

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: INVUE

Report Number: P149934

Luminaire Tested: **VWM-F02-LED-E1-SL2-7030**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P149934  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33678)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 03/03/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: VWM-F02-LED-E1-SL2-7030  
Description: VISION WALL MEDIUM LED LUMINAIRE  
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 2 W/ SPILL LIGHT CONTROL  
Light Source: (14) 3000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4607.1 lumens  
Efficiency: N/A  
Efficacy: 83.8 lumens/watt  
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')  
IES Classification: Type II - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G1

Input Watts (W): 55  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

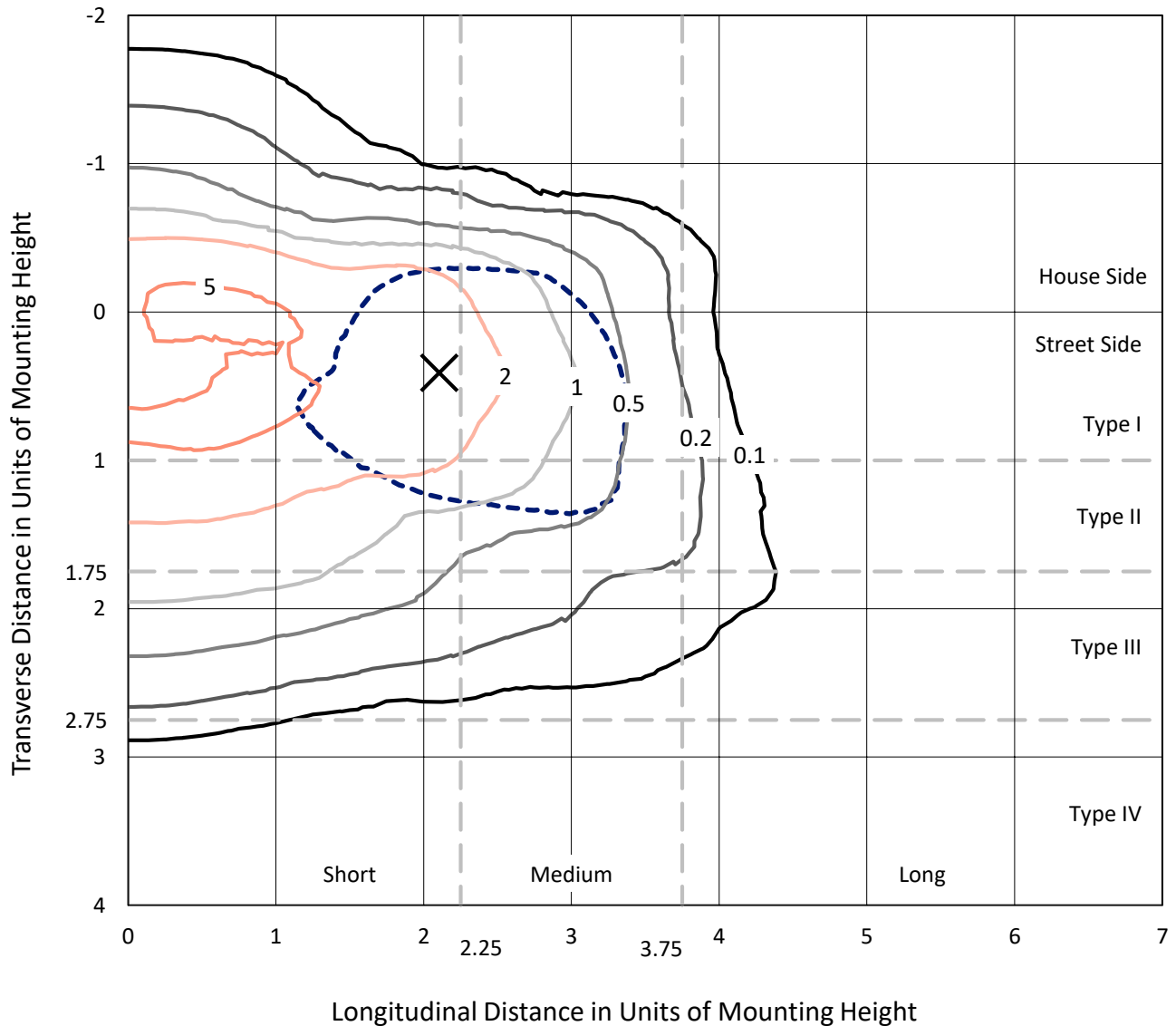


REPORT NUMBER: P149934

CATALOG NUMBER: VWM-F02-LED-E1-SL2-7030

### Iso-Footcandle Lines of Horizontal Illumination

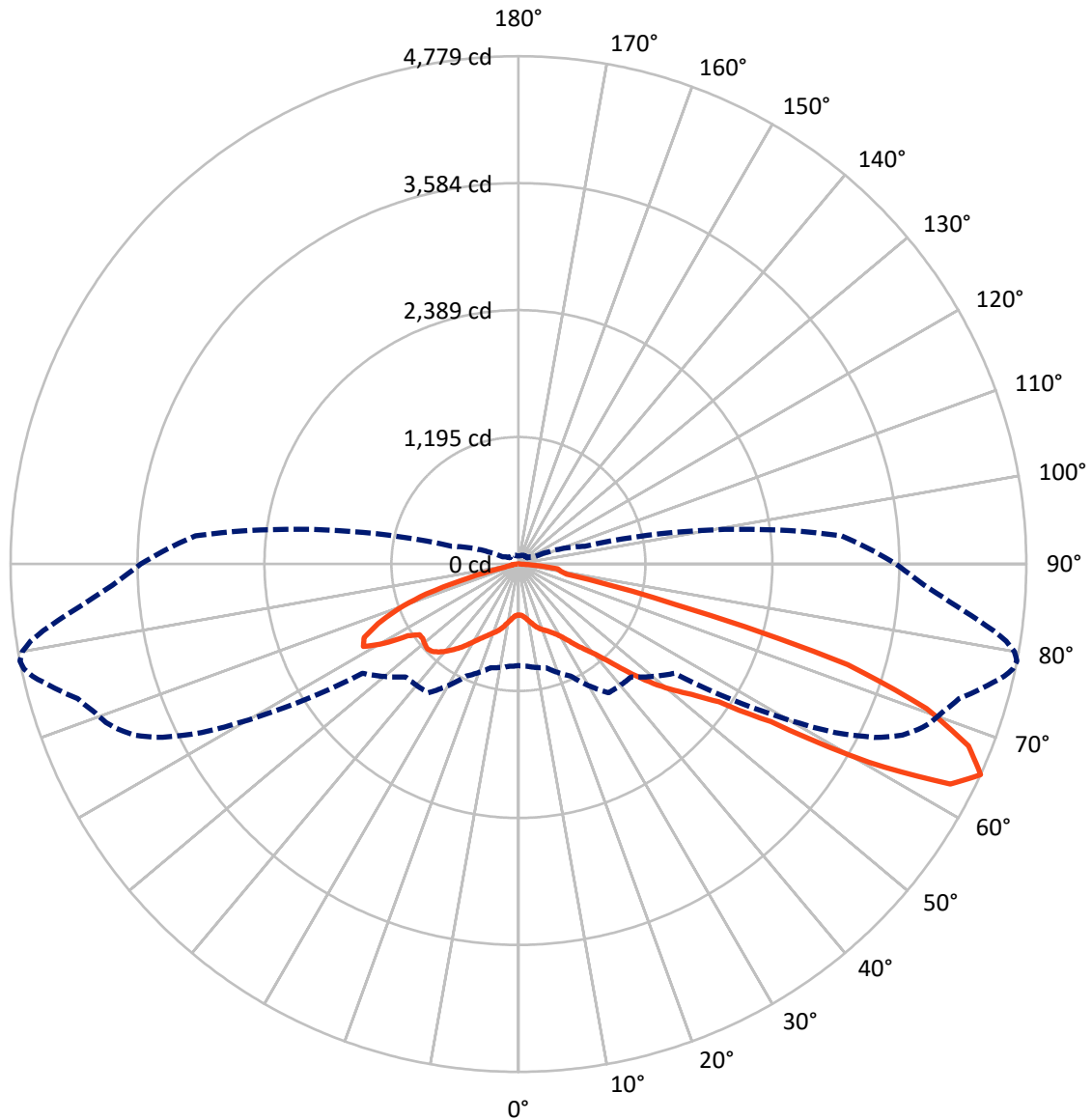
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.3 fc  
 Type II - Short - Non-Cutoff

