



LTL Number: 16892

Date: 10-09-2009

Prepared For: LEDnovation

Catalog Number: LED A19-75-1D-I

Lamp: One VBU 75 Watt A19 LED Replacement Lamp

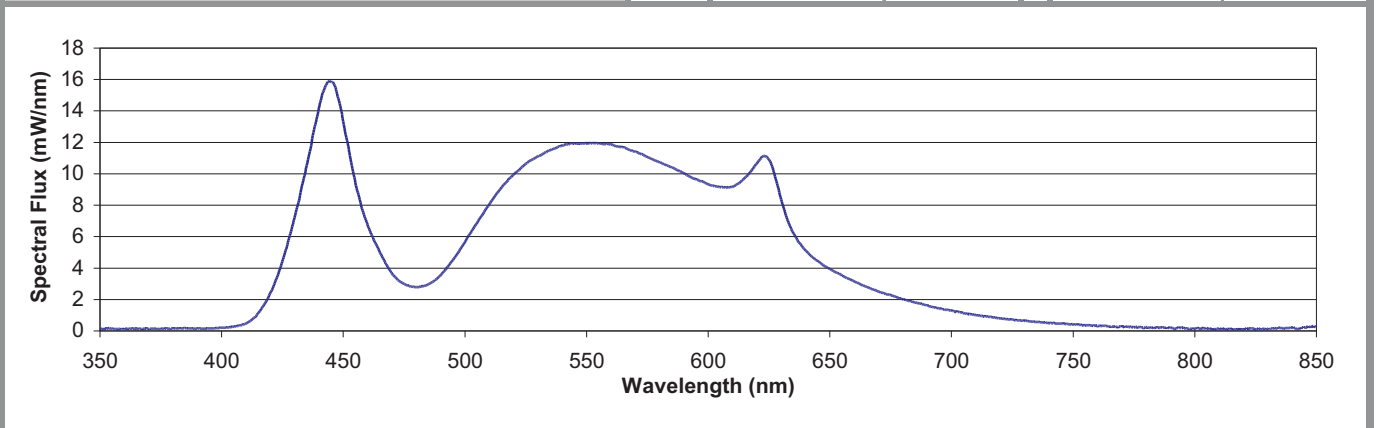
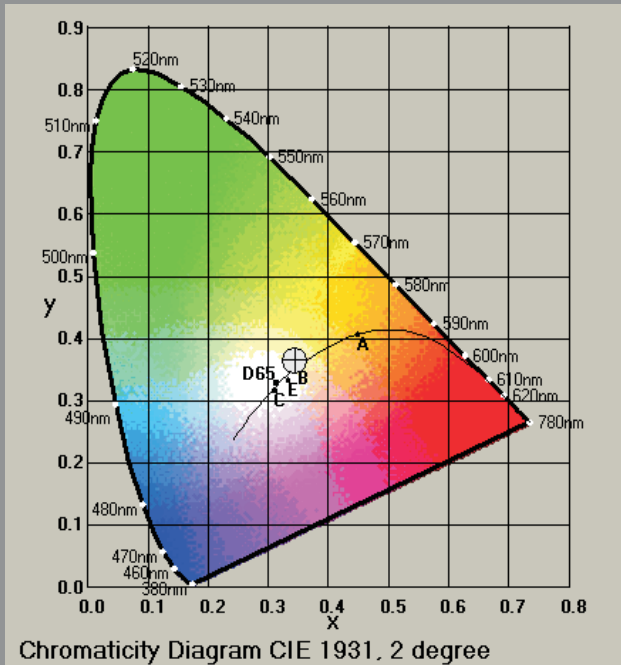
Lamp Catalog Number: LED A19-75-1D-I

LED Power Supply: Internal

Lamp Efficacy: 88.0 Lumens/Watt

Lamp Input Voltage	Lamp Current	Lamp Watts	Power Factor
120.0VAC	0.0747A	8.271W	0.923
Radiant Flux mW	Luminous Flux lumen	Corr. Color Temperature K	Color Rend. Index Ra
2204.605	727.660	5102	76
Chroma x	Chroma y	Chroma u	Chroma v
0.3434	0.3657	0.205	0.3274

Wavelength in nm	Spectral Flux in mW/nm	Wavelength in nm	Spectral Flux in mW/nm
350	0.1562	610	9.1679
360	0.1047	620	10.6540
370	0.1346	630	8.3682
380	0.1616	640	5.1229
390	0.1508	650	3.9476
400	0.2026	660	3.1590
410	0.4743	670	2.5026
420	2.4027	680	2.0146
430	7.1984	690	1.6144
440	14.1370	700	1.2863
450	13.3330	710	1.0021
460	6.7567	720	0.7844
470	3.6698	730	0.6404
480	2.7854	740	0.4987
490	3.5496	750	0.4011
500	5.6659	760	0.3153
510	8.0676	770	0.2740
520	9.9502	780	0.2177
530	11.1180	790	0.2016
540	11.7890	800	0.1502
550	11.9470	810	0.1286
560	11.8460	820	0.0989
570	11.4060	830	0.1354
580	10.7340	840	0.1888
590	10.0440	850	0.2390
600	9.3339		





