

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: P565276

Luminaire Tested: **MSA-SA2D-727-U-T1**

Issue Date: 8/19/2021

Test Information

Test Method: LM-79-08
Report Number: P565276
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2108-334-1)
Test Lab: INNOVATIONS CENTER
Issue Date: 8/19/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2D-727-U-T1
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE I OPTICS.
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10198.1 lumens
Efficiency: N/A
Efficacy: 79.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type I - Medium
BUG Rating: B3 - U0 - G3

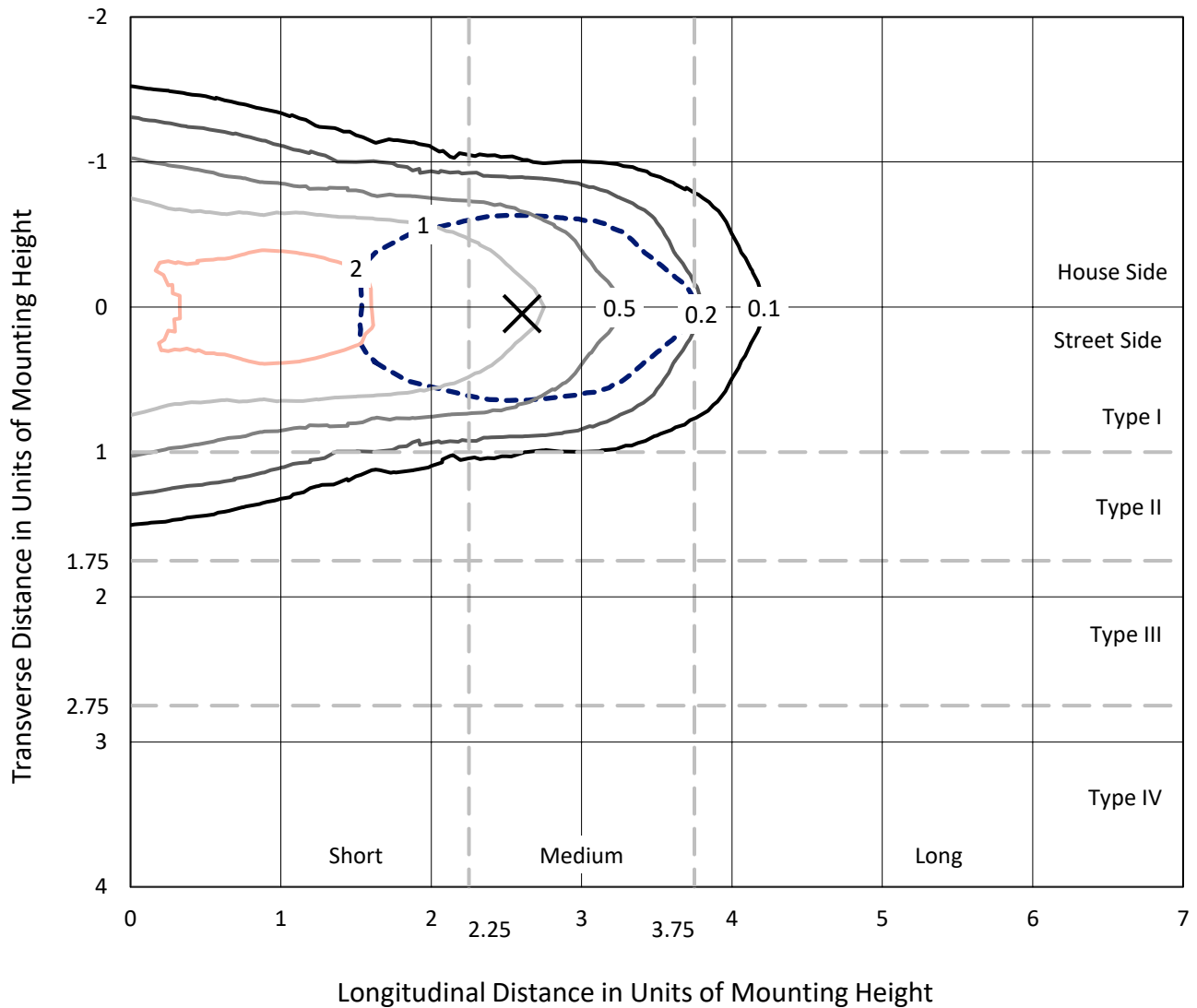
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

