

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: STREETWORKS

Report Number: P159765

Luminaire Tested: **VST-F04-LED-E-U-T4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P159765
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33707)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: VST-F04-LED-E-U-T4
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (28) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9828.2 lumens
Efficiency: N/A
Efficacy: 96.2 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

Input Watts (W): 102.2
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

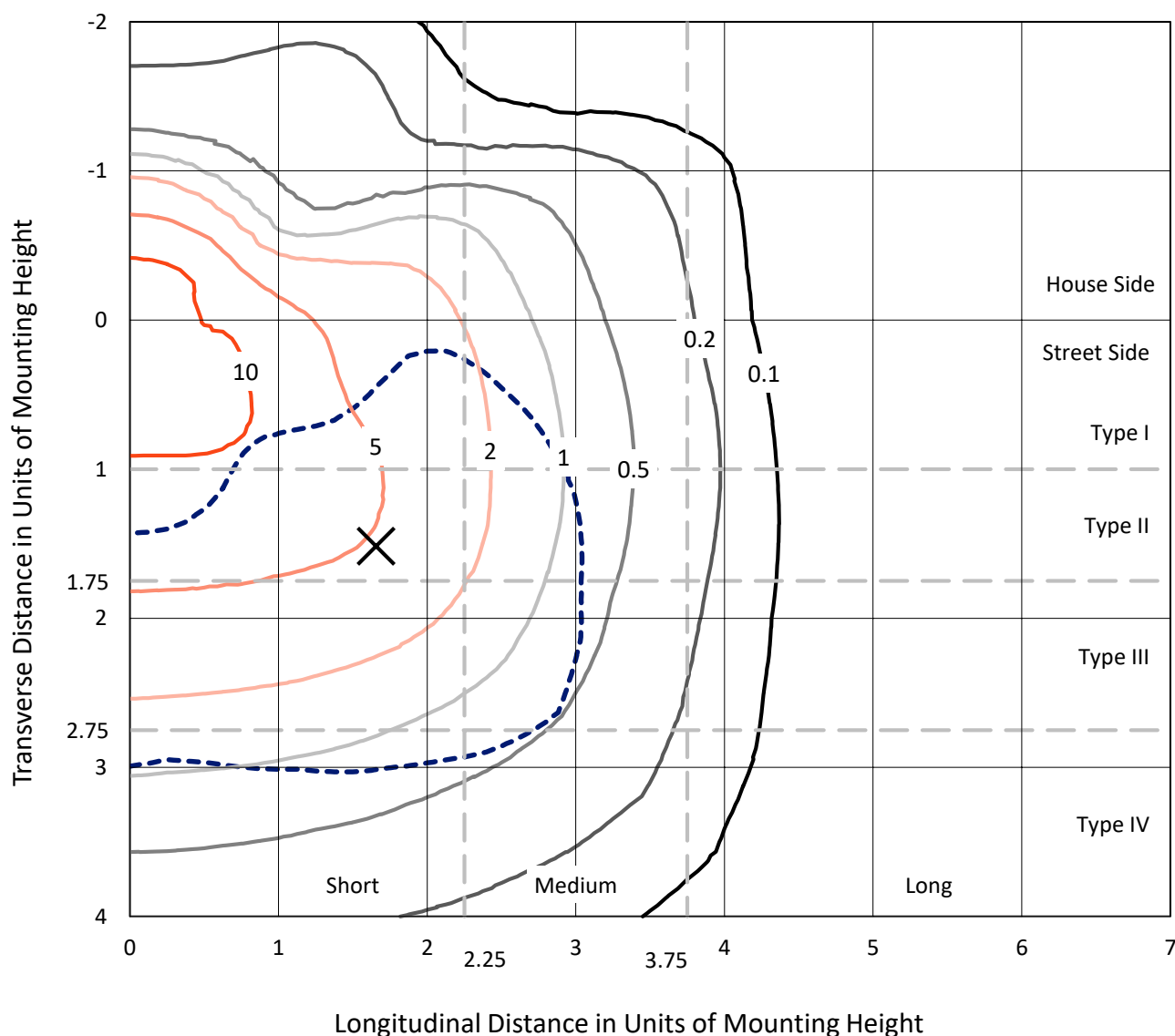


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

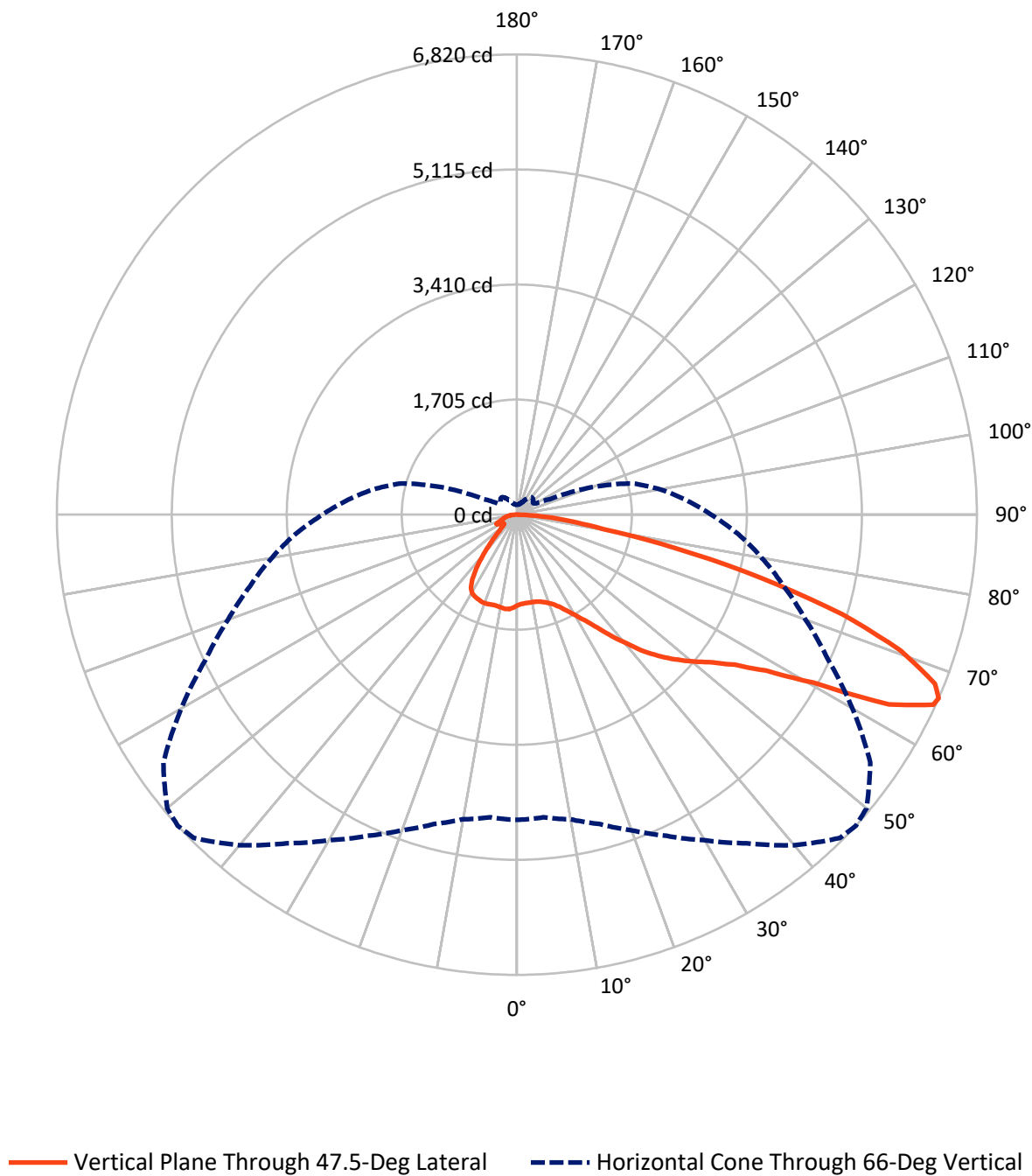


Based on 10 foot mounting height. Maximum calculated value = 13.7 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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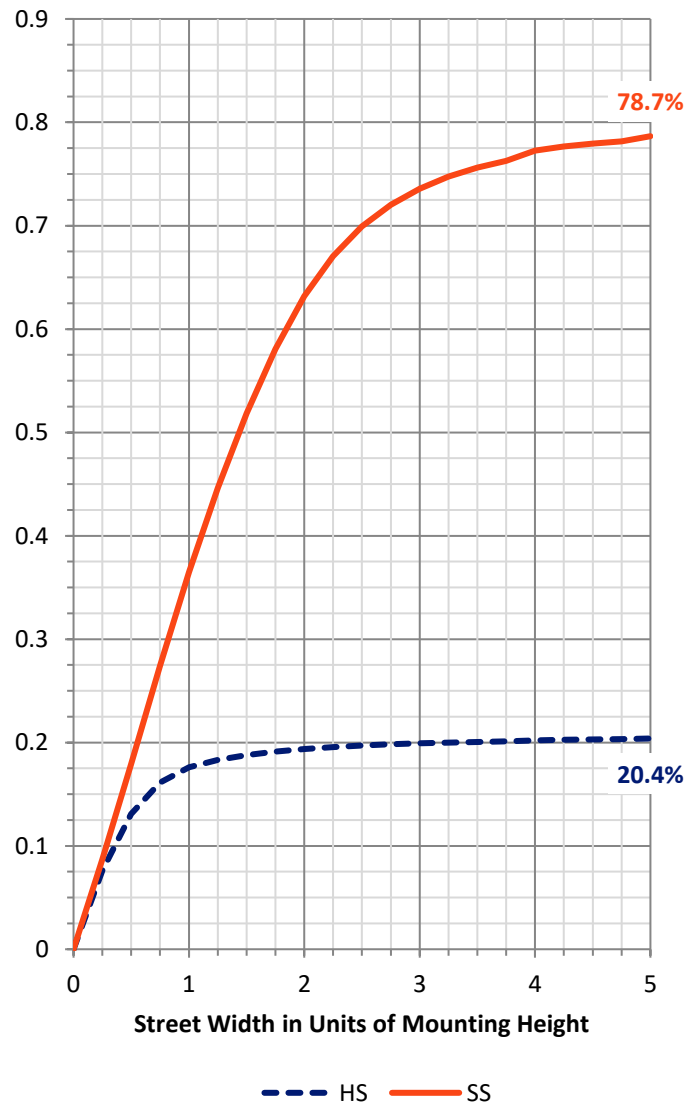
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2034.9	0.0	2034.9
	% Fixture	20.7	0.0	20.7
Street Side	Lumens	7793.3	0.0	7793.3
	% Fixture	79.3	0.0	79.3
Total	Lumens	9828.2	0.0	9828.2
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.6	1.3
10°-20°	388.6	4.0
20°-30°	663.1	6.7
30°-40°	1000.9	10.2
40°-50°	1300.9	13.2
50°-60°	1784.7	18.2
60°-70°	2745.4	27.9
70°-80°	1587.0	16.1
80°-90°	228.0	2.3
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°	9828.2	100.0
0°-180°	9828.2	100.0

Coefficient of Utilization