REPORT NUMBER: P149934  
CATALOG NUMBER: VWM-F02-LED-E1-SL2-7030

### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral      - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P149934

CATALOG NUMBER: VWM-F02-LED-E1-SL2-7030

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1089.1	0.0	1089.1
	% Fixture	23.6	0.0	23.6
<b>Street Side</b>	Lumens	3518.0	0.0	3518.0
	% Fixture	76.4	0.0	76.4
<b>Total</b>	Lumens	4607.1	0.0	4607.1
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.7	1.0
10°-20°	155.9	3.4
20°-30°	269.2	5.8
30°-40°	445.6	9.7
40°-50°	755.8	16.4
50°-60°	1004.2	21.8
60°-70°	1297.2	28.2
70°-80°	544.0	11.8
80°-90°	87.4	1.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	4607.1	100.0
0°-180°	4607.1	100.0



REPORT NUMBER: P149934

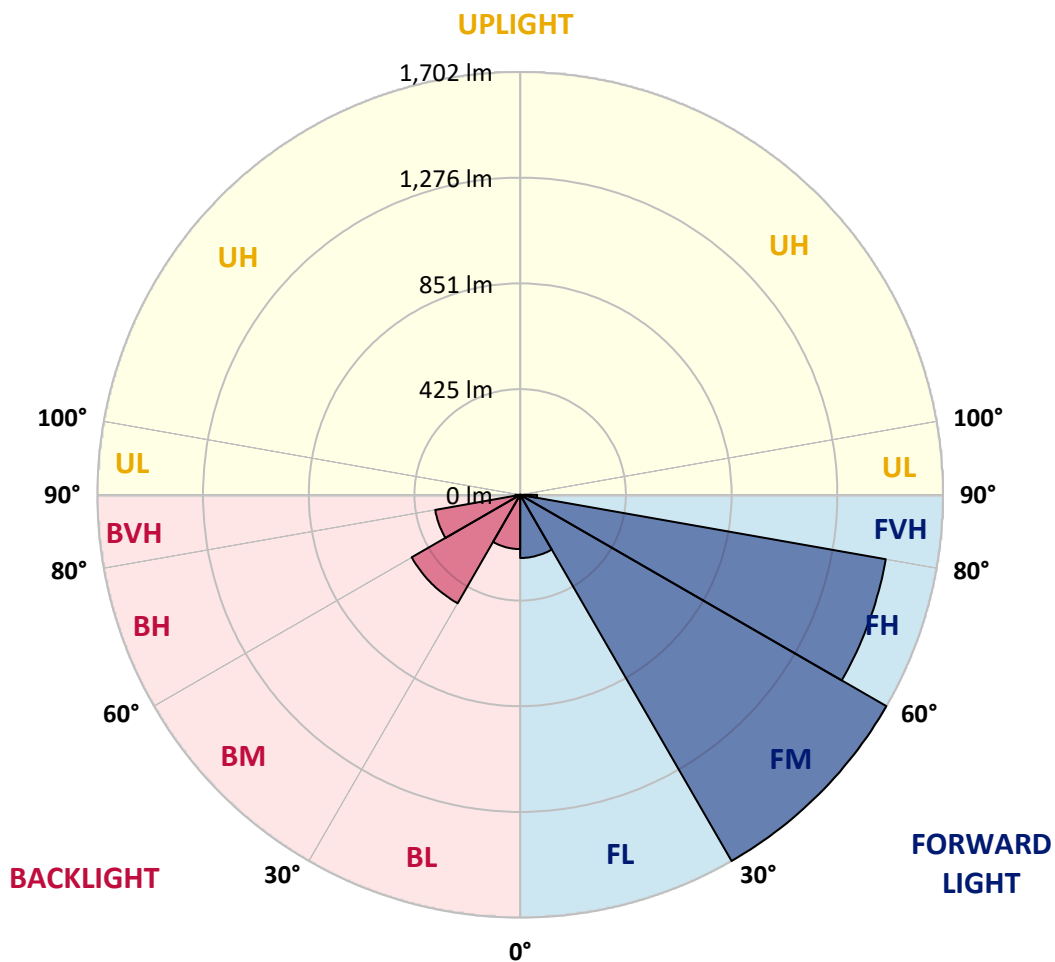
CATALOG NUMBER: VWM-F02-LED-E1-SL2-7030

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	254.2	5.5			
FM	(30°-60°)	1701.5	36.9			
FH	(60°-80°)	1493.9	32.4			G1/1800
FVH	(80°-90°)	68.3	1.5			G1/100
BL	(0°-30°)	218.6	4.7	B1/500		
BM	(30°-60°)	504.1	10.9	B1/1000		
BH	(60°-80°)	347.3	7.5	B1/500		G1/500
BVH	(80°-90°)	19.1	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type II Short





