

IES File

Performance Summary

The performance data in black text is confirmed through third party testing (see the following Light Laboratory report for details). The performance data in grey text is calculated by Vode. For reference only.



ZipWave™ LED - Zipper board™, Ceiling Cove, Low Output

ZipWave LED, 48", 3500K, Zipper board with diffuse lens, ceiling cove, low output
707-Z9-4-48-AC-X-X-X-Z-LO-35-1-X-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	80	83	86	90
Total Lumens, 4' rail length (1219mm)	1327	1384	1442	1500
Lumens per foot (305mm)	332	346	361	375
Input Power (W), 4' rail length (1219mm)	16.8	16.8	16.8	16.8
Watts per foot (305mm)	4.2	4.2	4.2	4.2
CRI (>80min., 85 avg.)	-	-	-	-



IES INDOOR REPORT

PHOTOMETRIC FILENAME : ZIPWAVE_ZIPPER_LO_3500K_CEILING COVEDIFFUSELENS_032717.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L031700425 (USED TO PREPARE REPORT FOR LOW OUTPUT RATING)
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 3/28/2017 (ORIGINAL REPORT)
[MANUFAC] VODE LIGHTING
[LUMCAT] 707-Z9-48-AC-Z-LO-35-1-AL
[LUMINAIRE] ZIPWAVE LED, 48", ARMSTRONG CEILING COVE,
[MORE] 3500K, ZIPPER BOARD, DIFFUSE LENS, LOW OUTPUT (350MA)
[LAMPPOSITION] 0,0
[LAMP] N/A
[OTHER] DATA FROM ORIGINAL REPORT FACTORED FOR LOW OUTPUT RATING
[MORE] USING 0.50 LUMEN MULTIPLIER
[MORE] INPUT WATTAGE BASED ON 707 SERIES LUMINAIRE LO TEST (L031700418)
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1442
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	86
Total Luminaire Watts	16.78
Ballast Factor	1.00
CIE Type	Indirect
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.08 ft
Luminous Width (90-270)	4.00 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	24	71	48
55	29	146	88
65	0	318	80
75	0	909	130
85	0	5013	578

IES INDOOR REPORT

PHOTOMETRIC FILENAME : ZIPWAVE_ZIPPER_LO_3500K_CEILING COVEDIFFUSELENS_032717.IES

CANDELA TABULATION

	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
15	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
20	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0
25	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0
30	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0
35	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	1.0
40	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	1.0	1.0
45	0.5	0.5	0.5	0.5	1.0	1.0	1.0	1.0	1.5	1.5
50	0.5	0.5	0.5	1.0	1.0	1.5	1.5	1.5	1.5	2.0
55	0.5	0.5	0.5	1.0	1.5	1.5	2.0	2.0	2.5	2.5
60	0.0	0.5	0.5	1.0	2.0	2.5	2.5	3.0	3.0	3.0
65	0.0	0.5	0.5	1.5	2.5	3.0	3.5	4.0	4.0	4.0
70	0.0	0.0	1.0	2.0	3.0	4.0	4.5	5.0	5.5	5.5
75	0.0	0.5	1.0	2.5	4.0	5.0	6.0	6.5	7.0	7.0
80	0.0	0.0	1.5	3.0	5.0	6.5	7.5	8.5	9.5	9.5
85	0.0	0.5	2.5	5.0	6.5	8.5	10.5	11.5	12.0	13.0
90	11.5	23.0	121.5	34.0	97.0	51.5	34.5	46.5	64.0	71.5
95	583.5	509.5	517.0	496.5	526.5	478.5	429.5	404.0	368.0	324.0
100	634.5	628.5	620.5	604.5	583.5	556.5	522.0	480.5	435.0	384.5
105	649.5	646.5	638.5	623.5	603.5	576.5	543.0	500.5	454.5	404.0
110	652.0	650.5	643.0	628.0	606.5	578.0	543.5	504.0	460.0	414.0
115	645.0	641.5	633.5	619.5	599.0	574.0	543.5	507.5	468.0	427.5
120	635.5	632.5	624.5	612.5	594.0	570.0	542.5	511.5	481.5	454.0
125	623.0	622.0	614.0	602.5	588.0	572.0	550.0	536.0	510.0	479.0
130	621.0	618.0	615.5	615.5	599.0	588.5	564.5	537.5	502.0	463.0
135	623.0	620.0	611.0	598.0	583.5	561.5	536.5	506.5	474.0	439.5
140	573.5	571.0	564.0	553.0	538.0	519.0	496.5	471.0	443.0	413.0
145	519.0	517.0	511.0	501.5	488.5	472.5	454.0	432.5	409.0	384.5
150	461.5	460.5	456.0	448.0	437.5	425.0	409.5	393.0	374.5	355.5
155	405.5	404.5	401.5	396.0	388.0	378.5	367.0	354.5	341.5	327.0
160	354.0	354.5	351.5	348.0	343.0	336.5	328.5	319.5	310.5	301.5
165	311.0	311.0	309.5	307.5	304.5	300.5	296.0	290.5	284.5	278.0
170	276.0	276.0	275.0	274.0	272.5	271.0	268.5	265.5	262.5	259.0
175	249.0	249.0	249.0	248.0	247.5	247.0	246.0	245.0	243.5	242.5
180	227.0	227.0	227.0	227.0	227.0	227.0	227.0	227.0	227.0	227.0