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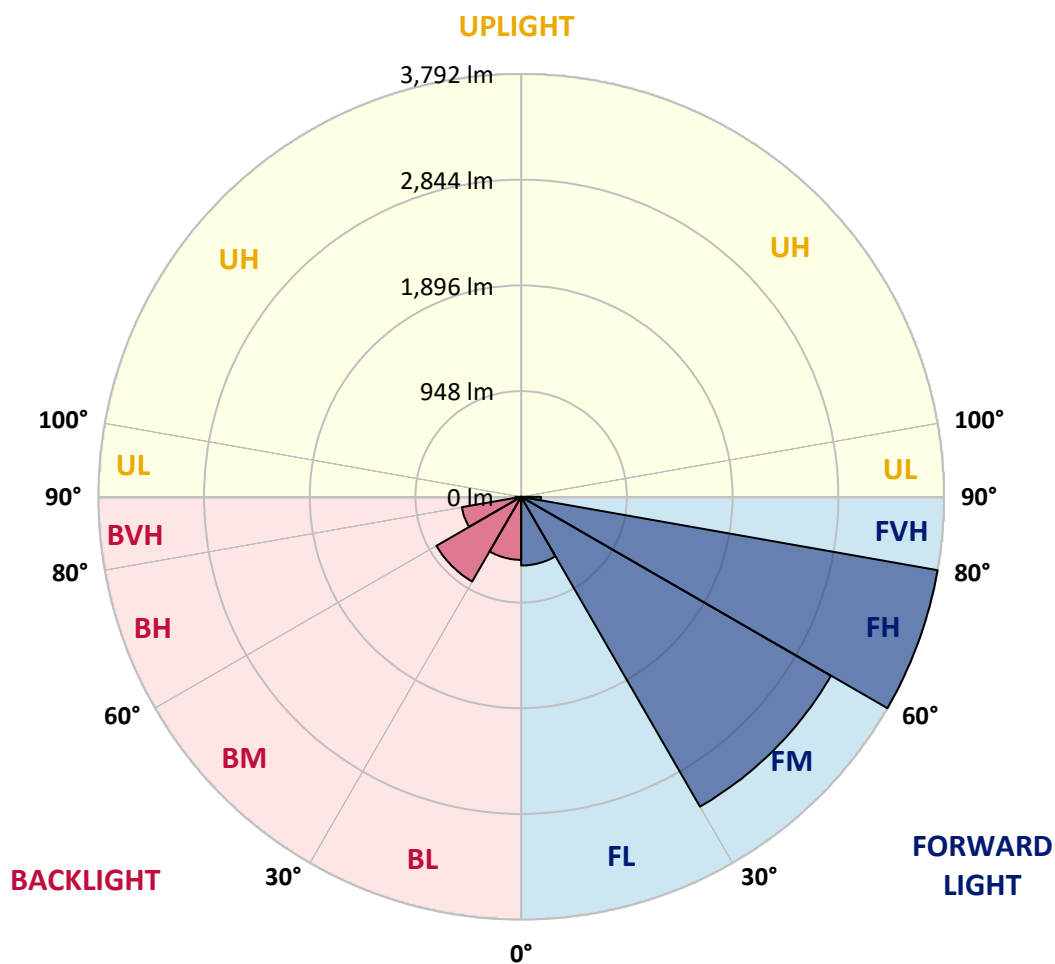
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	616.0	6.3			
FM	(30°-60°)	3208.5	32.6			
FH	(60°-80°)	3792.4	38.6			G2/5000
FVH	(80°-90°)	176.4	1.8			G2/225
BL	(0°-30°)	565.3	5.8	B2/1000		
BM	(30°-60°)	877.9	8.9	B1/1000		
BH	(60°-80°)	540.1	5.5	B2/1000		G2/1000
BVH	(80°-90°)	51.6	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	47.5°
0°	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6
2.5°	1310.3	1310.9	1311.6	1311.6	1313.6	1313.6	1316.9	1318.9	1319.5	1323.5	1326.1
5°	1285.8	1285.2	1285.8	1287.2	1290.5	1293.1	1299.7	1304.3	1308.3	1314.9	1318.2
7.5°	1275.3	1276.6	1277.9	1278.6	1281.2	1287.8	1293.8	1298.4	1306.3	1314.2	1317.5
10°	1289.1	1291.1	1289.1	1290.5	1290.5	1296.4	1299.0	1302.3	1308.3	1315.6	1317.5
12.5°	1321.5	1325.5	1321.5	1318.2	1315.6	1320.8	1319.5	1316.9	1320.2	1322.2	1322.2
15°	1375.0	1375.0	1372.4	1367.7	1361.1	1361.8	1355.8	1349.9	1347.3	1342.6	1339.3
17.5°	1427.2	1425.8	1419.9	1414.0	1409.3	1407.4	1398.8	1390.8	1381.6	1374.3	1366.4
20°	1478.0	1483.3	1476.0	1467.5	1460.2	1455.6	1449.0	1433.1	1421.9	1410.0	1402.1
22.5°	1565.9	1561.2	1553.3	1540.8	1533.5	1525.6	1511.7	1494.5	1477.4	1462.8	1452.9
25°	1656.3	1651.7	1640.5	1631.2	1620.7	1614.1	1598.9	1577.7	1561.2	1538.8	1525.6
27.5°	1753.4	1749.5	1736.2	1729.0	1721.7	1713.8	1700.6	1678.8	1663.6	1637.8	1624.0
30°	1863.0	1862.4	1844.6	1843.2	1832.7	1824.1	1814.8	1796.3	1781.2	1755.4	1738.9
32.5°	1979.9	1977.3	1964.7	1960.8	1968.1	1962.1	1948.9	1929.7	1909.9	1894.7	1876.3