REPORT NUMBER: P149934

CATALOG NUMBER: VWM-F02-LED-E1-SL2-7030

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	64°
0°	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5
2.5°	478.0	479.5	478.5	479.5	480.5	481.0	482.1	481.6	481.6	482.1	481.0
5°	478.0	478.0	479.5	482.1	483.1	486.1	489.6	489.1	489.6	489.1	490.1
7.5°	488.1	487.6	489.1	492.1	493.1	497.6	503.7	504.7	505.7	505.7	507.2
10°	505.7	505.2	506.7	508.2	509.7	513.2	521.8	525.3	525.8	526.3	528.3
12.5°	527.8	527.3	525.3	525.3	524.8	531.3	542.9	549.4	550.4	552.4	553.9
15°	543.4	541.9	538.9	536.8	539.4	549.9	567.0	574.5	575.5	577.1	581.1
17.5°	558.5	556.9	550.4	545.4	548.9	566.0	589.1	597.2	599.2	600.7	605.2
20°	579.6	578.6	569.0	556.9	555.9	578.1	606.2	616.8	618.3	620.3	624.8
22.5°	611.7	607.2	596.2	573.5	562.5	585.1	618.3	632.9	634.9	636.9	642.9
25°	652.0	649.9	630.8	596.2	573.0	592.1	631.3	649.4	652.5	655.0	663.0
27.5°	693.7	690.7	670.0	624.8	591.6	606.2	652.0	672.6	676.6	680.6	688.1
30°	730.9	729.9	712.8	663.5	621.8	632.9	685.1	710.3	714.8	719.8	726.8
32.5°	818.3	818.8	801.2	751.0	694.7	681.1	732.9	770.6	772.6	778.6	791.2
35°	985.7	987.7	981.2	941.5	878.2	822.4	827.4	864.6	866.6	871.6	883.7
37.5°	1097.8	1101.8	1121.9	1134.5	1102.3	1076.7	1012.9	998.3	999.8	996.8	994.3
40°	1159.6	1165.7	1218.5	1283.8	1319.0	1319.5	1291.8	1227.5	1202.9	1195.8	1165.7
42.5°	1194.8	1204.9	1279.8	1391.4	1492.4	1561.8	1578.9	1507.5	1489.4	1457.2	1399.4
45°	1218.0	1230.0	1318.5	1471.3	1620.1	1738.2	1827.2	1795.5	1783.4	1763.8	1710.6
47.5°	1213.9	1223.5	1315.5	1498.4	1686.9	1854.8	2012.7	2045.3	2030.8	2025.7	1989.5
50°	1140.5	1149.1	1242.6	1431.1	1650.2	1899.1	2130.3	2222.8	2222.8	2232.3	2221.3
52.5°	1062.1	1069.2	1154.1	1323.5	1531.6	1855.8	2195.6	2348.9	2369.0	2385.6	2411.8
55°	1032.5	1041.0	1105.4	1250.1	1430.6	1732.2	2217.7	2443.4	2480.6	2508.8	2568.1
57.5°	1046.5	1055.1	1100.8	1210.4	1371.3	1606.0	2218.8	2570.6	2642.5	2700.3	2820.4
60°	1107.4	1115.4	1153.6	1247.1	1355.7	1533.1	2176.0	2773.2	2887.8	2996.4	3196.4
62.5°	1079.2	1089.3	1145.1	1307.9	1471.8	1477.8	2021.7	2930.0	3114.5	3274.8	3593.0
65°	956.1	966.6	1010.4	1162.7	1478.8	1502.0	1793.0	2933.0	3162.2	3378.9	3722.2
67.5°	725.8	729.9	764.5	886.7	1182.8	1528.6	1557.8	2585.7	2803.9	3045.6	3400.0
70°	371.0	378.0	388.1	489.6	761.5	1263.2	1338.6	1905.6	2183.6	2433.4	2859.1
72.5°	128.7	131.2	141.2	187.0	371.0	828.9	1171.7	1305.9	1473.8	1707.5	2200.7
75°	77.4	77.4	80.9	94.5	169.4	431.8	1042.5	1066.6	1089.3	1167.7	1490.4
77.5°	61.3	62.3	62.3	64.8	94.0	221.7	791.7	991.8	994.8	1002.3	1056.6
80°	43.7	45.7	49.8	51.8	60.8	121.6	444.4	870.6	929.9	958.6	998.3
82.5°	32.7	34.7	42.2	44.7	47.3	67.9	199.6	600.7	708.8	766.1	905.8
85°	14.6	17.1	28.7	31.7	33.2	36.2	93.5	170.9	196.5	220.7	291.0
87.5°	2.5	2.5	4.5	6.5	9.6	9.0	20.6	29.2	29.7	34.7	38.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P149934

