

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: P158199

Luminaire Tested: **VST-E02-LED-E-U-SL2-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P158199
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33712)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: VST-E02-LED-E-U-SL2-7030
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 2 W/ SPILL LIGHT CONTROL
Light Source: (42) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5496.1 lumens
Efficiency: N/A
Efficacy: 105.5 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

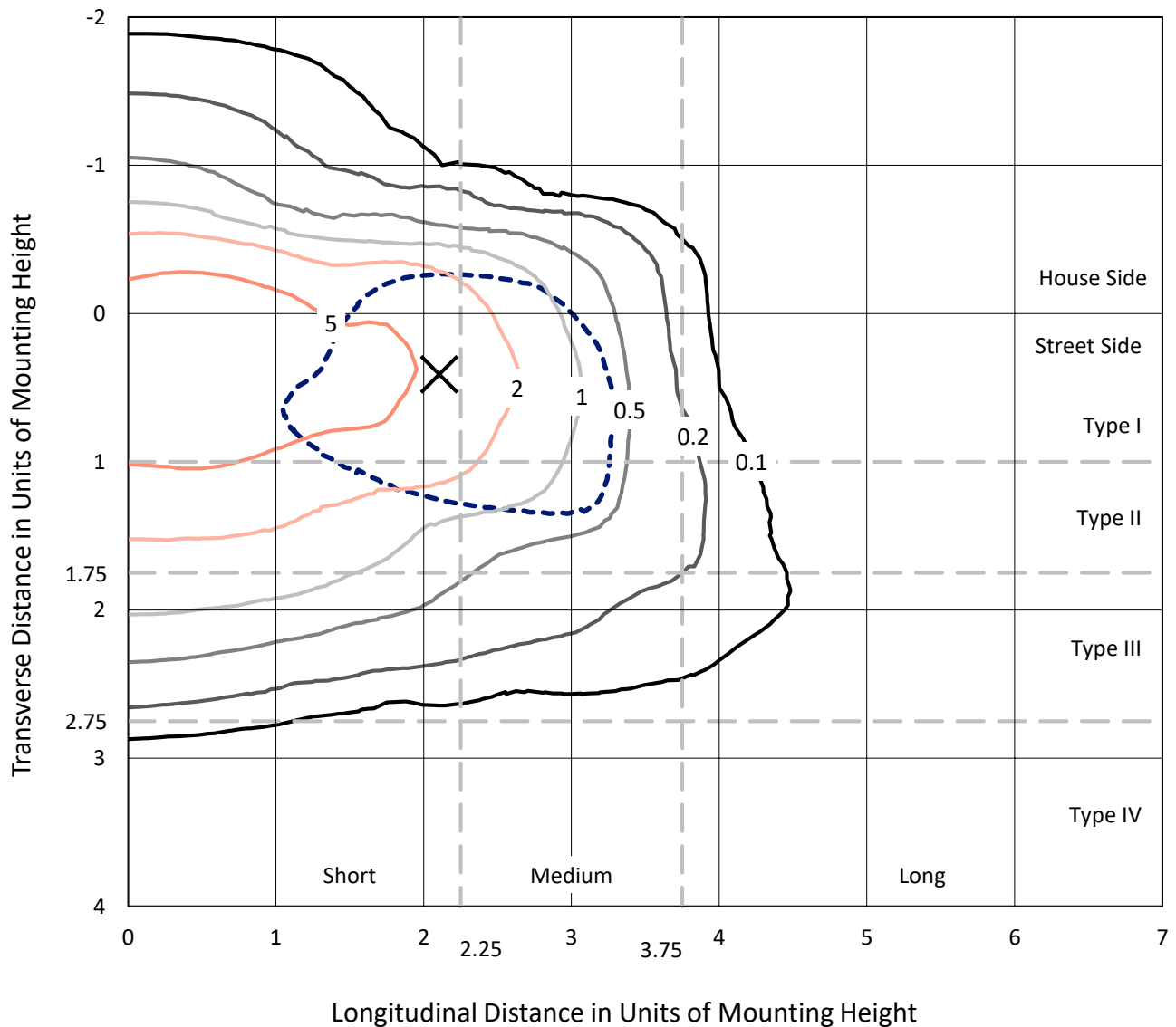
Input Watts (W): 52.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

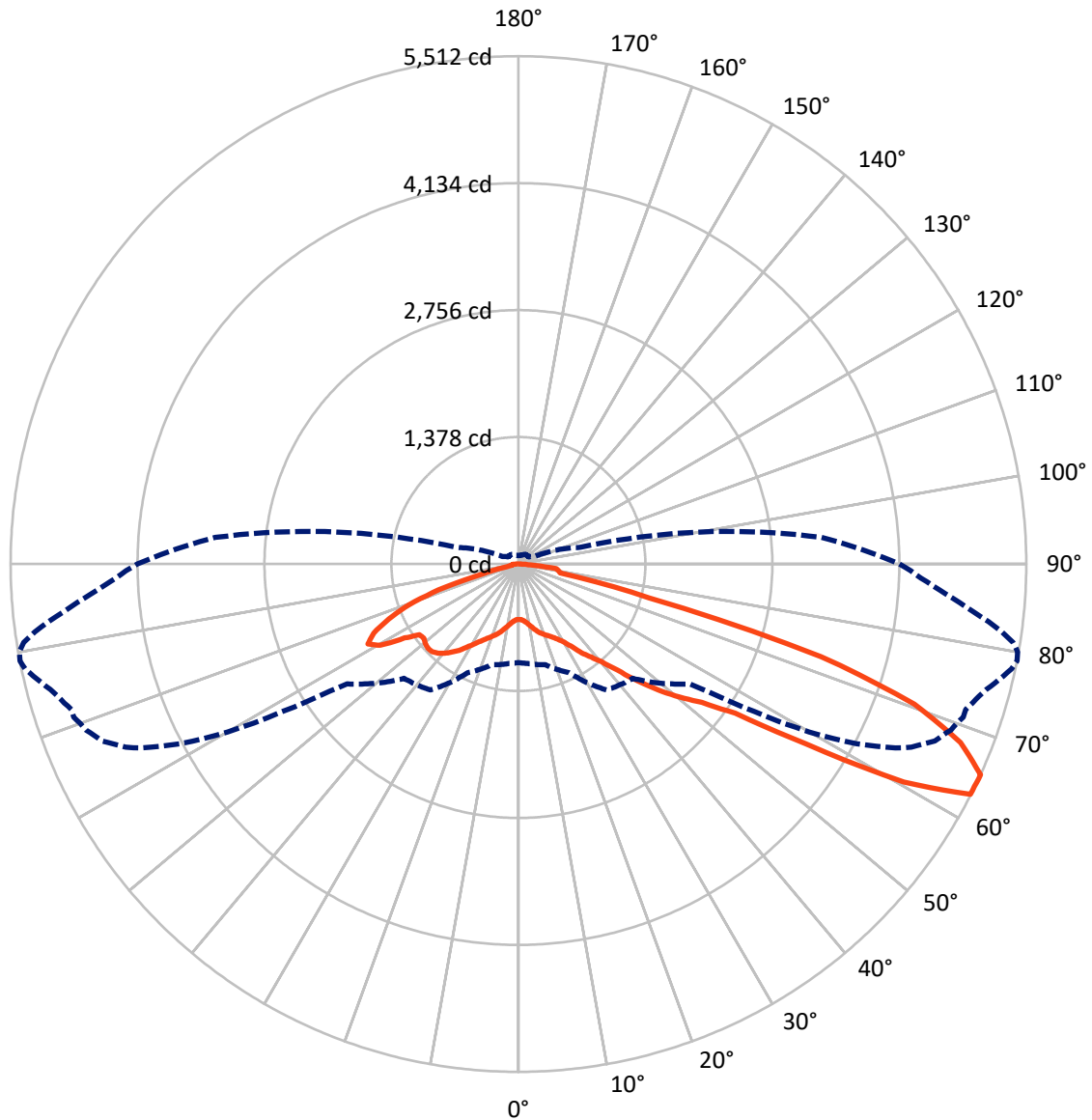
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.8 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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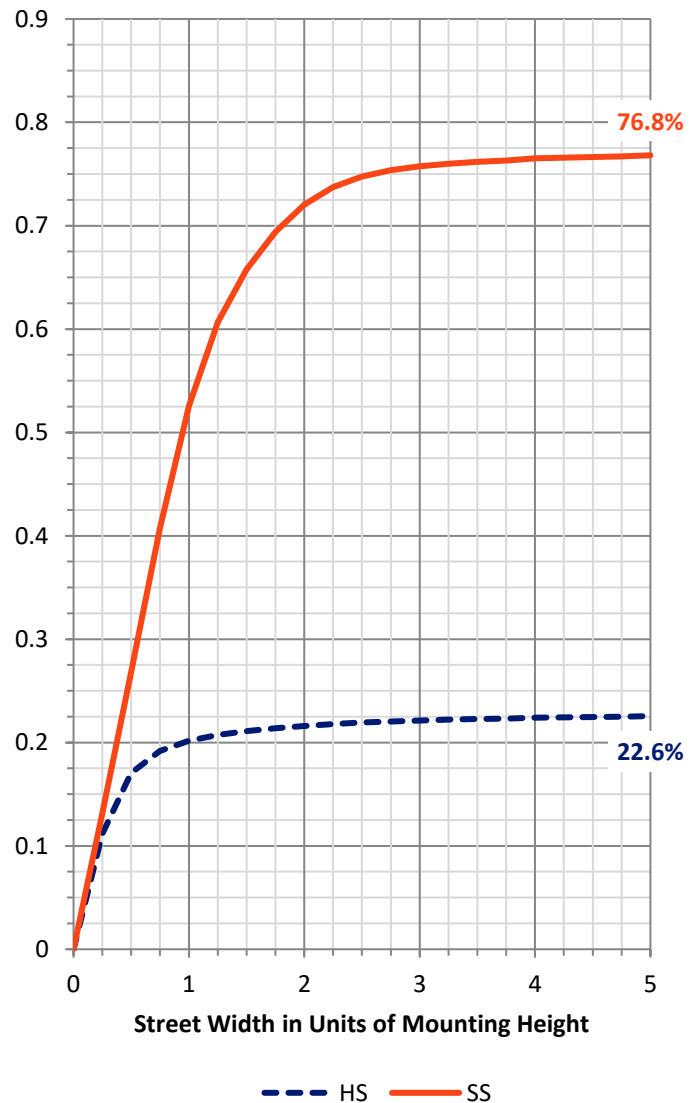
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1262.9	0.0	1262.9
	% Fixture	23.0	0.0	23.0
