

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: P149928

Luminaire Tested: **VWM-E02-LED-E1-SL2-8030**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P149928
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-E02-LED-E1-SL2-8030
Description: VISION WALL MEDIUM LED LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 2 W/ SPILL LIGHT CONTROL
Light Source: (42) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5157 lumens
Efficiency: N/A
Efficacy: 99.0 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): 52.1
Input Voltage (V): NR
Input Current (A_{in}): 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

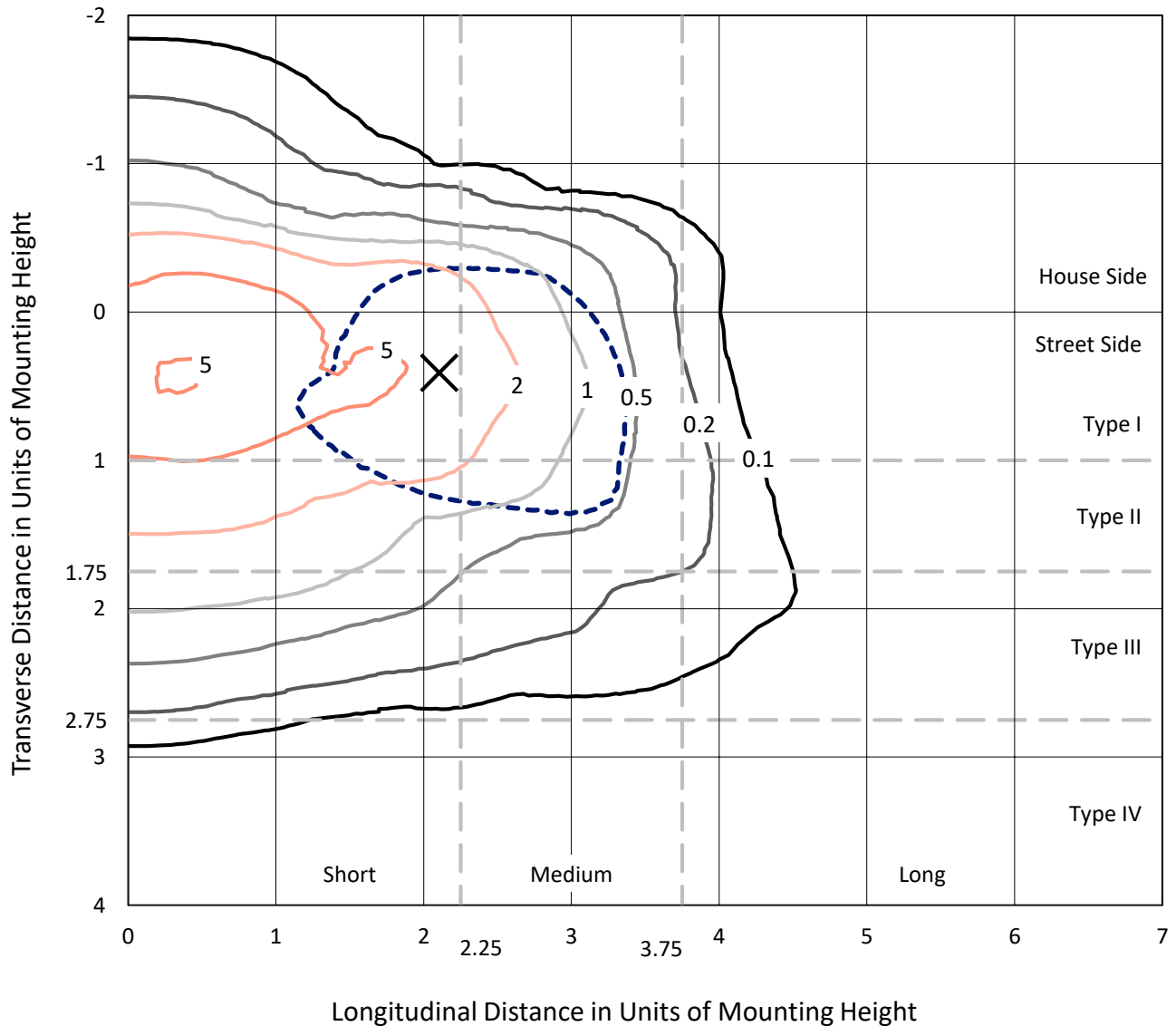


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Iso-Footcandle Lines of Horizontal Illumination

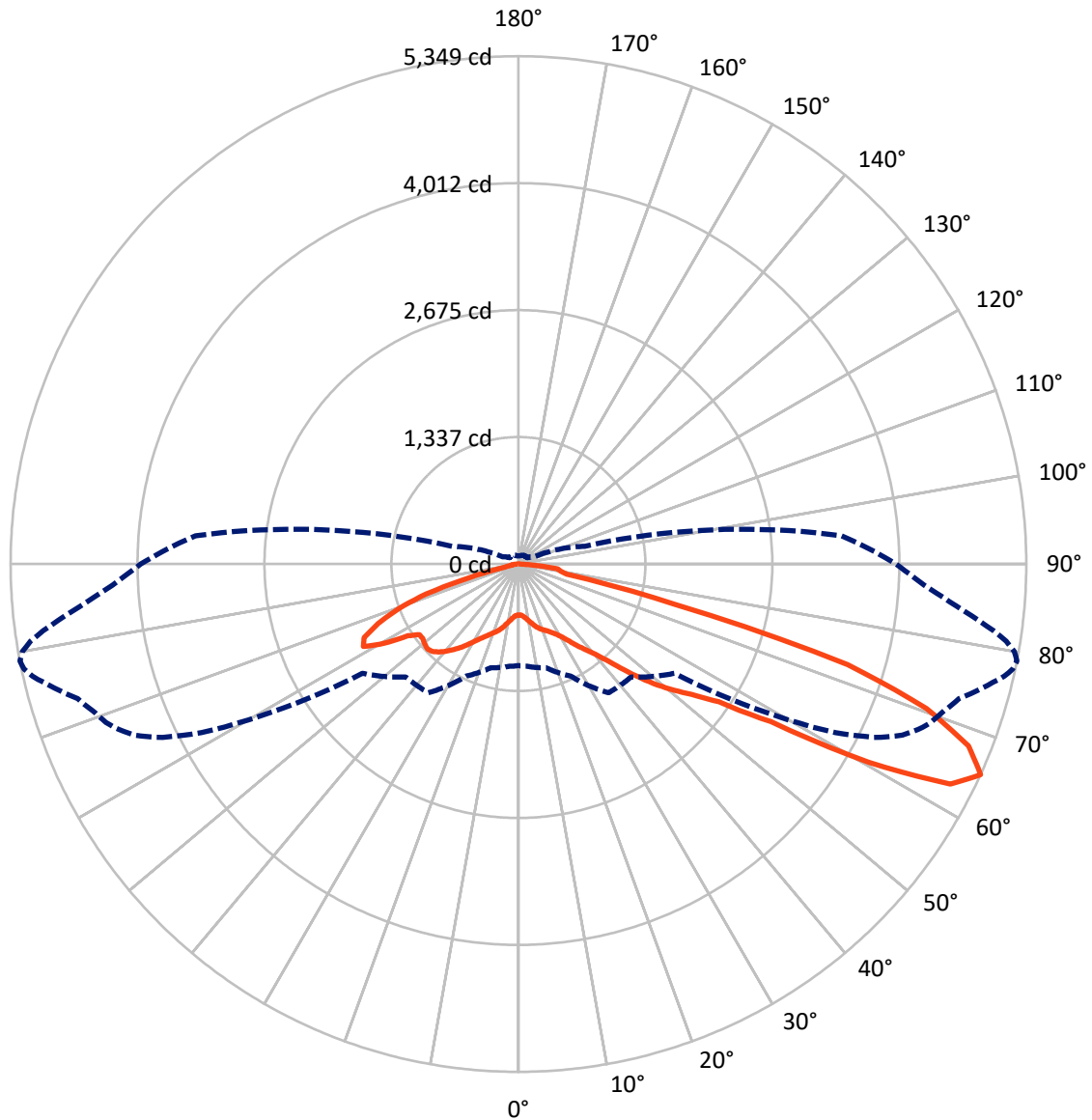
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.1 fc
 Type II - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1219.1	0.0	1219.1
	% Fixture	23.6	0.0	23.6
Street Side	Lumens	3937.9	0.0	3937.9
	% Fixture	76.4	0.0	76.4
Total	Lumens	5157.0	0.0	5157.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.4	1.0
10°-20°	174.5	3.4
20°-30°	301.4	5.8
30°-40°	498.8	9.7
40°-50°	846.0	16.4
50°-60°	1124.1	21.8
60°-70°	1452.0	28.2
70°-80°	609.0	11.8
80°-90°	97.8	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°	5157.0	100.0
0°-180°	5157.0	100.0



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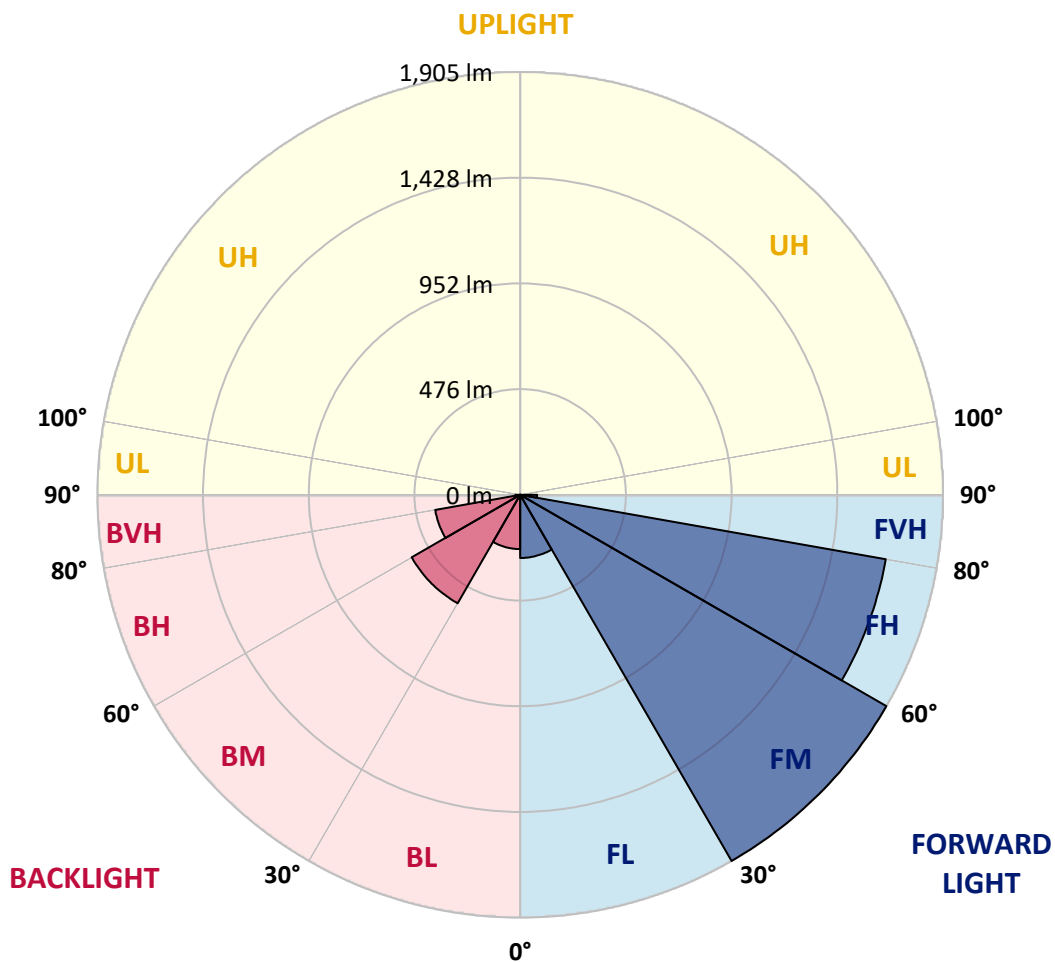
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	284.5	5.5			
FM	(30°-60°)	1904.6	36.9			
FH	(60°-80°)	1672.2	32.4			G1/1800
FVH	(80°-90°)	76.5	1.5			G1/100
BL	(0°-30°)	244.6	4.7	B1/500		
BM	(30°-60°)	564.3	10.9	B1/1000		