Vert. Horizontal Angles

	<u>50</u>	<u>55</u>	<u>60</u>	<u>65</u>	<u>70</u>	<u>75</u>	<u>80</u>	<u>85</u>	<u>90</u>	<u>95</u>
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
15	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
20	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
25	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
30	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
35	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
40	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
45	1.5	1.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5
50	1.5	1.5	1.5	1.5	1.0	1.0	1.0	1.0	1.5	1.5
55	2.5	2.0	2.0	1.5	1.5	1.0	1.0	1.0	1.5	1.5
60	3.0	3.0	2.5	2.0	2.0	1.5	1.0	1.0	1.0	1.5

IES INDOOR REPORT

PHOTOMETRIC FILENAME : ZIPWAVE_ZIPPER_LO_3500K_CEILING COVEDIFFUSELENS_032717.IES

CANDELA TABULATION - (Cont.)

65	4.0	4.0	3.5	3.0	2.5	1.5	1.0	1.0	1.0	1.0
70	5.5	5.0	4.5	4.0	3.0	2.5	1.5	1.0	1.0	1.0
75	7.0	6.5	6.0	5.0	4.0	3.0	2.0	1.0	1.0	1.0
80	9.5	9.0	8.0	7.0	6.0	4.5	3.5	2.0	1.0	1.0
85	13.0	13.0	11.5	11.5	9.5	7.5	9.0	4.0	1.5	1.0
90	79.0	68.5	77.5	47.0	56.5	36.0	33.0	23.5	7.0	3.0
95	281.5	218.0	194.0	159.5	121.0	90.5	69.0	51.5	27.0	13.0
100	333.0	281.5	233.5	188.5	151.5	122.0	101.5	76.0	47.5	29.0
105	352.0	301.0	254.0	217.0	189.0	162.5	131.5	96.5	68.5	48.5
110	367.0	322.5	286.5	259.0	227.0	188.0	149.5	116.5	90.0	70.5
115	390.0	359.0	329.0	291.5	246.0	203.0	166.5	135.5	110.5	91.0
120	428.0	393.5	347.0	299.5	255.0	215.5	181.5	153.0	129.0	111.0
125	437.0	391.0	345.5	302.0	261.5	226.0	194.5	168.0	146.5	129.5
130	422.5	381.0	340.0	301.5	266.0	234.0	206.0	182.0	162.5	146.0
135	403.5	368.0	332.0	299.0	268.0	239.5	215.5	194.0	176.0	161.0
140	382.5	352.0	322.0	293.5	267.5	243.5	222.5	204.0	187.5	174.5
145	359.5	334.5	310.0	286.5	265.0	245.0	228.0	211.5	198.0	186.0
150	335.5	315.5	297.0	278.0	261.5	245.0	231.0	217.5	206.5	195.5
155	312.0	298.0	283.0	270.0	256.5	244.0	233.0	222.0	213.0	204.5
160	291.5	280.5	271.0	261.0	251.5	242.5	234.0	225.5	218.5	212.0
165	272.0	266.0	259.5	252.5	246.0	240.0	234.0	228.0	222.5	217.5
170	255.5	251.5	247.5	244.0	240.5	236.5	232.5	229.0	225.0	222.0
175	241.0	239.5	237.5	236.0	234.0	232.5	230.5	228.5	227.0	225.0
180	227.0	227.0	227.0	227.0	227.0	227.0	227.0	227.0	227.0	227.0