35°	2146.4	2141.7	2134.5	2137.8	2142.4	2158.9	2138.4	2121.9	2098.2	2078.3	2052.6
37.5°	2267.9	2261.3	2269.9	2288.4	2314.8	2327.3	2345.2	2345.8	2334.6	2308.2	2285.7
40°	2379.5	2376.9	2396.7	2422.4	2471.3	2507.0	2540.6	2557.1	2561.1	2543.9	2510.3
42.5°	2473.9	2481.9	2508.3	2547.9	2616.6	2670.7	2733.5	2772.4	2796.9	2787.6	2772.4
45°	2586.2	2590.2	2622.5	2672.7	2738.1	2827.9	2910.5	2976.5	3019.4	3018.8	3001.6
47.5°	2726.9	2727.5	2755.3	2814.0	2884.1	2975.2	3079.5	3167.4	3224.2	3226.8	3213.6
50°	2894.0	2892.6	2923.0	2978.5	3053.1	3141.0	3251.9	3361.5	3440.8	3440.8	3421.6
52.5°	3109.3	3106.6	3123.1	3172.0	3244.0	3336.4	3446.7	3573.5	3659.4	3677.9	3636.3
55°	3396.5	3400.5	3404.5	3447.4	3508.8	3582.1	3708.9	3825.8	3940.7	3951.3	3926.9
57.5°	3728.7	3715.5	3743.9	3813.9	3883.9	3975.7	4065.5	4203.6	4339.6	4362.7	4359.4
60°	4247.8	4230.7	4259.7	4348.9	4426.1	4570.8	4724.6	4903.0	5064.1	5111.7	5054.2
62.5°	4725.3	4746.4	4786.1	4889.7	5002.0	5194.9	5426.0	5731.8	6037.6	6204.0	6192.1
65°	4682.4	4662.6	4738.5	4879.8	5083.3	5328.9	5616.2	5984.7	6425.2	6759.4	6789.1
66°	4523.2	4502.7	4584.6	4746.4	4978.9	5252.3	5571.3	5946.4	6396.8	6774.6	6820.2
67.5°	4260.4	4239.9	4332.4	4479.6	4719.4	5063.4	5408.2	5818.3	6286.5	6648.4	6685.4
70°	3753.2	3725.4	3797.4	3963.8	4158.0	4490.9	4819.1	5253.6	5734.4	6023.7	6037.6
72.5°	3179.3	3114.5	3191.1	3319.3	3458.0	3733.4	4019.3	4316.5	4699.5	4967.0	5043.6
75°	2306.8	2340.5	2363.0	2447.5	2539.3	2767.2	2934.9	3183.9	3480.4	3673.9	3735.3