CATALOG NUMBER: VWM-F02-LED-E1-SL2-7030

**CANDELA DISTRIBUTION (continued):**

	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°	75°
0°	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5
2.5°	481.0	481.0	481.0	480.5	481.0	481.0	481.0	481.0	481.6	481.6	481.6
5°	491.6	490.6	491.1	491.1	491.1	490.6	491.6	491.1	491.6	493.1	492.6
7.5°	507.2	508.2	508.7	509.2	509.2	509.2	509.7	510.7	510.7	512.2	511.7
10°	530.3	529.8	530.3	531.8	533.3	533.8	535.3	534.8	535.8	537.8	539.9
12.5°	554.9	555.9	557.5	559.0	561.5	562.0	563.5	564.0	567.0	567.0	569.0
15°	582.6	583.1	586.1	586.6	589.6	590.6	593.1	594.1	597.7	598.2	600.2
17.5°	607.7	608.7	610.2	611.7	615.3	616.8	618.8	620.8	623.8	624.8	628.3
20°	627.8	629.8	630.3	633.4	636.4	638.4	640.4	642.4	645.4	646.9	650.4
22.5°	645.9	647.9	649.4	652.0	654.0	657.0	658.0	661.5	664.5	667.0	670.0
25°	665.5	668.5	670.0	674.6	676.1	679.1	681.6	685.1	689.2	692.2	696.2
27.5°	693.2	697.7	699.7	704.7	708.3	709.8	713.8	718.8	722.3	725.8	729.9
30°	731.4	739.9	741.4	744.9	751.5	752.5	757.5	761.5	767.1	770.6	774.1
32.5°	790.7	801.2	802.2	806.3	811.8	813.8	817.8	822.4	830.9	832.4	837.9
35°	881.7	886.2	890.2	891.7	896.2	898.8	901.8	906.8	915.3	914.3	920.4
37.5°	990.7	992.3	992.8	987.7	988.7	984.2	989.7	990.7	993.8	996.3	1002.3
40°	1146.6	1131.0	1129.0	1116.9	1104.9	1098.3	1095.8	1085.8	1088.3	1089.3	1094.3
42.5°	1374.3	1344.1	1319.0	1301.9	1272.2	1257.7	1238.1	1222.5	1210.4	1214.9	1216.9
45°	1662.8	1619.6	1579.4	1527.1	1488.4	1460.7	1426.1	1394.9	1380.8	1374.3	1382.3
47.5°	1950.8	1912.6	1865.4	1811.6	1750.3	1704.5	1646.7	1596.0	1560.8	1547.7	1554.7
50°	2199.7	2164.5	2128.8	2097.1	2025.7	1976.0	1897.0	1831.2	1775.9	1747.8	1740.2
52.5°	2406.2	2387.6	2368.5	2341.9	2284.6	2234.8	2172.0	2107.2	2033.8	1976.5	1956.9
55°	2590.7	2601.8	2592.2	2592.7	2570.1	2538.4	2485.2	2436.9	2385.6	2320.8	2293.6
57.5°	2859.6	2925.0	2938.1	2970.7	2986.8	3003.9	3019.0	2990.3	2977.3	2929.0	2929.5
60°	3283.4	3378.9	3461.8	3537.2	3599.1	3659.4	3722.7	3750.9	3782.0	3796.6	3846.4
62.5°	3734.3	3825.3	3948.9	4050.0	4106.8	4185.2	4254.0	4298.8	4353.6	4411.9	4487.8
65°	3845.9	3955.4	4033.4	4100.7	4157.0	4198.7	4236.4	4289.7	4335.5	4428.0	4517.4
67.5°	3559.9	3647.3	3718.7	3785.0	3828.8	3864.0	3897.6	3932.8	4011.2	4095.2	4185.2
70°	3055.7	3161.2	3279.4	3365.3	3386.9	3417.1	3449.3	3495.0	3534.2	3622.2	3690.5
72.5°	2455.0	2606.8	2706.8	2826.0	2851.6	2897.3	2915.4	2951.1	2958.2	3005.9	3024.0
75°	1711.1	1885.0	1985.5	2073.0	2090.1	2064.9	2075.0	1948.8	1916.7	1890.5	1869.4
77.5°	1129.5	1176.2	1192.3	1178.2	1110.9	1058.1	1001.8	946.5	952.5	907.8	829.4
80°	1004.3	1014.9	1000.3	986.2	947.5	892.2	841.5	789.7	764.0	736.9	696.7
82.5°	977.2	1017.9	1022.4	1005.3	974.7	914.3	853.0	776.1	710.8	650.4	589.1
85°	326.7	397.6	429.3	458.9	468.0	478.5	442.3	393.1	333.8	294.1	230.2
87.5°	41.7	51.8	59.8	51.3	59.8	70.4	50.8	56.8	57.3	35.7	26.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