Vert. Angles Horizontal Angles

	<u>100</u>	<u>105</u>	<u>110</u>	<u>115</u>	<u>120</u>	<u>125</u>	<u>130</u>	<u>135</u>	<u>140</u>	<u>145</u>
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
15	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
20	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5
25	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5
30	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5
35	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
40	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.0
45	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0
50	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0
55	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0
60	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	2.0	2.0
65	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	2.0
70	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5
75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5
80	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
85	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
90	2.5	2.0	2.5	2.0	2.0	1.5	1.5	1.5	1.5	1.5
95	10.0	8.5	8.5	7.5	7.0	6.5	6.0	5.5	5.0	5.0
100	23.5	22.0	20.0	18.5	17.5	16.5	15.5	14.5	13.5	13.0
105	41.0	38.5	36.5	34.0	31.5	29.5	28.0	26.5	25.5	24.5
110	59.5	55.5	53.5	50.5	48.0	45.5	43.5	41.5	40.0	38.5
115	77.0	72.0	70.0	68.0	65.5	62.5	60.0	57.5	55.0	53.5
120	96.5	88.5	85.5	84.5	82.0	79.5	77.0	74.0	71.5	69.5
125	115.5	104.5	101.0	99.0	97.5	95.5	93.0	90.5	88.5	86.5
130	132.5	122.5	116.0	112.5	111.0	110.0	108.0	106.0	104.0	102.0
135	149.0	138.5	130.5	126.5	123.5	123.0	122.0	120.5	119.0	117.0

IES INDOOR REPORT

PHOTOMETRIC FILENAME : ZIPWAVE_ZIPPER_LO_3500K_CEILING COVEDIFFUSELENS_032717.IES

CANDELA TABULATION - (Cont.)

140	163.0	153.5	146.0	140.0	136.5	134.0	133.5	132.5	131.5	130.5
145	175.5	167.0	160.0	154.0	149.5	146.0	144.0	143.0	142.0	142.0
150	187.0	179.0	172.5	167.0	162.5	158.5	155.5	153.5	152.0	151.0
155	197.0	190.0	184.0	179.0	174.5	170.5	167.5	165.0	163.0	161.5
160	205.5	200.0	195.0	190.0	186.0	183.0	180.0	177.0	175.0	173.0
165	212.5	208.0	204.0	200.5	197.5	194.5	191.5	189.5	187.5	185.5
170	219.0	216.0	213.0	210.0	207.5	205.5	203.5	201.5	200.0	198.5
175	223.5	222.0	220.5	219.0	218.0	216.5	215.5	214.5	213.5	212.5
180	227.0	227.0	227.0	227.0	227.0	227.0	227.0	227.0	227.0	227.0