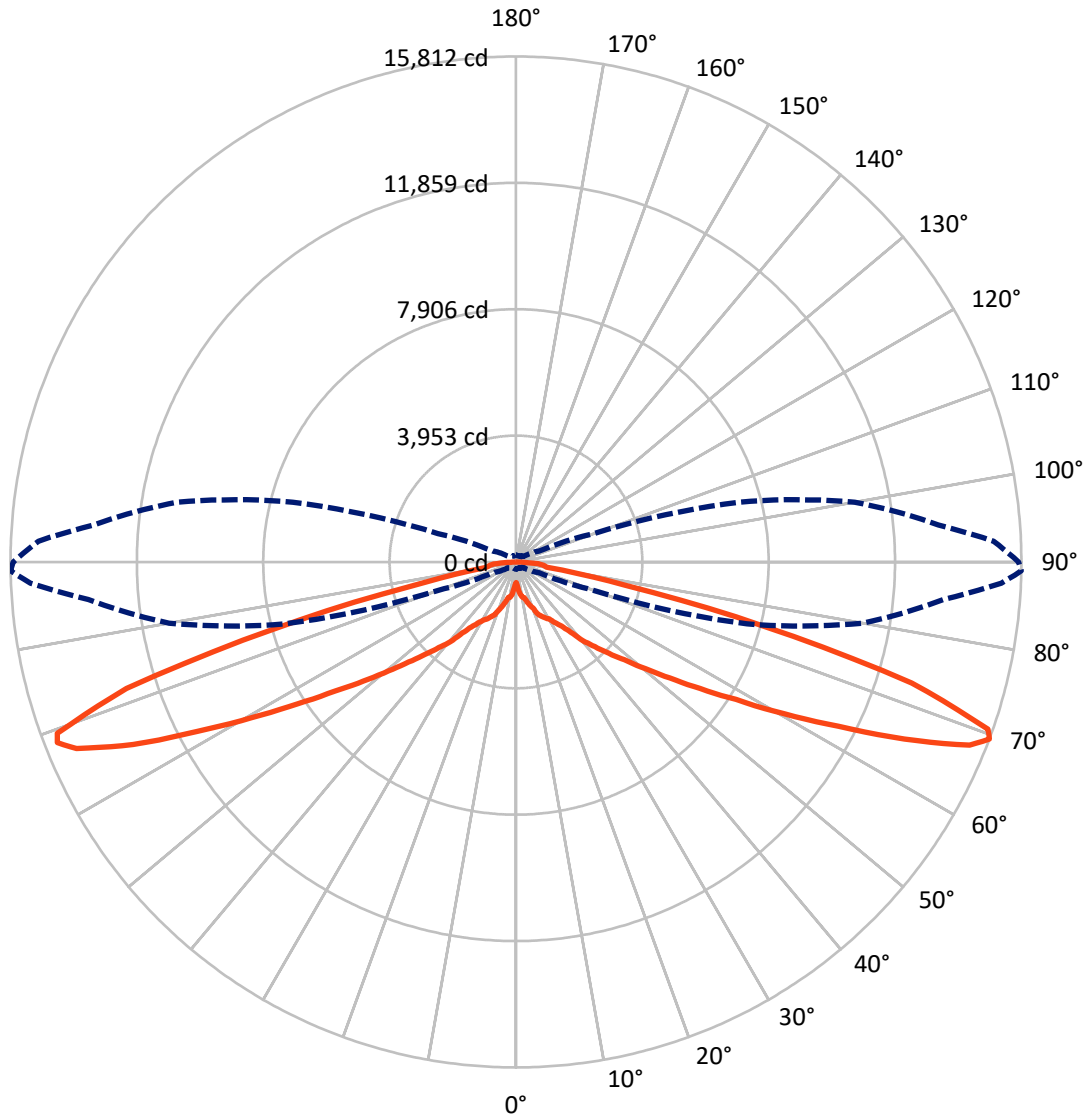
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.3 fc
 Type I - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 89-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5098.9	0.0	5098.9
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5099.1	0.0	5099.1
	% Fixture	50.0	0.0	50.0
Total	Lumens	10198.1	0.0	10198.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.2	0.8
10°-20°	373.9	3.7
20°-30°	746.0	7.3
30°-40°	1128.4	11.1
40°-50°	1637.9	16.1
50°-60°	2151.9	21.1
60°-70°	2625.0	25.7
70°-80°	1327.2	13.0
80°-90°	126.5	1.2
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°	10198.1	100.0
0°-180°	10198.1	100.0