BH	(60°-80°)	388.8	7.5	B1/500		G1/500
BVH	(80°-90°)	21.3	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





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	64°
0°	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8
2.5°	535.1	536.8	535.7	536.8	537.9	538.5	539.6	539.0	539.0	539.6	538.5
5°	535.1	535.1	536.8	539.6	540.7	544.1	548.0	547.5	548.0	547.5	548.6
7.5°	546.3	545.8	547.5	550.8	552.0	557.0	563.8	564.9	566.0	566.0	567.7
10°	566.0	565.5	567.2	568.8	570.5	574.5	584.0	588.0	588.5	589.1	591.4
12.5°	590.8	590.2	588.0	588.0	587.4	594.7	607.7	615.0	616.1	618.4	620.1
15°	608.2	606.5	603.2	600.9	603.7	615.6	634.7	643.1	644.2	645.9	650.4
17.5°	625.1	623.4	616.1	610.5	614.4	633.6	659.4	668.4	670.7	672.4	677.4
20°	648.7	647.6	636.9	623.4	622.3	647.1	678.6	690.4	692.1	694.3	699.4
22.5°	684.8	679.7	667.3	642.0	629.6	654.9	692.1	708.4	710.6	712.9	719.6
25°	729.8	727.5	706.1	667.3	641.4	662.8	706.7	727.0	730.3	733.1	742.1
27.5°	776.5	773.1	750.0	699.4	662.3	678.6	729.8	752.8	757.3	761.8	770.3
30°	818.1	817.0	797.9	742.7	696.0	708.4	766.9	795.0	800.1	805.7	813.6
32.5°	916.0	916.6	896.9	840.6	777.6	762.4	820.4	862.6	864.8	871.6	885.6
35°	1103.4	1105.6	1098.3	1053.9	983.0	920.5	926.1	967.8	970.0	975.7	989.2
37.5°	1228.9	1233.4	1255.9	1269.9	1233.9	1205.2	1133.8	1117.4	1119.1	1115.8	1112.9
40°	1298.1	1304.8	1363.9	1437.0	1476.4	1477.0	1446.0	1374.0	1346.4	1338.6	1304.8
42.5°	1337.4	1348.7	1432.5	1557.4	1670.5	1748.2	1767.3	1687.4	1667.2	1631.2	1566.4
45°	1363.3	1376.8	1475.9	1646.9	1813.5	1945.7	2045.3	2009.8	1996.3	1974.4	1914.7
47.5°	1358.8	1369.5	1472.5	1677.3	1888.3	2076.2	2252.9	2289.5	2273.1	2267.5	2227.0
50°	1276.7	1286.2	1390.9	1601.9	1847.2	2125.7	2384.6	2488.1	2488.1	2498.8	2486.4