Vert. Horizontal Angles

Angles	<u>150</u>	<u>155</u>	<u>160</u>	<u>165</u>	<u>170</u>	<u>175</u>	<u>180</u>
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10	1.0	1.0	1.0	1.0	1.0	1.0	1.0
15	1.0	1.0	1.0	1.0	1.0	1.0	1.0
20	1.5	1.5	1.5	1.5	1.5	1.5	1.5
25	1.5	1.5	1.5	1.5	1.5	1.5	1.5
30	1.5	1.5	1.5	1.5	1.5	1.5	1.5
35	1.5	2.0	2.0	2.0	2.0	2.0	2.0
40	2.0	2.0	2.0	2.0	2.0	2.0	2.0
45	2.0	2.0	2.0	2.0	2.0	2.0	2.0
50	2.0	2.0	2.0	2.5	2.5	2.5	2.5
55	2.0	2.5	2.5	2.5	2.5	2.5	2.5
60	2.0	2.5	2.5	2.5	2.5	2.5	2.5
65	2.0	2.0	2.0	2.0	2.5	2.5	3.0
70	1.5	1.5	2.0	2.0	2.0	2.0	2.0
75	1.5	1.5	1.5	1.5	1.5	1.5	1.5
80	1.0	1.5	1.5	1.5	1.5	1.5	1.5
85	1.0	1.0	1.0	1.0	1.0	1.0	1.0
90	1.5	1.5	1.5	1.0	1.5	1.5	1.0
95	5.0	4.5	4.5	4.5	4.5	5.0	4.5
100	12.5	12.0	12.0	12.0	12.5	12.5	12.5
105	23.5	23.0	22.5	23.0	22.5	22.5	22.5
110	37.0	36.5	35.5	35.5	35.0	34.5	34.5
115	52.0	51.0	50.0	49.5	48.5	48.5	48.0
120	68.0	66.5	65.5	64.5	64.0	63.5	63.5
125	84.5	83.0	81.5	80.5	80.0	79.5	79.5
130	100.5	99.0	97.5	96.5	96.0	95.5	95.5
135	115.5	114.5	113.5	112.5	111.5	111.5	111.5
140	129.5	128.5	127.5	127.0	126.0	126.0	126.0
145	141.5	140.5	140.0	139.5	139.5	139.0	139.5
150	150.5	150.0	150.0	150.0	150.0	150.0	150.0
155	160.5	159.5	159.0	158.0	158.0	157.5	157.5
160	172.0	170.5	169.5	168.5	168.0	167.5	167.5
165	184.0	183.0	182.0	181.0	180.5	180.0	180.0
170	197.5	196.5	195.5	194.5	194.0	194.0	194.0
175	211.5	211.0	210.5	210.0	209.5	209.5	209.5
180	227.0	227.0	227.0	227.0	227.0	227.0	227.0

IES INDOOR REPORT

PHOTOMETRIC FILENAME : ZIPWAVE_ZIPPER_LO_3500K_CEILING COVEDIFFUSELENS_032717.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	0.37	N.A.	0.00
0-30	0.85	N.A.	0.10
0-40	1.60	N.A.	0.10
0-60	4.22	N.A.	0.30
0-80	9.19	N.A.	0.60
0-90	20.31	N.A.	1.40
10-90	20.23	N.A.	1.40
20-40	1.23	N.A.	0.10
20-50	2.31	N.A.	0.20
40-70	4.66	N.A.	0.30
60-80	4.97	N.A.	0.30
70-80	2.92	N.A.	0.20
80-90	11.13	N.A.	0.80
90-110	368.46	N.A.	25.60
90-120	605.93	N.A.	42.00
90-130	841.74	N.A.	58.40
90-150	1218.86	N.A.	84.50
90-180	1421.79	N.A.	98.60
110-180	1053.33	N.A.	73.00
0-180	1442.1	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	0.08
10-20	0.28
20-30	0.49
30-40	0.75
40-50	1.08
50-60	1.54
60-70	2.05
70-80	2.92
80-90	11.13
90-100	146.05
100-110	222.41
110-120	237.47
120-130	235.82
130-140	211.65
140-150	165.46
150-160	114.51
160-170	66.58
170-180	21.84