Coefficient of Utilization



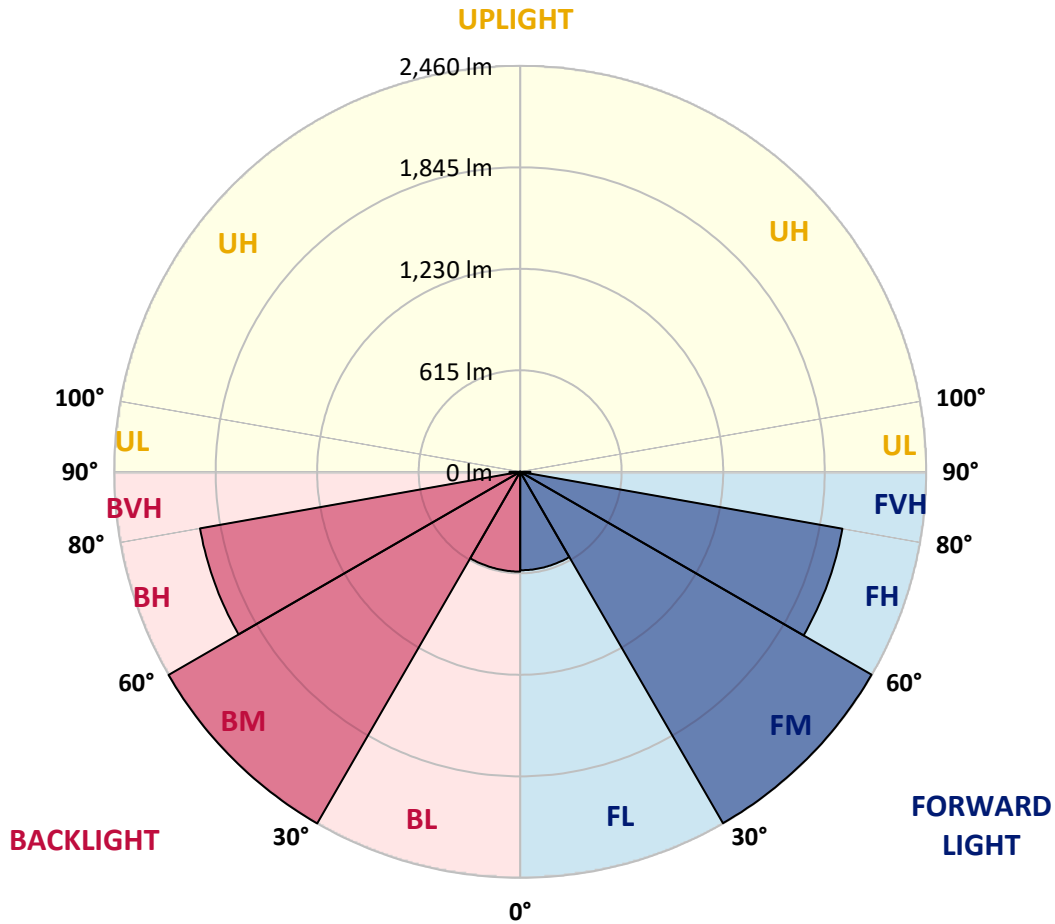
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	596.4	5.8			
FM (30°-60°)	2458.3	24.1			
FH (60°-80°)	1982.4	19.4			G2/5000
FVH (80°-90°)	62.0	0.6			G1/100
BL (0°-30°)	604.8	5.9	B2/1000		
BM (30°-60°)	2459.9	24.1	B2/2500		
BH (60°-80°)	1969.8	19.3	B3/2500		G3/2500
BVH (80°-90°)	64.5	0.6			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type I Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	70°	75°	80°
0°	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9
2.5°	758.0	670.6	663.0	642.1	657.3	663.0	649.7	630.7	651.6	663.0	642.1
5°	955.6	826.4	782.7	746.6	674.4	644.0	674.4	752.3	761.8	809.3	796.0
7.5°	1052.5	1031.6	976.5	856.8	740.9	676.3	758.0	870.1	927.1	972.7	1020.2
10°	1124.7	1113.3	1016.4	930.9	883.4	887.2	889.1	925.2	974.6	1050.6	1077.2
12.5°	1141.8	1138.0	1153.2	1134.2	1138.0	1158.9	1138.0	1128.5	1157.0	1181.7	1155.1
15°	1252.0	1250.1	1255.8	1259.6	1335.6	1367.9	1335.6	1307.1	1286.2	1265.3	1309.0
17.5°	1328.0	1318.5	1320.4	1356.5	1442.0	1531.3	1514.2	1476.2	1428.7	1457.2	1493.3
20°	1369.8	1352.7	1364.1	1379.3	1523.7	1622.5	1633.9	1582.6	1554.1	1590.2	1620.6
22.5°	1409.7	1383.1	1343.2	1358.4	1491.4	1633.9	1688.9	1675.6	1696.5	1707.9	1702.2
25°	1362.2	1379.3	1335.6	1379.3	1514.2	1645.2	1755.4	1833.3	1835.2	1829.5	1871.3
27.5°	1333.7	1320.4	1246.3	1358.4	1470.5	1552.2	1833.3	1964.4	2004.3	1882.7	1964.4
30°	1284.3	1305.2	1204.5	1297.6	1440.1	1576.9	1922.6	2110.7	2051.8	2036.6	2055.6
32.5°	1253.9	1240.6	1193.1	1244.4	1352.7	1650.9	1979.6	2196.2	2270.3	2234.2	2230.4
35°	1204.5	1214.0	1139.9	1195.0	1347.0	1588.3	2017.6	2410.9	2524.9	2496.4	2473.6