Street Side	Lumens	4233.2	0.0	4233.2
	% Fixture	77.0	0.0	77.0
Total	Lumens	5496.1	0.0	5496.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.5	1.1
10°-20°	193.2	3.5
20°-30°	333.1	6.1
30°-40°	545.6	9.9
40°-50°	913.7	16.6
50°-60°	1236.0	22.5
60°-70°	1522.1	27.7
70°-80°	589.2	10.7
80°-90°	103.6	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°	5496.1	100.0
0°-180°	5496.1	100.0



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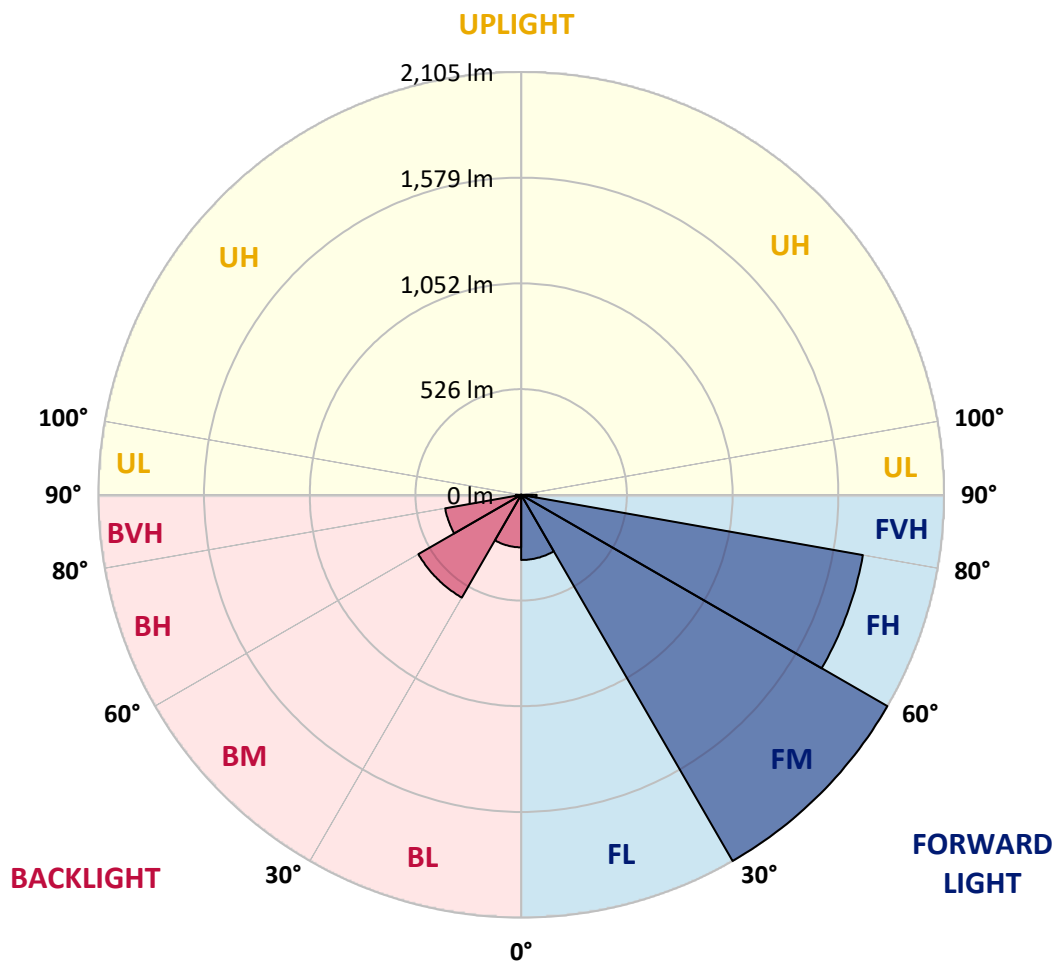
CATALOG NUMBER: VST-E02-LED-E-U-SL2-7030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	324.5	5.9			
FM	(30°-60°)	2104.8	38.3			
FH	(60°-80°)	1727.1	31.4			G1/1800
FVH	(80°-90°)	76.9	1.4			G1/100
BL	(0°-30°)	261.4	4.8	B1/500		
BM	(30°-60°)	590.6	10.7	B1/1000		
BH	(60°-80°)	384.2	7.0	B1/500		G1/500
BVH	(80°-90°)	26.7	0.5			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°	56°	57°	58°	59°
0°	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3
2.5°	602.5	600.6	602.5	603.9	605.0	606.5	606.1	605.8	605.3	605.8	605.8