52.5°	1188.9	1196.8	1291.9	1481.5	1714.4	2077.3	2457.7	2629.3	2651.8	2670.4	2699.6
55°	1155.7	1165.3	1237.3	1399.3	1601.3	1938.9	2482.5	2735.1	2776.7	2808.2	2874.6
57.5°	1171.5	1181.0	1232.2	1354.9	1534.9	1797.7	2483.6	2877.4	2957.9	3022.6	3157.1
60°	1239.5	1248.5	1291.3	1396.0	1517.5	1716.1	2435.8	3104.2	3232.5	3354.0	3578.0
62.5°	1208.0	1219.3	1281.7	1464.0	1647.5	1654.2	2263.0	3279.7	3486.2	3665.7	4021.9
65°	1070.2	1082.0	1130.9	1301.4	1655.3	1681.2	2007.0	3283.1	3539.7	3782.2	4166.5
67.5°	812.5	817.0	855.8	992.5	1323.9	1711.1	1743.7	2894.3	3138.5	3409.2	3805.8
70°	415.2	423.1	434.4	548.0	852.4	1414.0	1498.4	2133.0	2444.2	2723.8	3200.4
72.5°	144.0	146.9	158.1	209.3	415.2	927.8	1311.6	1461.8	1649.7	1911.4	2463.3
75°	86.6	86.6	90.6	105.8	189.6	483.3	1167.0	1194.0	1219.3	1307.1	1668.3
77.5°	68.6	69.8	69.8	72.6	105.2	248.1	886.2	1110.1	1113.5	1121.9	1182.7
80°	49.0	51.2	55.7	58.0	68.1	136.2	497.4	974.5	1040.9	1073.0	1117.4
82.5°	36.6	38.8	47.3	50.1	52.9	76.0	223.4	672.4	793.4	857.5	1013.9
85°	16.3	19.1	32.1	35.4	37.1	40.5	104.7	191.3	220.0	247.0	325.8
87.5°	2.8	2.8	5.1	7.3	10.7	10.1	23.1	32.6	33.2	38.8	43.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°	75°
0°	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8
2.5°	538.5	538.5	538.5	537.9	538.5	538.5	538.5	538.5	539.0	539.0	539.0
5°	550.3	549.2	549.7	549.7	549.7	549.2	550.3	549.7	550.3	552.0	551.4
7.5°	567.7	568.8	569.4	570.0	570.0	570.0	570.5	571.7	571.7	573.4	572.8
10°	593.6	593.0	593.6	595.3	597.0	597.5	599.2	598.7	599.8	602.0	604.3
12.5°	621.2	622.3	624.0	625.7	628.5	629.1	630.7	631.3	634.7	634.7	636.9
15°	652.1	652.7	656.1	656.6	660.0	661.1	663.9	665.1	669.0	669.6	671.8
17.5°	680.3	681.4	683.1	684.8	688.7	690.4	692.6	694.9	698.3	699.4	703.3