37.5°	1212.1	1179.8	1126.6	1166.5	1310.9	1622.5	2112.6	2618.0	2798.4	2813.6	2709.2
40°	1155.1	1136.1	1056.3	1122.8	1242.5	1601.6	2135.4	2853.5	3159.4	3227.8	3077.7
42.5°	1073.4	1048.7	1003.1	1077.2	1202.6	1499.0	2167.7	3136.6	3526.1	3668.6	3531.8
45°	955.6	923.3	900.5	999.3	1115.2	1472.4	2133.5	3372.2	3877.5	4073.2	4069.4
47.5°	813.1	792.2	780.8	885.3	1043.0	1405.9	2063.2	3520.4	4122.6	4624.2	4548.2
50°	651.6	636.4	634.5	744.7	921.4	1269.1	1983.4	3594.5	4495.0	5129.5	5196.0
52.5°	522.5	511.1	509.2	598.4	771.3	1084.8	1816.2	3651.5	4850.3	5703.3	6045.2
55°	408.5	397.1	399.0	473.1	613.6	887.2	1561.7	3586.9	5161.8	6290.3	6938.2
57.5°	334.4	323.0	324.9	366.7	469.3	678.2	1244.4	3446.3	5302.4	7016.1	7979.3
60°	294.5	283.1	277.4	296.4	361.0	511.1	925.2	2899.1	5325.2	7618.3	9109.7
62.5°	273.6	262.2	256.5	262.2	298.3	391.4	666.8	2296.9	5194.1	8133.2	10145.1
65°	254.6	245.1	237.5	243.2	262.2	311.6	486.4	1573.1	4508.3	8368.7	10897.4
67.5°	233.7	226.1	218.5	226.1	239.4	262.2	378.1	995.5	3379.8	8062.9	11210.9
69°	222.3	210.9	207.1	212.8	226.1	241.3	326.8	794.1	2570.5	7481.5	11020.9
70°	210.9	203.3	197.6	207.1	218.5	229.9	294.5	674.4	2015.7	6734.9	10549.7
72.5°	186.2	180.5	176.7	186.2	195.7	203.3	241.3	480.7	1168.4	4586.2	8366.8
75°	163.4	157.7	155.8	163.4	171.0	174.8	203.3	330.6	689.6	2399.5	5019.3
77.5°	136.8	129.2	131.1	140.6	146.3	148.2	171.0	237.5	406.6	1086.7	2325.4
80°	100.7	100.7	108.3	115.9	115.9	115.9	136.8	172.9	247.0	499.7	965.1
82.5°	70.3	72.2	74.1	85.5	87.4	79.8	104.5	125.4	153.9	218.5	334.4
85°	39.9	41.8	43.7	51.3	53.2	47.5	68.4	79.8	89.3	108.3	174.8
87.5°	15.2	17.1	22.8	26.6	28.5	20.9	32.3	38.0	38.0	45.6	77.9
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):

