

**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.



## DoubleBox LED - Zipper board™ with Diffuse Lens (up and down), High Output

DoubleBox LED, 48", 3500K, Zipper board with diffuse lens (up and down), high output  
107-DB-X-4-48-X-X-X-X-X-Z-HO-35-11-X-X-X

	2700K	3000K	3500K	4000K
Efficacy - Lumens per Watt	80	83	87	90
Total Lumens, 4' rail length (1219mm)	8415	8781	9147	9513
Lumens per foot (305mm)	2104	2195	2287	2378
Uplight Lumens per foot (305mm)	1158	1209	1259	1310
Downlight Lumens per foot (305mm)	945	987	1028	1069
Input Power (W), 4' rail length (1219mm)	106.1	106.1	106.1	106.1
Watts per foot (305mm)	26.6	26.6	26.6	26.6
CRI (>80min., 85 avg.)	-	-	-	-



**IES INDOOR REPORT**

**PHOTOMETRIC FILENAME : DOUBLEBOX\_ZIPPER\_HO\_DIFFUSELENSUP-DIFFUSELENSDOWN\_3500K\_032717.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [TEST] L031700415 (USED TO PREPARE REPORT FOR HIGH OUTPUT RATING)  
 [TESTLAB] LIGHT LABORATORY, INC.  
 [ISSUEDATE] 3/20/2017 (ORIGINAL REPORT)  
 [MANUFAC] VODE LIGHTING  
 [LUMCAT] 107-DB-48-Z-HO-35-11-AL  
 [LUMINAIRE] DOUBLEBOX LED, 48", 3500K, ZIPPER BOARD,  
 [MORE] DIFFUSE LENS UP/DIFFUSE LENS DOWN, HIGH OUTPUT (1400MA)  
 [LAMPPOSITION] 0,0  
 [LAMPCAT] N/A  
 [OTHER] DATA FROM ORIGINAL REPORT FACTORED FOR HIGH OUTPUT RATING  
 [MORE] USING 1.84 LUMEN MULTIPLIER  
 [MORE] INPUT WATTAGE BASED ON 107 SERIES LUMINAIRE HO TEST (L031700404)  
 [TEST PROCEDURE] IESNA:LM-79-08

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9147
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	86
Total Luminaire Watts	106.12
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.08 ft
Luminous Width (90-270)	3.77 ft
Luminous Height	0.21 ft

**LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	11236	16470	51062
55	6455	10275	42593
65	3419	5823	34252
75	1526	2637	25603
85	267	531	16097