20°	702.8	705.0	705.6	709.0	712.3	714.6	716.8	719.1	722.5	724.1	728.1
22.5°	723.0	725.3	727.0	729.8	732.0	735.4	736.5	740.5	743.8	746.7	750.0
25°	745.0	748.3	750.0	755.1	756.8	760.2	763.0	766.9	771.4	774.8	779.3
27.5°	775.9	781.0	783.2	788.9	792.8	794.5	799.0	804.6	808.5	812.5	817.0
30°	818.7	828.2	829.9	833.9	841.2	842.3	847.9	852.4	858.6	862.6	866.5
32.5°	885.1	896.9	898.0	902.5	908.7	910.9	915.4	920.5	930.1	931.8	938.0
35°	986.9	992.0	996.5	998.2	1003.2	1006.0	1009.4	1015.0	1024.6	1023.5	1030.2
37.5°	1109.0	1110.7	1111.3	1105.6	1106.8	1101.7	1107.9	1109.0	1112.4	1115.2	1121.9
40°	1283.4	1266.0	1263.7	1250.2	1236.7	1229.4	1226.6	1215.3	1218.2	1219.3	1224.9
42.5°	1538.3	1504.6	1476.4	1457.3	1424.1	1407.8	1385.8	1368.4	1354.9	1360.0	1362.2
45°	1861.3	1812.9	1767.9	1709.4	1666.0	1635.1	1596.3	1561.4	1545.6	1538.3	1547.3
47.5°	2183.7	2140.9	2088.0	2027.8	1959.2	1908.0	1843.3	1786.4	1747.1	1732.4	1740.3
50°	2462.2	2422.8	2382.9	2347.4	2267.5	2211.8	2123.5	2049.8	1987.9	1956.4	1947.9
52.5°	2693.5	2672.6	2651.3	2621.4	2557.3	2501.6	2431.3	2358.7	2276.5	2212.4	2190.4
55°	2900.0	2912.3	2901.6	2902.2	2876.9	2841.4	2781.8	2727.8	2670.4	2597.8	2567.4
57.5°	3201.0	3274.1	3288.8	3325.3	3343.3	3362.5	3379.3	3347.3	3332.6	3278.6	3279.2
60°	3675.3	3782.2	3875.0	3959.4	4028.7	4096.2	4167.1	4198.6	4233.5	4249.8	4305.5
62.5°	4180.0	4281.8	4420.3	4533.4	4596.9	4684.7	4761.8	4811.9	4873.2	4938.5	5023.4
65°	4304.9	4427.6	4514.8	4590.2	4653.2	4699.9	4742.1	4801.7	4852.9	4956.5	5056.6
67.5°	3984.8	4082.7	4162.6	4236.8	4285.8	4325.2	4362.9	4402.3	4490.0	4584.0	4684.7
70°	3420.4	3538.6	3670.8	3767.0	3791.2	3825.0	3861.0	3912.2	3956.1	4054.5	4131.1