	85°	87.5°	89°	90°	92.5°	95°	100°	105°	110°	115°	125°
0°	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9	645.9
2.5°	685.8	699.1	723.8	729.5	708.6	685.8	634.5	666.8	680.1	655.4	663.0
5°	849.2	877.7	908.1	872.0	849.2	834.0	809.3	811.2	797.9	754.2	682.0
7.5°	1033.5	1001.2	1024.0	1048.7	1012.6	1014.5	1037.3	989.8	953.7	879.6	744.7
10°	1119.0	1119.0	1124.7	1124.7	1109.5	1109.5	1107.6	1031.6	987.9	955.6	917.6
12.5°	1124.7	1122.8	1145.6	1128.5	1132.3	1136.1	1145.6	1179.8	1168.4	1126.6	1160.8
15°	1282.4	1274.8	1282.4	1280.5	1286.2	1303.3	1295.7	1288.1	1290.0	1320.4	1371.7
17.5°	1430.6	1434.4	1426.8	1440.1	1440.1	1451.5	1478.1	1451.5	1428.7	1485.7	1525.6
20°	1601.6	1588.3	1557.9	1580.7	1586.4	1588.3	1632.0	1599.7	1567.4	1588.3	1635.8
22.5°	1774.4	1772.5	1776.3	1778.2	1785.8	1757.3	1698.4	1688.9	1709.8	1681.3	1687.0
25°	1880.8	1882.7	1892.2	1894.1	1861.8	1892.2	1913.1	1850.4	1850.4	1844.7	1806.7
27.5°	2010.0	1981.5	1992.9	2008.1	1994.8	2002.4	1977.7	1886.5	1983.4	1996.7	1844.7
30°	2097.4	2084.1	2070.8	2086.0	2099.3	2133.5	2063.2	2053.7	2061.3	2131.6	1932.1
32.5°	2281.7	2300.7	2276.0	2251.3	2276.0	2268.4	2238.0	2224.7	2319.7	2226.6	1992.9
35°	2452.7	2460.3	2462.2	2458.4	2473.6	2447.0	2447.0	2496.4	2524.9	2424.2	2011.9
37.5°	2864.9	2838.3	2783.2	2756.6	2804.1	2844.0	2726.3	2785.1	2773.7	2602.8	2154.4
40°	3161.3	3222.1	3239.2	3231.6	3239.2	3125.2	3149.9	3193.6	3142.3	2859.2	2105.0
42.5°	3594.5	3632.5	3619.2	3602.1	3609.7	3588.8	3514.7	3676.2	3491.9	3146.1	2181.0
45°	3989.6	4075.1	4080.8	4021.9	4069.4	3995.3	4025.7	4082.7	3896.5	3360.8	2160.1
47.5°	4460.8	4637.5	4571.0	4571.0	4618.5	4458.9	4531.1	4607.1	4113.1	3505.2	2046.1
50°	5158.0	5253.0	5249.2	5232.1	5253.0	5167.5	5156.1	5146.6	4445.6	3642.0	1975.8
52.5°	5946.5	6075.6	6026.3	6045.2	6073.7	5912.3	6039.5	5691.9	4861.7	3693.3	1816.2
55°	6953.4	7042.7	6993.3	6896.4	7025.6	6923.0	6964.8	6286.5	5150.4	3547.0	1550.3
57.5°	8152.2	8197.8	8116.1	8106.6	8192.1	8081.9	8011.6	6955.3	5300.5	3436.8	1238.7
60°	9552.3	9694.8	9643.5	9561.8	9639.7	9542.8	9010.9	7523.3	5270.1	2921.9	959.4
62.5°	11231.8	11376.2	11319.2	11264.1	11313.5	11060.8	9949.4	7971.7	5133.3	2315.9	701.0
65°	12618.6	13270.3	13355.8	13357.7	13118.3	12533.2	10697.9	8146.5	4411.4	1616.8	513.0
67.5°	13530.6	14885.1	15306.9	15154.9	14605.9	13270.3	11000.0	7804.5	3406.4	1022.1	383.8
69°	13426.1	15202.4	15812.3	15726.8	14955.4	13258.9	10764.4	7228.8	2602.8	813.1	324.9
70°	12943.5	14942.1	15666.0	15704.0	14733.2	12749.7	10344.6	6567.7	2105.0	693.4	298.3
72.5°	10329.4	12312.8	12949.2	13198.1	12234.9	10209.7	8482.7	4633.7	1219.7	484.5	241.3
75°	6398.6	7466.3	7994.5	8138.9	7555.6	6358.7	5148.5	2578.1	742.8	342.0	203.3
77.5°	2868.7	3178.4	3482.4	3482.4	3254.4	2902.9	2359.6	1246.3	421.8	243.2	171.0
80°	961.3	997.4	970.8	980.3	942.3	906.2	948.0	537.7	260.3	182.4	138.7
82.5°	653.5	820.7	872.0	872.0	818.8	645.9	364.8	247.0	159.6	131.1	106.4
85°	532.0	649.7	697.2	718.1	676.3	545.3	191.9	119.7	95.0	83.6	72.2
87.5°	178.6	167.2	157.7	153.9	161.5	169.1	95.0	51.3	43.7	39.9	38.0
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):