77.5°	1223.8	1274.6	1306.3	1390.8	1542.7	1716.4	1898.0	2051.9	2246.7	2355.1	2430.3
80°	686.8	722.5	774.0	840.7	914.7	1048.1	1155.7	1235.0	1262.7	1281.9	1299.0
82.5°	377.8	468.2	544.8	591.1	634.7	688.2	752.2	818.3	839.4	807.7	791.2
85°	58.8	86.5	263.5	321.6	350.0	391.0	437.2	486.1	486.7	418.7	457.0
87.5°	16.5	18.5	37.6	56.8	55.5	44.9	55.5	101.0	59.4	29.7	34.3
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6
2.5°	1327.4	1328.8	1332.1	1335.4	1338.7	1342.0	1344.0	1347.3	1349.9	1353.9	1358.5
5°	1322.2	1325.5	1331.4	1338.7	1345.3	1351.2	1355.8	1362.4	1368.4	1373.7	1381.6
7.5°	1322.2	1328.8	1338.7	1346.6	1352.5	1359.8	1367.1	1373.7	1380.3	1385.6	1390.8
10°	1322.8	1329.4	1339.3	1348.6	1355.2	1363.1	1369.1	1375.0	1382.3	1385.6	1392.2
12.5°	1325.5	1328.1	1335.4	1344.6	1352.5	1360.5	1366.4	1372.4	1380.3	1381.6	1386.2
15°	1338.7	1334.7	1336.7	1343.3	1351.9	1358.5	1365.1	1369.7	1375.0	1373.7	1377.6
17.5°	1363.1	1353.2	1349.2	1349.9	1353.9	1358.5	1361.1	1361.8	1362.4	1356.5	1357.2
20°	1396.1	1382.3	1373.0	1368.4	1363.1	1358.5	1351.2	1342.6	1334.7	1322.8	1321.5
22.5°	1445.7	1425.2	1415.3	1402.7	1386.9	1367.1	1349.2	1328.1	1310.9	1293.1	1286.5
25°	1517.6	1496.5	1485.9	1466.1	1437.7	1409.3	1383.6	1355.2	1330.1	1309.0	1299.0
27.5°	1614.1	1592.9	1581.7	1561.2	1526.2	1497.8	1462.2	1431.8	1401.4	1370.4	1357.8
30°	1731.0	1712.5	1699.9	1683.4	1653.0	1622.0	1580.4	1533.5	1485.3	1435.8	1411.3
32.5°	1869.0	1848.5	1839.3	1820.1	1788.4	1756.1	1709.8	1649.7	1569.2	1491.2	1442.4