72.5°	2748.0	2918.0	3029.9	3163.3	3192.0	3243.2	3263.4	3303.4	3311.3	3364.7	3385.0
75°	1915.3	2110.0	2222.5	2320.4	2339.5	2311.4	2322.7	2181.4	2145.4	2116.2	2092.5
77.5°	1264.3	1316.6	1334.6	1318.9	1243.5	1184.4	1121.4	1059.5	1066.2	1016.2	928.4
80°	1124.2	1136.0	1119.7	1103.9	1060.6	998.7	941.9	883.9	855.2	824.9	779.8
82.5°	1093.8	1139.4	1144.5	1125.3	1091.0	1023.5	954.8	868.7	795.6	728.1	659.4
85°	365.7	445.1	480.5	513.7	523.8	535.7	495.1	440.0	373.6	329.2	257.7
87.5°	46.7	58.0	67.0	57.4	67.0	78.8	56.8	63.6	64.1	39.9	29.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°
0°	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8
2.5°	539.6	539.0	539.0	539.0	538.5	539.0	539.0	539.0	539.0	539.0	538.5
5°	552.0	552.0	553.7	554.2	553.1	552.5	553.1	553.7	553.7	553.1	553.7
7.5°	575.0	575.6	576.7	578.4	577.3	577.9	578.4	577.9	579.5	580.1	579.5
10°	604.3	605.4	608.2	608.8	608.2	610.5	611.0	609.9	611.0	611.0	613.3
12.5°	638.1	639.2	642.6	643.7	644.8	645.4	647.1	647.6	649.3	650.4	652.1
15°	674.6	675.8	678.0	681.9	683.1	684.2	685.3	688.7	689.3	691.5	693.2
17.5°	705.6	707.3	710.6	713.5	715.1	718.0	719.1	723.0	724.1	727.5	730.3
20°	730.3	733.1	736.0	739.3	742.1	745.5	746.7	750.6	752.8	754.5	757.9
22.5°	752.8	756.2	760.2	764.1	766.3	770.8	772.5	774.2	779.3	781.5	784.9
25°	782.1	785.5	790.0	795.0	797.3	802.9	804.6	807.4	813.0	815.3	820.4
27.5°	822.0	826.5	829.9	835.0	837.8	841.7	845.7	849.1	854.1	857.5	863.1
30°	872.1	875.5	881.1	885.1	889.6	895.2	899.7	903.1	905.9	910.9	917.1
32.5°	945.8	946.4	948.1	957.6	962.1	966.7	972.8	975.7	980.2	985.2	992.0
35°	1037.5	1042.6	1046.5	1051.1	1056.1	1061.2	1063.4	1071.9	1075.8	1082.6	1089.3
37.5°	1128.7	1129.3	1138.3	1141.1	1145.6	1150.6	1158.5	1167.0	1177.1	1183.8	1194.5