	135°	145°	155°	165°	175°	180°
0°	645.9	645.9	645.9	645.9	645.9	645.9
2.5°	676.3	653.5	663.0	672.5	740.9	792.2
5°	672.5	704.8	777.0	868.2	910.0	1012.6
7.5°	691.5	809.3	944.2	1039.2	1077.2	1109.5
10°	925.2	946.1	991.7	1082.9	1158.9	1172.2
12.5°	1195.0	1189.3	1157.0	1198.8	1160.8	1187.4
15°	1405.9	1343.2	1299.5	1293.8	1280.5	1280.5
17.5°	1521.8	1466.7	1405.9	1390.7	1350.8	1383.1
20°	1658.5	1563.6	1411.6	1396.4	1383.1	1352.7
22.5°	1632.0	1537.0	1379.3	1360.3	1430.6	1426.8
25°	1664.2	1537.0	1386.9	1366.0	1398.3	1398.3
27.5°	1584.5	1480.0	1371.7	1246.3	1345.1	1367.9
30°	1563.6	1445.8	1320.4	1208.3	1309.0	1288.1
32.5°	1673.7	1360.3	1236.8	1202.6	1276.7	1261.5
35°	1588.3	1345.1	1215.9	1153.2	1240.6	1225.4
37.5°	1624.4	1326.1	1179.8	1126.6	1196.9	1219.7
40°	1616.8	1236.8	1138.0	1069.6	1139.9	1151.3
42.5°	1489.5	1168.4	1067.7	999.3	1035.4	1073.4
45°	1451.5	1126.6	999.3	904.3	906.2	949.9
47.5°	1381.2	1031.6	873.9	786.5	786.5	822.6
50°	1263.4	904.3	731.4	651.6	649.7	678.2
52.5°	1088.6	780.8	617.4	530.1	524.4	552.8
55°	891.0	628.8	486.4	429.4	418.0	429.4
57.5°	693.4	490.2	383.8	338.2	336.3	345.8
60°	537.7	383.8	305.9	279.3	283.1	298.3
62.5°	406.6	305.9	260.3	250.8	256.5	271.7
65°	323.0	264.1	237.5	231.8	237.5	252.7
67.5°	262.2	239.4	220.4	212.8	216.6	231.8
69°	241.3	226.1	210.9	201.4	205.2	216.6
70°	229.9	218.5	203.3	193.8	197.6	209.0
72.5°	201.4	195.7	184.3	174.8	176.7	186.2
75°	176.7	172.9	165.3	153.9	153.9	165.3
77.5°	148.2	150.1	142.5	131.1	129.2	134.9
80°	117.8	121.6	117.8	106.4	102.6	102.6
82.5°	85.5	93.1	89.3	77.9	76.0	76.0
85°	53.2	58.9	57.0	49.4	49.4	43.7
87.5°	24.7	32.3	30.4	26.6	24.7	17.1
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)