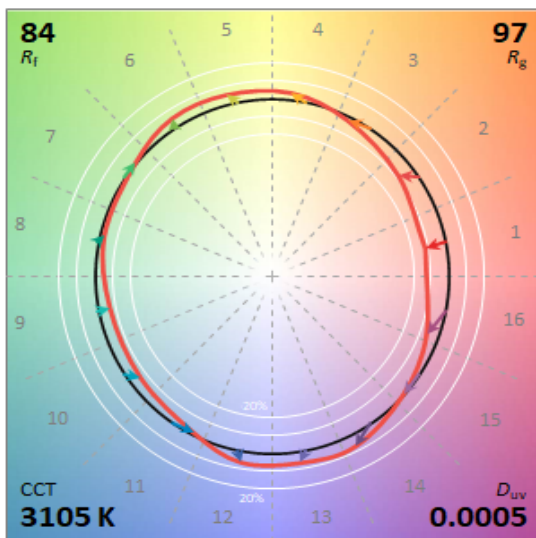
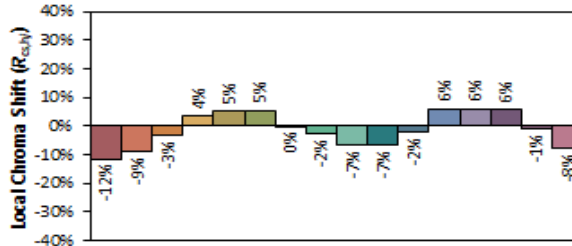
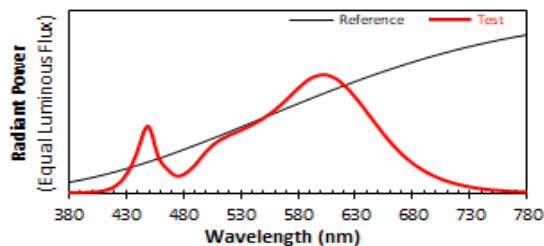
380	0.000272	480	0.008487	580	0.047532	680	0.013605
385	0.000304	485	0.010193	585	0.049794	685	0.011797
390	0.000391	490	0.012704	590	0.051670	690	0.010178
395	0.000489	495	0.015787	595	0.052903	695	0.008733
400	0.000625	500	0.018892	600	0.053605	700	0.007542
405	0.000837	505	0.021418	605	0.053550	705	0.006466
410	0.001206	510	0.023431	610	0.052675	710	0.005524
415	0.001847	515	0.025028	615	0.051165	715	0.004746
420	0.003092	520	0.026320	620	0.048911	720	0.004065
425	0.005049	525	0.027422	625	0.046447	725	0.003463
430	0.008197	530	0.028530	630	0.043380	730	0.002959
435	0.012695	535	0.029758	635	0.040223	735	0.002521
440	0.018814	540	0.031054	640	0.036707	740	0.002147
445	0.026816	545	0.032514	645	0.033266	745	0.001844
450	0.030285	550	0.034053	650	0.029898	750	0.001595
455	0.022371	555	0.035825	655	0.026586	755	0.001380
460	0.014927	560	0.037777	660	0.023529	760	0.001202
465	0.011611	565	0.039996	665	0.020590	765	0.001041
470	0.009134	570	0.042427	670	0.017982	770	0.000904
475	0.007857	575	0.044921	675	0.015684	775	0.000787
						780	0.000686





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IES TM-30 Details



Notes:

x 0.4303
y 0.4029
u' 0.2468
v' 0.5199

CIE 13.3-1995
(CRI)

R_a 82
R_g 3

Test Report Number: LLIA001367-003B

Test Equipment Configuration: LightLab International Allentown 2m Integrating Sphere
Measurements acquired using a Labsphere CDS 2600 spectroradiometer
Testing was performed using 4π geometry

Test Temperature: 24.6 °C

Test Procedure: Tested in accordance with the applicable sections of:
LM-79-19, LM-78-07, LM-58-13, ANSI_ANSI C78.377-2017, TM-30-18

Significance: The laboratory has not participated in the selection of samples to be tested.
All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Notes: The measurements and other derived quantities contained in this report are based on the absolute data as measured.

Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

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Sphere Report Template V2-15