# LUMINAIRE TESTING LABORATORY, INC.

SUSTAINING  
MEMBER  
of the  
IESNA

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DATE: 10-09-2009

PREPARED FOR: LEDNOVATION

CATALOG NUMBER: LED A19-75-1D-I

LUMINAIRE: CAST ALUMINUM HOUSING, TRANSLUCENT WHITE PLASTIC ENCLOSURE.

LAMP: ONE VBU 75 WATT A19 LED REPLACEMENT LAMP

LAMP CATALOG NUMBER: LEDNOVATION LED A19-75-1D-I

LED POWER SUPPLY: INTERNAL

ELECTRICAL VALUES: 120.0VAC, 0.0748A, 8.292W, PF=0.924

NOTE: THIS TEST WAS PERFORMED USING THE CALIBRATED  
PHOTODETECTOR METHOD OF ABSOLUTE PHOTOMETRY.\*

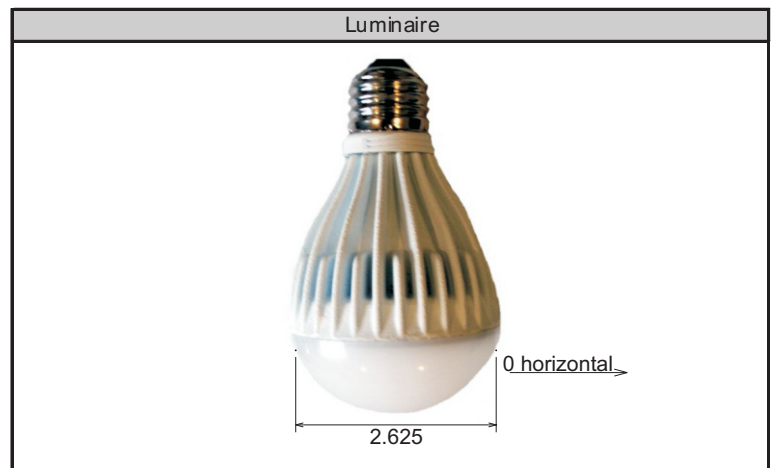
### Candela Distribution

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	
5	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	13.9
15	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	40.2
25	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	62.4
35	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	78.6
45	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	87.8
55	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	89.8
65	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	85.0
75	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	74.9
85	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	61.8
90	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
95	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	47.7
105	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	34.1
115	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22.3
125	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	12.8
135	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	6.2
145	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2.3
155	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

### Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	116.5	N/A	16.2%
0-40	195.2	N/A	27.1%
0-60	372.7	N/A	51.7%
0-90	594.4	N/A	82.5%
90-180	126.2	N/A	17.5%
0-180	720.7	N/A	100.0%

Total lumen Output: 720.7 Lumens  
 Luminaire efficacy: 86.9 Lumens per Watt  
 CIE Type: Semi-Direct  
 Spacing Criterion: 1.33



Approved By: MG

\*DATA WAS ACQUIRED USING THE CALIBRATED PHOTODETECTOR METHOD OF ABSOLUTE PHOTOMETRY. A UDT MODEL #211 PHOTODETECTOR AND UDT MODEL #S370 OPTOMETER COMBINATION WERE USED AS A STANDARD. A SPECTRAL MISMATCH CORRECTION FACTOR WAS EMPLOYED BASED ON THE SPECTRAL RESPONSIVITY OF THE PHOTODETECTOR AND THE SPECTRAL POWER DISTRIBUTION OF THE TEST SUBJECT.

**TESTING WAS PERFORMED IN ACCORDANCE WITH IES LM-79-08.**

TEST ANGULAR INCREMENTS AND REPORT FORMATTING WAS BASED ON IES LM-41-98 AND LM-46-04.