REPORT NUMBER: P149934

CATALOG NUMBER: VWM-F02-LED-E1-SL2-7030

**CANDELA DISTRIBUTION (continued):**

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°
0°	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5
2.5°	482.1	481.6	481.6	481.6	481.0	481.6	481.6	481.6	481.6	481.6	481.0
5°	493.1	493.1	494.6	495.1	494.1	493.6	494.1	494.6	494.6	494.1	494.6
7.5°	513.7	514.2	515.2	516.7	515.7	516.2	516.7	516.2	517.7	518.2	517.7
10°	539.9	540.9	543.4	543.9	543.4	545.4	545.9	544.9	545.9	545.9	547.9
12.5°	570.0	571.0	574.0	575.0	576.1	576.6	578.1	578.6	580.1	581.1	582.6
15°	602.7	603.7	605.7	609.2	610.2	611.2	612.2	615.3	615.8	617.8	619.3
17.5°	630.3	631.8	634.9	637.4	638.9	641.4	642.4	645.9	646.9	649.9	652.5
20°	652.5	655.0	657.5	660.5	663.0	666.0	667.0	670.6	672.6	674.1	677.1
22.5°	672.6	675.6	679.1	682.6	684.6	688.6	690.2	691.7	696.2	698.2	701.2
25°	698.7	701.7	705.7	710.3	712.3	717.3	718.8	721.3	726.3	728.4	732.9
27.5°	734.4	738.4	741.4	746.0	748.5	752.0	755.5	758.5	763.0	766.1	771.1
30°	779.1	782.1	787.2	790.7	794.7	799.7	803.8	806.8	809.3	813.8	819.3
32.5°	845.0	845.5	847.0	855.5	859.6	863.6	869.1	871.6	875.6	880.2	886.2
35°	926.9	931.4	935.0	939.0	943.5	948.0	950.0	957.6	961.1	967.1	973.2
37.5°	1008.3	1008.8	1016.9	1019.4	1023.4	1027.9	1035.0	1042.5	1051.6	1057.6	1067.2
40°	1095.8	1099.8	1109.9	1114.9	1119.9	1131.0	1136.5	1148.6	1163.7	1172.2	1188.3
42.5°	1222.5	1228.5	1246.6	1254.6	1266.7	1284.8	1296.4	1313.0	1319.0	1339.6	1347.1
45°	1388.4	1407.0	1433.1	1450.2	1471.8	1491.4	1501.5	1509.0	1518.0	1534.1	1532.1
47.5°	1567.8	1591.9	1621.1	1656.3	1670.3	1693.5	1706.5	1721.1	1713.1	1709.1	1705.0
50°	1751.8	1779.9	1818.6	1850.3	1871.9	1886.0	1897.0	1895.0	1877.9	1868.9	1843.8
52.5°	1956.4	1972.9	2009.6	2036.8	2049.9	2052.9	2050.4	2035.3	2019.2	1990.5	1960.9
55°	2270.0	2262.5	2277.1	2289.6	2285.6	2299.7	2263.5	2249.4	2209.7	2172.5	2132.8
57.5°	2907.4	2917.5	2836.0	2799.3	2792.8	2805.9	2742.0	2734.0	2638.0	2625.9	2559.1
60°	3839.3	3888.6	3824.8	3789.1	3692.6	3660.9	3589.5	3559.9	3467.9	3393.5	3299.5
62.5°	4540.0	4584.8	4611.4	4560.7	4504.4	4421.4	4313.3	4193.7	4096.2	3982.1	3882.6
65°	4603.4	4693.9	4755.2	4778.8	4739.1	4648.1	4514.9	4364.1	4214.8	4071.6	3945.9
67.5°	4307.3	4388.2	4483.2	4568.2	4573.2	4513.9	4400.3	4247.0	4074.6	3897.6	3750.4
70°	3798.6	3900.2	3983.1	4072.6	4134.9	4100.7	4043.9	3903.2	3724.2	3586.5	3417.1
72.5°	3089.4	3132.1	3152.2	3240.2	3241.2	3178.8	3138.6	3060.7	2916.4	2818.9	2689.7
75°	1804.1	1710.1	1610.0	1523.1	1452.2	1422.5	1290.8	1268.7	1180.3	1125.5	1045.0
77.5°	743.9	660.0	551.9	461.9	373.0	332.8	274.5	248.8	215.6	201.1	191.5
80°	637.9	558.5	477.0	399.1	329.7	260.4	202.6	157.3	123.7	105.1	97.5
82.5°	520.8	473.0	416.2	374.0	319.7	267.9	226.2	175.4	131.2	96.5	73.9
85°	188.0	154.3	124.2	114.1	91.0	74.9	62.8	53.8	44.2	35.2	31.2
87.5°	21.1	20.1	11.6	11.1	12.6	9.0	10.6	9.6	8.0	7.0	7.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P149934