40°	1226.6	1231.1	1242.4	1248.0	1253.6	1266.0	1272.2	1285.7	1302.6	1312.1	1330.1
42.5°	1368.4	1375.1	1395.4	1404.4	1417.9	1438.2	1451.1	1469.7	1476.4	1499.5	1507.9
45°	1554.1	1574.9	1604.1	1623.3	1647.5	1669.4	1680.7	1689.1	1699.2	1717.2	1715.0
47.5°	1754.9	1781.9	1814.6	1854.0	1869.7	1895.6	1910.2	1926.5	1917.5	1913.0	1908.5
50°	1960.9	1992.4	2035.7	2071.2	2095.3	2111.1	2123.5	2121.2	2102.1	2092.0	2063.8
52.5°	2189.9	2208.4	2249.5	2279.9	2294.5	2297.9	2295.1	2278.2	2260.2	2228.1	2194.9
55°	2541.0	2532.5	2548.9	2562.9	2558.4	2574.2	2533.7	2517.9	2473.5	2431.8	2387.4
57.5°	3254.4	3265.7	3174.5	3133.5	3126.1	3140.8	3069.3	3060.3	2952.8	2939.3	2864.5
60°	4297.6	4352.7	4281.3	4241.3	4133.3	4097.9	4018.0	3984.8	3881.8	3798.5	3693.3
62.5°	5082.0	5132.0	5161.8	5105.0	5042.0	4949.2	4828.2	4694.3	4585.1	4457.4	4346.0
65°	5152.8	5254.1	5322.8	5349.2	5304.8	5202.9	5053.8	4885.0	4717.9	4557.6	4416.9
67.5°	4821.4	4912.0	5018.4	5113.5	5119.1	5052.7	4925.5	4753.9	4560.9	4362.9	4198.0
70°	4252.0	4365.7	4458.5	4558.7	4628.4	4590.2	4526.6	4369.1	4168.8	4014.6	3825.0
72.5°	3458.1	3505.9	3528.4	3626.9	3628.0	3558.3	3513.3	3426.0	3264.6	3155.4	3010.8
75°	2019.4	1914.2	1802.2	1704.9	1625.5	1592.3	1444.9	1420.2	1321.1	1259.8	1169.8
77.5°	832.7	738.8	617.8	517.1	417.5	372.5	307.2	278.5	241.4	225.1	214.4
80°	714.0	625.1	534.0	446.8	369.1	291.5	226.8	176.1	138.4	117.6	109.2
82.5°	582.9	529.5	465.9	418.6	357.9	299.9	253.2	196.4	146.9	108.0	82.7
85°	210.4	172.7	139.0	127.7	101.8	83.8	70.3	60.2	49.5	39.4	34.9
87.5°	23.6	22.5	12.9	12.4	14.1	10.1	11.8	10.7	9.0	7.9	8.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	87°	88°	89°	90°	95°	105°	115°	125°	135°	145°	155°
0°	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8	536.8