5°	607.6	607.2	609.0	610.5	613.0	614.9	617.0	617.0	617.0	616.7	617.4
7.5°	624.0	623.6	625.4	626.9	629.1	632.8	635.7	637.1	636.8	636.8	636.8
10°	651.1	649.6	649.6	649.6	652.5	655.1	661.6	662.3	663.8	663.1	663.5
12.5°	677.3	677.7	676.6	675.5	675.9	681.0	690.5	692.3	692.7	693.8	694.5
15°	701.1	700.7	698.2	695.6	698.9	707.6	720.1	723.4	723.4	725.6	727.0
17.5°	723.0	722.3	717.5	713.2	716.5	731.4	750.8	752.9	756.2	757.4	758.8
20°	748.9	747.5	742.0	730.3	730.3	750.8	776.3	778.6	781.4	782.2	784.7
22.5°	785.1	781.4	769.8	748.6	742.7	766.5	797.9	799.0	801.2	804.1	806.3
25°	826.0	826.7	807.8	770.9	758.1	782.9	818.7	820.6	824.6	826.7	829.3
27.5°	868.4	869.5	848.3	802.3	780.7	805.6	846.8	849.1	853.8	856.4	860.4
30°	916.6	918.1	897.7	851.2	818.3	838.8	888.5	894.4	898.4	901.7	908.2
32.5°	1032.5	1023.7	1009.4	960.1	908.2	906.8	955.7	962.3	967.8	974.7	980.9
35°	1178.2	1183.7	1191.0	1157.8	1112.1	1078.9	1082.9	1079.2	1084.3	1094.6	1100.8
37.5°	1293.7	1305.7	1337.5	1359.1	1357.3	1350.7	1289.3	1289.3	1292.6	1287.1	1286.3