CATALOG NUMBER: VWM-F02-LED-E1-SL2-7030

**CANDELA DISTRIBUTION (continued):**

	87°	88°	89°	90°	95°	105°	115°	125°	135°	145°	155°
0°	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5	479.5
2.5°	481.0	481.0	481.6	481.6	482.1	482.6	483.6	483.1	483.1	483.6	483.6
5°	494.6	496.1	495.6	495.6	495.6	496.1	496.6	494.6	492.6	490.6	489.6
7.5°	518.2	519.3	520.3	519.3	520.3	519.8	518.7	513.2	506.7	498.6	493.1
10°	548.9	548.9	549.9	549.4	551.4	549.9	546.9	534.3	520.3	503.2	490.6
12.5°	582.1	585.6	584.1	584.6	588.6	584.6	577.6	559.0	533.8	506.2	484.1
15°	621.3	622.8	623.8	622.3	624.8	621.3	608.7	579.1	542.4	503.7	471.0
17.5°	653.5	654.0	654.5	655.5	659.0	655.0	633.4	593.1	544.4	492.1	448.9
20°	678.6	681.1	683.1	683.1	688.1	682.1	653.5	600.2	537.8	473.0	420.7
22.5°	704.7	706.7	709.3	709.8	716.3	710.3	670.0	598.7	520.8	445.9	388.1
25°	736.9	738.9	740.9	743.4	752.5	743.9	686.6	592.6	497.1	413.7	352.9
27.5°	774.1	778.6	780.1	784.2	794.7	781.6	700.7	583.6	471.0	376.5	315.7
30°	823.9	829.4	831.4	836.9	851.5	822.9	708.8	568.0	437.8	338.8	276.0
32.5°	890.7	898.3	904.3	910.3	926.9	864.1	709.8	545.4	399.1	296.6	237.8
35°	978.2	989.7	994.3	998.3	1013.9	908.8	705.2	511.7	351.9	253.3	207.6
37.5°	1076.2	1087.8	1090.8	1092.8	1095.8	947.0	694.2	460.4	298.6	215.6	183.5
40°	1196.8	1206.9	1210.9	1207.9	1191.8	976.7	669.5	400.6	246.8	190.0	168.4
42.5°	1344.1	1359.2	1360.7	1347.1	1293.9	993.3	620.3	330.2	206.1	171.4	156.8
45°	1526.6	1525.6	1517.0	1507.5	1404.9	986.7	551.4	268.9	180.5	156.8	146.3
47.5°	1690.5	1673.4	1660.3	1632.1	1503.0	948.5	462.4	222.7	164.9	145.8	137.2
50°	1824.7	1793.5	1765.9	1735.2	1575.8	880.7	374.0	189.0	150.3	136.2	128.7
52.5°	1930.7	1893.0	1860.9	1830.7	1646.2	805.3	306.6	164.4	136.2	126.7	119.1
55°	2096.6	2058.9	2007.6	1974.5	1753.8	735.9	262.9	144.8	122.6	116.6	109.1