35°	2041.4	2018.2	2007.7	1982.6	1945.6	1898.0	1848.5	1767.9	1659.0	1550.7	1470.8
37.5°	2271.8	2220.3	2185.3	2127.9	2068.4	2001.7	1931.1	1848.5	1719.7	1585.7	1474.7
40°	2475.9	2423.7	2356.4	2273.8	2181.4	2089.6	2009.0	1915.2	1775.2	1610.8	1462.2
42.5°	2729.5	2637.1	2529.4	2417.8	2295.0	2182.0	2086.3	1976.0	1812.9	1617.4	1427.2
45°	2961.3	2851.0	2707.1	2558.5	2405.9	2263.9	2156.3	2033.4	1845.2	1617.4	1384.9
47.5°	3172.7	3040.6	2868.2	2683.3	2505.6	2350.4	2228.3	2092.2	1890.8	1637.8	1372.4
50°	3368.1	3216.2	3020.1	2805.5	2606.0	2440.3	2308.8	2167.5	1960.1	1690.7	1402.7
52.5°	3574.2	3413.1	3174.0	2946.1	2726.2	2548.6	2408.6	2260.6	2049.9	1773.9	1456.2
55°	3844.3	3655.4	3384.0	3133.0	2891.3	2695.2	2536.0	2372.2	2148.3	1867.7	1521.6
57.5°	4270.3	3996.2	3724.8	3398.5	3170.7	2912.5	2738.1	2549.9	2308.2	1989.8	1620.0
60°	5015.9	4679.1	4352.8	3977.7	3696.4	3426.3	3162.8	2917.1	2625.8	2265.9	1836.0
62.5°	6080.5	5738.4	5225.9	4766.9	4342.3	3984.3	3640.9	3328.5	2954.7	2561.1	2102.1
65°	6716.5	6324.8	5714.0	5097.1	4581.3	4137.5	3744.6	3362.2	2958.7	2575.0	2182.7
66°	6767.3	6396.8	5744.3	5092.5	4556.9	4096.6	3687.8	3292.2	2878.8	2511.6	2156.3
67.5°	6672.9	6353.9	5682.3	5002.7	4455.2	3957.9	3537.9	3123.1	2707.7	2367.6	2068.4
70°	6006.5	5776.0	5200.1	4563.5	4017.3	3578.8	3135.7	2736.8	2343.2	2057.2	1835.3
72.5°	4924.1	4632.2	4229.3	3801.4	3371.4	2982.5	2579.6	2240.1	1909.9	1701.9	1544.7
75°	3617.1	3354.3	2910.5	2643.7	2359.7	2115.3	1843.9	1522.3	1287.8	1183.5	1145.2
77.5°	2293.0	2007.7	1633.2	1338.7	1151.1	989.3	780.0	620.1	496.6	517.1	572.6