40°	1384.3	1391.9	1457.0	1540.6	1611.1	1645.9	1597.3	1590.3	1594.0	1565.8	1567.0
42.5°	1431.1	1442.3	1535.9	1682.8	1822.7	1934.1	1919.2	1914.4	1903.4	1896.5	1892.1
45°	1454.8	1468.3	1579.7	1781.4	1985.3	2157.4	2234.8	2234.0	2224.2	2216.2	2212.5
47.5°	1442.7	1454.4	1573.1	1811.3	2070.7	2301.3	2472.6	2483.2	2480.3	2492.0	2496.7
50°	1363.8	1378.8	1497.9	1746.7	2035.0	2357.9	2637.4	2657.1	2683.8	2700.6	2722.9
52.5°	1292.6	1305.0	1412.4	1641.8	1917.3	2311.9	2736.8	2777.3	2813.8	2848.2	2874.8
55°	1218.1	1230.5	1324.7	1532.9	1798.6	2176.0	2782.1	2841.2	2898.2	2956.3	3009.7
57.5°	1189.9	1203.1	1273.2	1448.6	1701.4	2041.1	2804.3	2901.5	2994.3	3092.9	3195.2
60°	1263.0	1274.7	1328.0	1450.7	1627.2	1906.3	2759.4	2912.1	3071.8	3234.4	3391.4
62.5°	1240.7	1246.9	1313.4	1503.7	1721.8	1773.4	2564.7	2766.4	2998.3	3236.5	3477.3
65°	1070.5	1082.5	1132.6	1299.9	1668.9	1755.5	2268.1	2470.8	2744.5	3026.1	3348.7
67.5°	767.9	751.1	789.8	936.4	1294.7	1752.5	1934.1	2084.3	2298.7	2514.7	2779.1