57.5°	2516.3	2483.2	2421.8	2335.9	2030.3	709.8	238.3	129.7	111.6	108.1	102.0
60°	3249.2	3195.4	3115.5	3028.0	2592.2	727.4	218.7	119.1	104.1	101.0	96.5
62.5°	3802.1	3707.6	3617.2	3536.2	3041.6	726.8	193.0	111.1	98.5	97.0	92.5
65°	3824.8	3728.7	3637.8	3552.8	3051.7	646.9	162.9	104.1	97.5	97.0	89.5
67.5°	3621.7	3517.6	3429.7	3322.6	2825.0	505.7	130.7	99.5	101.5	100.5	88.5
70°	3289.9	3154.2	3081.8	2976.3	2486.2	353.9	107.6	101.0	110.1	107.1	90.0
72.5°	2582.2	2479.6	2369.6	2296.2	1946.3	223.7	90.5	102.0	113.6	108.6	94.0
75°	961.1	988.7	943.5	927.4	988.7	131.2	80.4	95.0	101.5	94.0	85.5
77.5°	194.0	185.5	175.9	173.9	224.7	80.9	73.9	82.4	77.9	68.9	69.4
80°	93.0	90.5	87.5	87.0	83.4	67.4	68.4	70.4	58.8	53.3	56.8
82.5°	61.8	58.3	57.3	55.3	56.3	60.3	64.8	60.3	45.2	42.2	51.3
85°	28.7	27.6	27.1	27.1	30.2	54.3	53.8	44.2	31.2	30.2	51.3
87.5°	7.0	7.0	7.5	7.0	8.0	16.1	14.1	13.6	11.6	13.1	24.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P149934

CATALOG NUMBER: VWM-F02-LED-E1-SL2-7030

**CANDELA DISTRIBUTION (continued):**

	165°	175°	180°
0°	479.5	479.5	479.5
2.5°	483.1	483.6	483.1
5°	487.6	487.6	487.6
7.5°	487.6	486.1	485.6
10°	480.5	476.0	476.0
12.5°	468.5	460.9	459.9
15°	445.9	435.8	434.3
17.5°	417.2	403.6	401.1
20°	385.0	367.9	364.9
22.5°	349.9	330.2	328.7
25°	315.2	295.1	291.0
27.5°	276.5	256.9	254.8
30°	237.8	220.7	219.7
32.5°	205.1	194.5	192.5
35°	182.0	175.9	173.4
37.5°	166.9	162.4	161.9
40°	155.3	151.3	150.8
42.5°	145.8	142.3	141.8
45°	136.2	133.2	132.2
47.5°	126.7	123.7	123.2
50°	118.1	114.1	113.6
52.5°	110.1	106.1	105.1
55°	102.5	98.5	98.5
57.5°	96.0	92.0	91.5
60°	90.0	86.0	85.5
62.5°	85.5	80.4	79.9
65°	81.9	76.9	75.9
67.5°	79.9	73.9	72.4
70°	83.4	72.4	69.9
72.5°	83.9	70.9	67.4
75°	80.9	66.9	64.3
77.5°	70.9	59.8	57.3
80°	61.3	46.2	42.7
82.5°	58.3	37.7	32.7
85°	45.2	24.6	23.1
87.5°	25.6	13.6	11.1
90°	0.0	0.0	0.0

(END OF REPORT)