2.5°	538.5	538.5	539.0	539.0	539.6	540.2	541.3	540.7	540.7	541.3	541.3
5°	553.7	555.3	554.8	554.8	554.8	555.3	555.9	553.7	551.4	549.2	548.0
7.5°	580.1	581.2	582.4	581.2	582.4	581.8	580.7	574.5	567.2	558.2	552.0
10°	614.4	614.4	615.6	615.0	617.2	615.6	612.2	598.1	582.4	563.2	549.2
12.5°	651.6	655.5	653.8	654.4	658.9	654.4	646.5	625.7	597.5	566.6	541.8
15°	695.4	697.1	698.3	696.6	699.4	695.4	681.4	648.2	607.1	563.8	527.2
17.5°	731.5	732.0	732.6	733.7	737.6	733.1	709.0	663.9	609.4	550.8	502.5
20°	759.6	762.4	764.7	764.7	770.3	763.5	731.5	671.8	602.0	529.5	470.9
22.5°	788.9	791.1	793.9	794.5	801.8	795.0	750.0	670.1	582.9	499.1	434.4
25°	824.9	827.1	829.4	832.2	842.3	832.7	768.6	663.4	556.5	463.1	395.0
27.5°	866.5	871.6	873.2	877.8	889.6	874.9	784.3	653.2	527.2	421.4	353.4
30°	922.2	928.4	930.6	936.8	953.1	921.1	793.4	635.8	490.1	379.2	308.9
32.5°	997.0	1005.5	1012.2	1019.0	1037.5	967.2	794.5	610.5	446.8	332.0	266.1
35°	1094.9	1107.9	1112.9	1117.4	1134.9	1017.3	789.4	572.8	393.9	283.6	232.4
37.5°	1204.7	1217.6	1221.0	1223.2	1226.6	1060.1	777.0	515.4	334.2	241.4	205.4
40°	1339.7	1350.9	1355.4	1352.1	1334.1	1093.2	749.5	448.4	276.3	212.7	188.5
42.5°	1504.6	1521.4	1523.1	1507.9	1448.3	1111.8	694.3	369.7	230.7	191.9	175.6
45°	1708.8	1707.7	1698.1	1687.4	1572.6	1104.5	617.2	301.0	202.0	175.6	163.7
47.5°	1892.2	1873.1	1858.5	1827.0	1682.4	1061.7	517.6	249.3	184.6	163.2	153.6
50°	2042.5	2007.6	1976.6	1942.3	1763.9	985.8	418.6	211.6	168.2	152.5	144.0
52.5°	2161.2	2119.0	2083.0	2049.2	1842.7	901.4	343.2	184.0	152.5	141.8	133.4
55°	2346.9	2304.7	2247.3	2210.1	1963.1	823.7	294.3	162.0	137.3	130.5	122.1
57.5°	2816.7	2779.5	2710.9	2614.7	2272.6	794.5	266.7	145.2	124.9	121.0	114.2