80°	1158.4	997.9	746.9	589.8	509.8	424.0	335.5	254.3	185.6	212.0	239.7
82.5°	743.6	620.8	494.7	389.6	328.9	289.9	231.8	168.4	125.5	141.3	173.0
85°	447.8	378.4	301.8	247.0	214.6	179.0	131.4	93.1	92.5	99.1	122.2
87.5°	68.0	97.1	56.1	60.1	63.4	68.0	60.1	50.9	44.2	57.5	72.6
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6	1344.6
2.5°	1363.1	1364.4	1367.1	1370.4	1369.7	1374.3	1377.0	1374.3	1380.3	1380.3	1383.6
5°	1388.2	1390.2	1394.8	1398.1	1399.4	1403.4	1404.7	1404.1	1405.4	1406.0	1407.4
7.5°	1395.5	1400.8	1402.7	1404.7	1405.4	1406.7	1406.7	1405.4	1405.4	1404.7	1406.0
10°	1393.5	1395.5	1396.8	1396.1	1396.1	1394.8	1394.1	1393.5	1393.5	1392.2	1394.1
12.5°	1386.9	1386.9	1386.9	1385.6	1385.6	1384.9	1384.9	1384.9	1386.2	1386.9	1390.2
15°	1373.7	1373.7	1375.0	1374.3	1376.3	1379.6	1383.6	1386.2	1389.5	1390.2	1392.2
17.5°	1353.2	1353.9	1357.8	1366.4	1375.0	1384.9	1392.2	1394.1	1391.5	1384.9	1380.3
20°	1317.5	1326.1	1342.0	1362.4	1381.6	1394.1	1397.4	1389.5	1377.0	1359.8	1350.6
22.5°	1285.8	1303.0	1331.4	1365.1	1388.9	1397.4	1387.5	1369.1	1346.6	1326.8	1312.9
25°	1298.4	1318.2	1347.9	1377.0	1392.2	1387.5	1367.7	1341.3	1317.5	1294.4	1272.0
27.5°	1351.2	1371.0	1392.2	1400.8	1395.5	1378.3	1350.6	1322.2	1290.5	1257.4	1229.7
30°	1401.4	1412.6	1414.0	1405.4	1386.2	1358.5	1326.1	1293.1	1252.8	1213.2	1178.2
32.5°	1417.3	1404.1	1380.3	1355.8	1329.4	1301.0	1263.4	1219.8	1176.9	1132.0	1093.0
35°	1412.6	1359.1	1300.4	1248.2	1216.5	1184.1	1149.8	1091.7	1043.5	1005.2	980.1