IES INDOOR REPORT

PHOTOMETRIC FILENAME : ZIPWAVE_ZIPPER_LO_3500K_CEILING COVEDIFFUSELENS_032717.IES

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

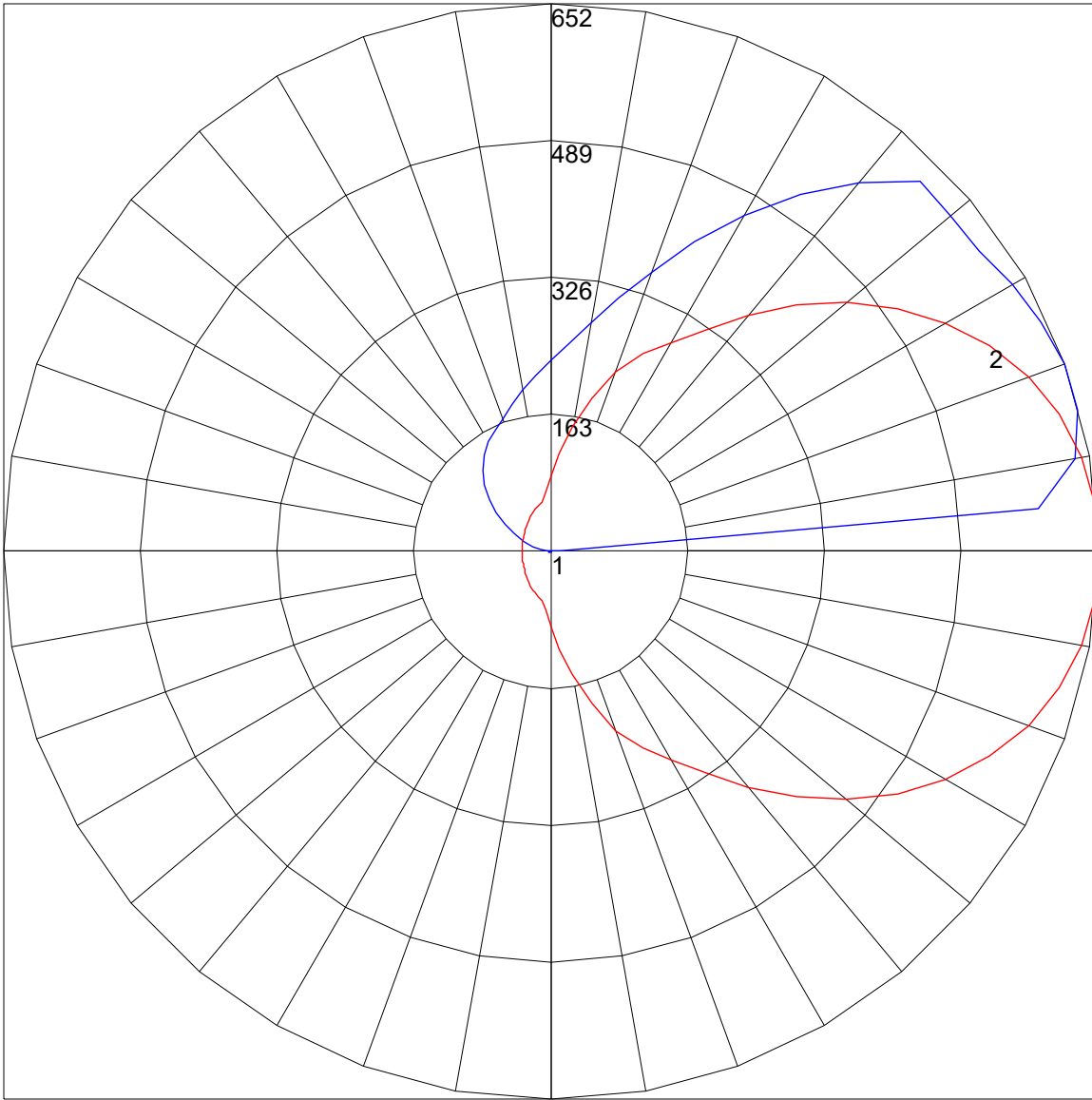
Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	
0	96	96	96	96	82	82	82	82	56	56	56	33	33	33	11	11	11	1
1	87	82	79	75	74	71	68	65	49	47	45	28	27	27	10	9	9	1
2	79	72	66	61	67	62	57	53	42	40	37	25	23	22	8	8	7	0
3	72	63	56	51	61	54	49	44	37	34	31	22	20	18	7	7	6	0
4	65	55	48	43	56	48	42	37	33	29	26	19	17	16	6	6	5	0
5	60	49	42	36	51	42	36	31	29	25	22	17	15	13	6	5	5	0
6	55	44	36	31	47	38	31	27	26	22	19	15	13	11	5	4	4	0
7	50	39	32	27	43	34	28	23	23	19	17	14	12	10	5	4	3	0
8	47	35	28	23	40	30	24	20	21	17	14	12	10	9	4	3	3	0
9	43	32	25	20	37	27	22	18	19	15	13	11	9	8	4	3	3	0
10	40	29	22	18	34	25	19	16	17	14	11	10	8	7	4	3	2	0

IES INDOOR REPORT

PHOTOMETRIC FILENAME : ZIPWAVE_ZIPPER_LO_3500K_CEILING COVEDIFFUSELENS_032717.IES

POLAR GRAPH



Maximum Candela = 652 Located At Horizontal Angle = 0, Vertical Angle = 110

1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

2 - Horizontal Cone Through Vertical Angle (110) (Through Max. Cd.)