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**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>
<b>0</b>	1972.48	1972.48	1972.48	1972.48	1972.48	1972.48	1972.48	1972.48	1972.48	1972.48
<b>5</b>	1955.92	1954.08	1954.08	1952.24	1952.24	1952.24	1952.24	1952.24	1952.24	1952.24
<b>10</b>	1906.24	1904.40	1904.40	1904.40	1904.40	1906.24	1908.08	1908.08	1908.08	1908.08
<b>15</b>	1825.28	1821.60	1823.44	1823.44	1827.12	1827.12	1827.12	1830.80	1836.32	1841.84
<b>20</b>	1709.36	1705.68	1707.52	1711.20	1711.20	1716.72	1722.24	1727.76	1736.96	1742.48
<b>25</b>	1560.32	1558.48	1562.16	1564.00	1569.52	1576.88	1584.24	1598.96	1604.48	1611.84
<b>30</b>	1385.52	1385.52	1389.20	1394.72	1402.08	1411.28	1426.00	1437.04	1451.76	1464.64
<b>35</b>	1194.16	1194.16	1197.84	1207.04	1216.24	1230.96	1247.52	1262.24	1278.80	1297.20
<b>40</b>	995.44	997.28	1002.80	1012.00	1026.72	1041.44	1058.00	1080.08	1102.16	1122.40
<b>45</b>	807.76	809.60	816.96	826.16	839.04	853.76	875.84	897.92	920.00	945.76
<b>50</b>	636.64	638.48	645.84	656.88	667.92	682.64	704.72	724.96	748.88	772.80
<b>55</b>	493.12	494.96	500.48	511.52	518.88	533.60	552.00	570.40	594.32	612.72
<b>60</b>	369.84	371.68	377.20	382.72	388.24	399.28	412.16	430.56	452.64	474.72
<b>65</b>	268.64	270.48	272.32	270.48	276.00	285.20	296.24	310.96	329.36	349.60
<b>70</b>	185.84	185.84	182.16	182.16	189.52	195.04	202.40	213.44	228.16	242.88
<b>75</b>	119.60	114.08	115.92	117.76	119.60	123.28	126.96	132.48	143.52	154.56
<b>80</b>	68.08	62.56	64.40	64.40	66.24	68.08	69.92	73.60	77.28	82.80
<b>85</b>	20.24	20.24	22.08	22.08	22.08	22.08	23.92	23.92	27.60	29.44
<b>90</b>	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84
<b>95</b>	16.56	18.40	16.56	16.56	16.56	16.56	16.56	18.40	22.08	27.60
<b>100</b>	73.60	69.92	68.08	71.76	73.60	77.28	82.80	93.84	106.72	128.80
<b>105</b>	189.52	174.80	180.32	185.84	191.36	198.72	204.24	213.44	226.32	237.36
<b>110</b>	336.72	329.36	316.48	318.32	327.52	334.88	340.40	347.76	356.96	368.00
<b>115</b>	491.28	491.28	482.08	471.04	471.04	478.40	485.76	494.96	504.16	517.04
<b>120</b>	655.04	655.04	655.04	649.52	642.16	642.16	647.68	649.52	666.08	675.28
<b>125</b>	826.16	826.16	828.00	829.84	831.68	831.68	837.20	839.04	846.40	850.08
<b>130</b>	1004.64	1004.64	1004.64	1006.48	1008.32	1010.16	1013.84	1017.52	1021.20	1021.20
<b>135</b>	1183.12	1183.12	1183.12	1183.12	1184.96	1186.80	1188.64	1194.16	1196.00	1199.68
<b>140</b>	1354.24	1354.24	1352.40	1352.40	1356.08	1359.76	1359.76	1363.44	1367.12	1368.96
<b>145</b>	1518.00	1516.16	1516.16	1518.00	1518.00	1519.84	1523.52	1523.52	1525.36	1527.20
<b>150</b>	1665.20	1663.36	1663.36	1663.36	1663.36	1665.20	1668.88	1668.88	1670.72	1672.56
<b>155</b>	1795.84	1792.16	1794.00	1792.16	1792.16	1794.00	1794.00	1799.52	1797.68	1799.52
<b>160</b>	1902.56	1900.72	1900.72	1902.56	1900.72	1900.72	1902.56	1904.40	1906.24	1908.08
<b>165</b>	1989.04	1987.20	1985.36	1987.20	1987.20	1985.36	1985.36	1987.20	1989.04	1989.04
<b>170</b>	2051.60	2049.76	2047.92	2047.92	2047.92	2047.92	2049.76	2047.92	2047.92	2047.92
<b>175</b>	2088.40	2088.40	2086.56	2086.56	2084.72	2084.72	2084.72	2084.72	2084.72	2084.72
<b>180</b>	2099.44	2099.44	2099.44	2099.44	2099.44	2099.44	2099.44	2099.44	2099.44	2099.44

**Vert. Angles 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>
<b>0</b>	1972.48	1972.48	1972.48	1972.48	1972.48	1972.48	1972.48	1972.48	1972.48
<b>5</b>	1952.24	1952.24	1954.08	1954.08	1955.92	1955.92	1957.76	1957.76	1959.60
<b>10</b>	1909.92	1913.60	1917.28	1915.44	1917.28	1917.28	1919.12	1920.96	1922.80
<b>15</b>	1843.68	1843.68	1847.36	1851.04	1856.56	1856.56	1858.40	1860.24	1863.92
<b>20</b>	1746.16	1751.68	1759.04	1760.88	1766.40	1773.76	1773.76	1773.76	1777.44
<b>25</b>	1624.72	1633.92	1639.44	1648.64	1652.32	1657.84	1663.36	1665.20	1670.72
<b>30</b>	1477.52	1492.24	1503.28	1512.48	1523.52	1529.04	1538.24	1538.24	1545.60
<b>35</b>	1313.76	1334.00	1346.88	1361.60	1370.80	1380.00	1389.20	1391.04	1396.56
<b>40</b>	1142.64	1162.88	1179.44	1196.00	1207.04	1221.76	1227.28	1230.96	1232.80
<b>45</b>	966.00	989.92	1010.16	1024.88	1039.60	1054.32	1061.68	1067.20	1069.04
<b>50</b>	796.72	820.64	840.88	859.28	874.00	883.20	890.56	896.08	903.44
<b>55</b>	636.64	656.88	677.12	699.20	701.04	713.92	730.48	734.16	739.68
<b>60</b>	496.80	517.04	537.28	553.84	561.20	574.08	586.96	588.80	588.80

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**CANDELA TABULATION - (Cont.)**