37.5°	1371.0	1273.3	1182.8	1106.9	1057.3	1019.0	968.2	920.0	878.4	861.2	840.7
40°	1312.9	1163.7	1038.2	931.9	880.3	831.5	774.7	737.7	725.8	710.0	710.6
42.5°	1229.7	1035.5	873.7	751.6	695.4	641.9	601.6	579.8	580.5	567.3	569.9
45°	1141.9	906.8	703.3	581.8	526.4	480.8	458.3	451.7	452.4	453.0	449.1
47.5°	1088.4	806.4	564.0	441.2	392.3	366.5	354.6	351.3	352.0	352.7	348.0
50°	1080.4	754.2	470.9	337.5	305.8	291.2	285.3	282.0	282.0	279.4	275.4
52.5°	1102.9	741.0	425.3	292.6	262.2	249.0	244.4	241.7	237.8	232.5	225.2
55°	1138.6	752.9	411.4	277.4	247.7	234.4	228.5	227.2	220.6	210.7	198.8
57.5°	1204.6	795.8	420.7	281.3	250.3	238.4	234.4	233.1	223.9	208.7	193.5
60°	1394.1	920.6	466.9	303.8	269.5	259.5	259.5	257.6	245.0	223.2	201.4
62.5°	1655.7	1103.6	529.7	334.8	295.9	294.5	305.8	306.4	284.0	249.0	214.6
65°	1781.8	1189.4	551.5	341.4	303.1	318.3	340.8	340.8	309.1	260.9	216.6
66°	1782.5	1187.4	544.8	333.5	295.2	315.0	338.1	338.1	305.1	257.6	213.3
67.5°	1736.9	1150.5	523.1	319.0	277.4	295.9	316.3	315.7	286.0	244.4	204.1
70°	1557.9	1017.7	461.0	295.2	256.2	256.9	264.2	259.5	239.7	211.3	185.6
72.5°	1343.3	851.3	399.6	280.0	239.7	227.2	221.2	217.3	204.7	187.6	171.7
75°	1030.3	661.1	348.0	266.1	225.2	203.4	195.5	192.2	183.6	173.7	161.1
77.5°	631.4	453.0	295.2	243.7	208.7	188.9	180.3	173.7	165.1	155.9	147.3
80°	272.1	273.4	236.4	206.7	181.6	158.5	147.3	139.3	134.7	131.4	126.8
82.5°	190.2	196.1	180.3	160.5	138.7	122.2	112.3	110.3	111.0	111.0	109.6
85°	142.7	140.0	126.1	114.9	105.0	94.4	86.5	85.9	88.5	88.5	86.5
87.5°	82.6	83.2	71.3	66.7	69.3	59.4	54.2	54.8	61.4	60.8	59.4