Candela Tabulation (5 degree Vertical Increments)

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147
5	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146
10	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
15	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143
20	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139
25	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135
30	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131
35	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125
40	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
45	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
50	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107
55	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
60	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93
65	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86
70	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
75	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71
80	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
85	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57
90	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
95	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
100	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
105	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
110	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
115	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
120	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
125	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
130	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
135	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
140	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
145	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
150	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
155	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
160	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	3.5	45-50	44.6	90-95	25.6	135-140	2.5
5-10	10.4	50-55	45.2	95-100	22.1	140-145	1.5
10-15	17.0	55-60	44.6	100-105	18.7	145-150	0.8
15-20	23.2	60-65	43.5	105-110	15.4	150-155	0.4
20-25	28.8	65-70	41.5	110-115	12.5	155-160	0.2
25-30	33.6	70-75	39.0	115-120	9.8	160-165	0.1
30-35	37.7	75-80	35.9	120-125	7.4	165-170	0.0
35-40	40.9	80-85	32.6	125-130	5.4	170-175	0.0
40-45	43.2	85-90	29.2	130-135	3.8	175-180	0.0



Utilization of Lumens - Zonal Cavity Method												
Effective Floor Cavity Reflectance 20%												
Ceiling Cavity Reflectance	90				80				70			
Wall Reflectance	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **											
0	863.5	863.5	863.5	863.5	827.9	827.9	827.9	827.9	793.9	793.9	793.9	793.9
1	764.2	714.1	669.4	629.5	728.5	683.5	643.1	606.8	694.7	654.3	617.8	584.8
2	686.5	607.9	543.6	490	652.5	581.8	523.3	474	620.4	556.8	503.6	458.4
3	620.9	525.4	452.5	395.2	589.3	503.1	436.4	383.2	559.4	481.7	420.6	371.4
4	565.1	460	384.3	327.2	536	440.8	371.1	317.9	508.6	422.4	358.3	308.7
5	517	407	331.5	276.6	490.6	390.5	320.7	269.1	465.6	374.7	310	261.7
6	475.4	363.5	289.8	237.7	451.3	349.2	280.7	231.5	428.6	335.5	271.8	225.4
7	439	327.2	256.2	207.1	417.2	314.8	248.5	202	396.5	302.8	240.8	196.8
8	407.2	296.7	228.7	182.5	387.3	285.8	222	178.1	368.6	275.3	215.4	173.8
9	379.1	270.8	205.8	162.4	361.1	261.2	200	158.7	344	251.8	194.3	154.9
10	354.3	248.5	186.5	145.7	337.8	240	181.4	142.5	322.3	231.7	176.4	139.2

Ceiling Cavity Reflectance	50				30			10			0
Wall Reflectance	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **										
0	730.6	730.6	730.6	730.6	672.7	672.7	672.7	619.4	619.4	619.4	594.4
1	631.9	599.5	570	543	549.3	525.6	503.7	502.9	484.3	466.8	441.8
2	561.1	509.9	466.1	428.4	466.6	431	399.7	426.6	397.9	372.2	348.3
3	504.5	441.4	390.5	348.6	404.1	361.9	326.5	369.5	334.8	305.2	282.7
4	458.3	387.7	333.6	290.7	355.5	310	273.2	325.5	287.5	256.1	235
5	419.7	344.7	289.4	247.1	316.7	269.7	232.9	290.6	250.9	218.9	199.3
6	386.9	309.3	254.4	213.4	285	237.7	201.6	262.1	221.7	190	171.7
7	358.6	279.9	226	186.7	258.5	211.7	176.8	238.4	197.9	167	149.9
8	334.1	255.1	202.6	165.2	236.3	190.3	156.7	218.5	178.3	148.3	132.4
9	312.5	234	183.1	147.5	217.2	172.4	140.2	201.4	161.9	132.9	118.1
10	293.5	215.8	166.7	132.8	200.9	157.2	126.4	186.7	148.1	120.1	106.2

Average Luminance Table (cd/m<sup>2</sup>)

	0	45	90
0	42148	42148	42148
45	45918	45918	45918
55	51674	51674	51674
65	48379	48379	48379
75	45472	45472	45472
85	43574	43574	43574

THIS TEST WAS CONDUCTED USING PHOTOMETRY TECHNIQUES ACCORDING TO STANDARD IES PROCEDURES. THE USER MUST THEREFORE USE CAUTION IN THE FOLLOWING SITUATIONS: 1) THIS TEST WAS PERFORMED USING A SPECIFIC BALLAST/LAMP COMBINATION. EXTRAPOLATION OF THESE DATA FOR OTHER BALLAST/LAMP COMBINATIONS MAY PRODUCE ERRONEOUS RESULTS. 2) THIS TEST WAS CONDUCTED IN A CONTROLLED LABORATORY ENVIRONMENT WHERE THE AMBIENT TEMPERATURE WAS HELD AT 25°C ±1°C. FIELD PERFORMANCE MAY DIFFER PARTICULARLY IN REGARDS TO CHANGE IN LUMINOUS OUTPUT AS A RESULT OF DIFFERENCE IN AMBIENT TEMPERATURE AND METHOD OF MOUNTING THE LUMINAIRE.