<b>65</b>	371.68	388.24	404.80	419.52	432.40	441.60	445.28	447.12	454.48
<b>70</b>	259.44	276.00	290.72	301.76	312.80	322.00	325.68	329.36	331.20
<b>75</b>	167.44	182.16	191.36	202.40	209.76	215.28	222.64	224.48	224.48
<b>80</b>	92.00	101.20	106.72	114.08	132.48	139.84	139.84	139.84	141.68
<b>85</b>	31.28	34.96	40.48	44.16	49.68	55.20	58.88	62.56	64.40
<b>90</b>	1.84	1.84	1.84	1.84	1.84	1.84	3.68	5.52	5.52
<b>95</b>	33.12	42.32	49.68	55.20	66.24	73.60	73.60	79.12	80.96
<b>100</b>	130.64	149.04	161.92	161.92	165.60	167.44	167.44	171.12	172.96
<b>105</b>	248.40	261.28	270.48	274.16	276.00	277.84	279.68	279.68	279.68
<b>110</b>	377.20	390.08	397.44	399.28	402.96	406.64	404.80	404.80	410.32
<b>115</b>	528.08	533.60	539.12	539.12	539.12	540.96	540.96	542.80	548.32
<b>120</b>	684.48	677.12	691.84	693.68	686.32	677.12	673.44	680.80	682.64
<b>125</b>	853.76	855.60	859.28	861.12	859.28	861.12	862.96	862.96	859.28
<b>130</b>	1024.88	1028.56	1030.40	1032.24	1032.24	1034.08	1034.08	1034.08	1034.08
<b>135</b>	1199.68	1203.36	1203.36	1203.36	1207.04	1208.88	1208.88	1208.88	1210.72
<b>140</b>	1370.80	1372.64	1374.48	1374.48	1376.32	1380.00	1380.00	1380.00	1380.00
<b>145</b>	1530.88	1536.40	1534.56	1536.40	1536.40	1538.24	1541.92	1540.08	1543.76
<b>150</b>	1674.40	1678.08	1679.92	1679.92	1683.60	1683.60	1689.12	1685.44	1690.96
<b>155</b>	1805.04	1805.04	1803.20	1806.88	1806.88	1808.72	1810.56	1810.56	1814.24
<b>160</b>	1908.08	1908.08	1909.92	1909.92	1909.92	1915.44	1913.60	1913.60	1919.12
<b>165</b>	1989.04	1989.04	1989.04	1990.88	1994.56	1994.56	1994.56	1996.40	2000.08
<b>170</b>	2047.92	2049.76	2051.60	2051.60	2049.76	2051.60	2051.60	2053.44	2055.28
<b>175</b>	2084.72	2084.72	2084.72	2084.72	2086.56	2086.56	2086.56	2088.40	2090.24
<b>180</b>	2099.44	2099.44	2099.44	2099.44	2099.44	2099.44	2099.44	2099.44	2099.44

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	702.83	N.A.	7.70
0-30	1443.85	N.A.	15.80
0-40	2252.74	N.A.	24.60
0-60	3533.2	N.A.	38.60
0-80	4064.99	N.A.	44.40
0-90	4110.45	N.A.	44.90
10-90	3925.24	N.A.	42.90
20-40	1549.91	N.A.	16.90
20-50	2277.04	N.A.	24.90
40-70	1635.39	N.A.	17.90
60-80	531.79	N.A.	5.80
70-80	176.86	N.A.	1.90
80-90	45.46	N.A.	0.50
90-110	306.25	N.A.	3.30
90-120	815.52	N.A.	8.90
90-130	1571.6	N.A.	17.20
90-150	3449.16	N.A.	37.70
90-180	5036.56	N.A.	55.10
110-180	4730.32	N.A.	51.70
0-180	9147.01	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	185.21
10-20	517.62
20-30	741.03
30-40	808.88
40-50	727.13
50-60	553.33
60-70	354.93
70-80	176.86
80-90	45.46
90-100	54.33
100-110	251.91
110-120	509.28
120-130	756.07
130-140	922.84
140-150	954.73
150-160	828.65
160-170	560.77
170-180	197.98

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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