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):

	160°	165°	170°	175°	180°
0°	1344.6	1344.6	1344.6	1344.6	1344.6
2.5°	1383.6	1385.6	1384.9	1386.9	1384.9
5°	1409.3	1408.7	1408.0	1410.7	1407.4
7.5°	1405.4	1406.0	1406.0	1406.0	1405.4
10°	1395.5	1398.1	1399.4	1402.1	1401.4
12.5°	1392.2	1396.1	1400.1	1404.1	1404.7
15°	1392.8	1395.5	1397.4	1399.4	1400.1
17.5°	1375.7	1375.0	1373.0	1371.7	1370.4
20°	1340.7	1337.4	1334.0	1328.8	1331.4
22.5°	1297.1	1287.8	1277.3	1268.7	1268.0
25°	1246.2	1229.0	1211.9	1200.6	1196.7
27.5°	1201.3	1180.8	1163.0	1153.1	1150.5
30°	1147.8	1129.3	1113.5	1104.9	1099.6
32.5°	1068.6	1054.0	1034.2	1027.6	1027.0
35°	958.3	947.0	933.2	930.5	927.2
37.5°	833.4	829.5	822.9	815.0	813.6
40°	700.0	702.7	700.7	696.1	688.8
42.5°	571.3	575.9	576.5	579.8	583.2
45°	455.0	459.0	459.0	462.3	466.3
47.5°	349.4	346.7	348.7	352.0	354.0
50°	264.2	262.2	258.9	256.2	253.6
52.5°	212.7	208.7	199.4	196.8	194.2
55°	187.6	180.3	173.7	171.0	171.0
57.5°	180.3	171.0	163.8	160.5	159.2
60°	181.6	168.4	159.2	153.9	151.9
62.5°	187.6	169.1	156.5	150.6	148.6
65°	186.9	167.7	155.9	149.3	147.3
66°	183.6	165.8	154.5	148.6	147.3
67.5°	178.3	163.1	153.2	147.9	146.0
70°	167.7	157.8	150.6	146.0	144.0
72.5°	159.2	152.6	146.0	140.7	139.3
75°	151.2	144.6	138.7	136.0	134.1
77.5°	139.3	133.4	130.1	127.5	126.1
80°	123.5	119.5	115.6	112.9	111.0
82.5°	107.6	102.4	98.4	96.4	95.1
85°	87.8	84.5	78.6	74.6	74.0
87.5°	58.8	55.5	53.5	50.2	46.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)