60°	3637.0	3576.8	3487.4	3389.5	2901.6	814.2	244.8	133.4	116.5	113.1	108.0
62.5°	4256.0	4150.2	4048.9	3958.3	3404.7	813.6	216.1	124.3	110.3	108.6	103.5
65°	4281.3	4173.8	4072.0	3976.9	3415.9	724.1	182.3	116.5	109.2	108.6	100.2
67.5°	4054.0	3937.5	3839.0	3719.2	3162.2	566.0	146.3	111.4	113.7	112.5	99.0
70°	3682.6	3530.7	3449.7	3331.5	2782.9	396.1	120.4	113.1	123.2	119.8	100.7
72.5°	2890.4	2775.6	2652.4	2570.2	2178.6	250.4	101.3	114.2	127.2	121.5	105.2
75°	1075.8	1106.8	1056.1	1038.1	1106.8	146.9	90.0	106.3	113.7	105.2	95.7
77.5°	217.2	207.6	196.9	194.7	251.5	90.6	82.7	92.3	87.2	77.1	77.6
80°	104.1	101.3	97.9	97.3	93.4	75.4	76.5	78.8	65.8	59.6	63.6
82.5°	69.2	65.3	64.1	61.9	63.0	67.5	72.6	67.5	50.6	47.3	57.4
85°	32.1	30.9	30.4	30.4	33.8	60.8	60.2	49.5	34.9	33.8	57.4
87.5°	7.9	7.9	8.4	7.9	9.0	18.0	15.8	15.2	12.9	14.6	27.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	165°	175°	180°
0°	536.8	536.8	536.8
2.5°	540.7	541.3	540.7
5°	545.8	545.8	545.8
7.5°	545.8	544.1	543.5
10°	537.9	532.8	532.8
12.5°	524.4	516.0	514.8
15°	499.1	487.8	486.1
17.5°	467.0	451.8	449.0
20°	431.0	411.9	408.5
22.5°	391.6	369.7	368.0
25°	352.8	330.3	325.8
27.5°	309.5	287.5	285.3
30°	266.1	247.0	245.9
32.5°	229.6	217.7	215.5
35°	203.7	196.9	194.1
37.5°	186.8	181.7	181.2
40°	173.9	169.4	168.8
42.5°	163.2	159.2	158.7
45°	152.5	149.1	148.0
47.5°	141.8	138.4	137.9
50°	132.2	127.7	127.2
52.5°	123.2	118.7	117.6
55°	114.8	110.3	110.3
57.5°	107.5	103.0	102.4
60°	100.7	96.2	95.7
62.5°	95.7	90.0	89.5
65°	91.7	86.1	85.0
67.5°	89.5	82.7	81.0
70°	93.4	81.0	78.2
72.5°	94.0	79.3	75.4
75°	90.6	74.8	72.0
77.5°	79.3	67.0	64.1
80°	68.6	51.8	47.8
82.5°	65.3	42.2	36.6
85°	50.6	27.6	25.9
87.5°	28.7	15.2	12.4
90°	0.0	0.0	0.0

(END OF REPORT)