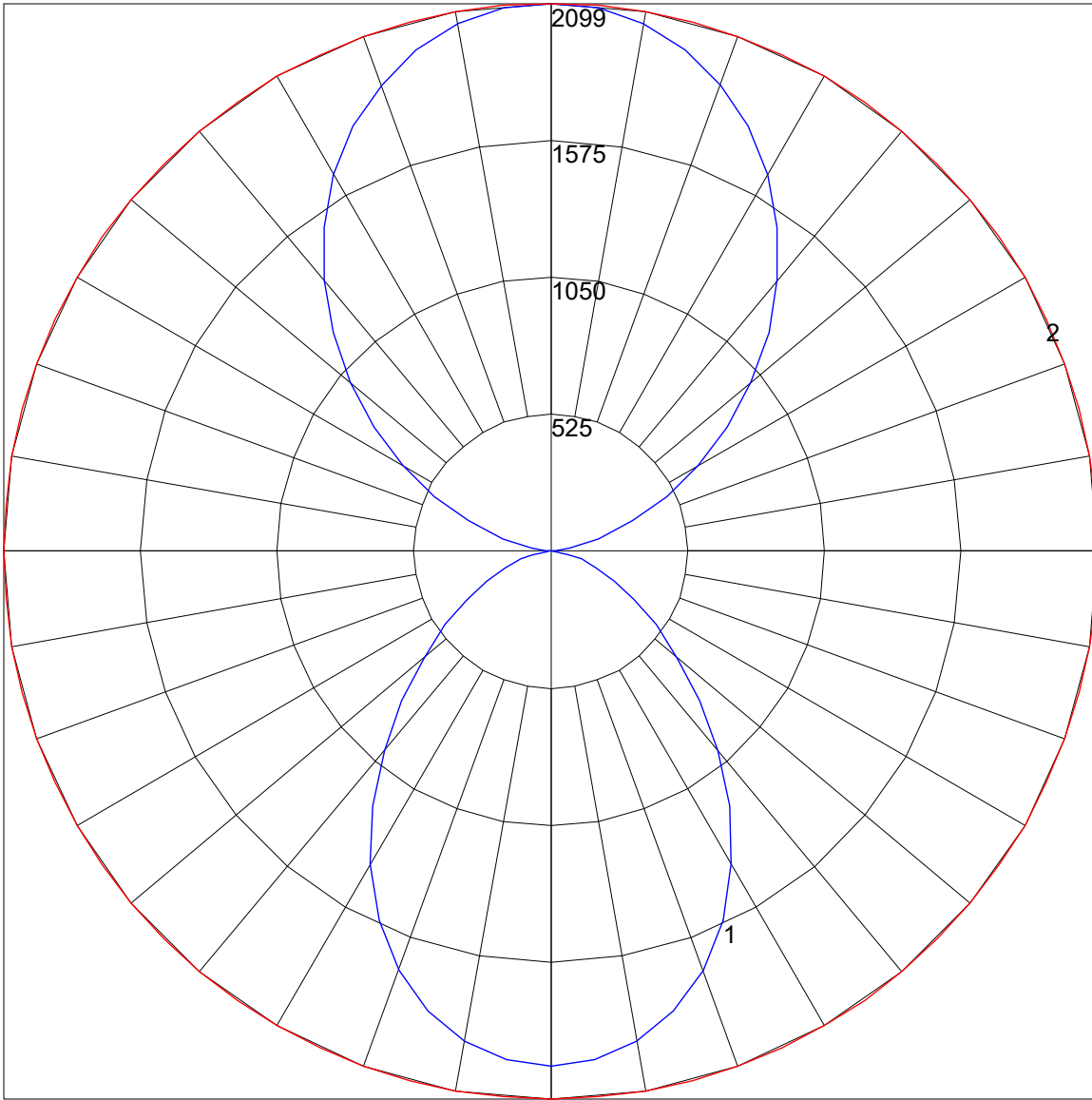
Effective Floor Cavity Reflectance 0.20

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	106	106	106	106	97	97	97	97	81	81	81	65	65	65	51	51	51	45
1	97	93	89	86	89	85	82	80	71	69	67	58	57	55	46	45	44	39
2	89	82	76	71	81	75	70	66	63	59	56	52	49	47	41	40	38	33
3	81	72	65	60	74	67	61	56	56	52	48	46	43	40	37	35	33	29
4	75	64	57	51	68	59	53	48	50	45	41	41	38	35	33	31	29	25
5	69	58	50	44	63	53	46	41	45	40	36	37	34	31	30	28	25	22
6	63	52	44	38	58	48	41	36	41	35	32	34	30	27	28	25	23	20
7	59	47	39	34	54	43	37	32	37	32	28	31	27	24	25	23	20	18
8	55	43	35	30	50	40	33	28	34	29	25	28	25	22	23	21	18	16
9	51	39	32	27	47	36	30	25	31	26	22	26	22	20	22	19	17	14
10	48	36	29	24	44	33	27	23	29	24	20	24	20	18	20	17	15	13

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POLAR GRAPH



Maximum Candela = 2099.44 Located At Horizontal Angle = 0, Vertical Angle = 180

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

# 2 - Horizontal Cone Through Vertical Angle (180) (Through Max. Cd.)