70°	348.9	340.9	371.2	487.0	781.1	1385.0	1635.2	1686.1	1765.7	1911.1	2089.7
72.5°	137.8	137.3	157.1	201.3	369.4	891.4	1375.1	1404.4	1432.5	1495.7	1572.8
75°	90.2	90.2	96.1	108.5	181.9	430.4	1163.2	1189.9	1233.0	1250.9	1283.8
77.5°	68.0	68.3	70.9	73.8	100.4	226.5	820.9	915.5	988.6	1043.0	1082.9
80°	48.2	50.4	55.1	57.0	65.4	128.9	464.0	532.3	614.9	702.9	813.6
82.5°	36.2	38.7	46.7	49.0	51.9	73.4	209.3	237.5	277.3	359.5	517.0
85°	16.8	18.7	32.2	35.1	37.6	42.4	106.3	118.7	134.8	147.6	172.1
87.5°	2.6	1.8	5.5	7.7	12.1	12.4	36.5	43.5	47.1	56.6	58.8
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):

	60°	61°	62°	64°	65°	66°	67°	68°	69°	70°	71°
0°	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3
2.5°	605.8	606.1	606.5	605.8	606.1	606.1	605.3	605.0	605.0	605.0	605.3
5°	617.4	618.2	617.4	617.8	619.3	618.9	618.2	617.8	619.3	619.6	618.5
7.5°	638.2	638.6	637.1	639.0	639.7	640.1	640.1	640.8	640.8	641.9	640.8
10°	664.9	664.9	667.5	667.1	667.5	668.2	668.6	670.0	671.1	671.1	671.9
12.5°	695.6	696.0	698.5	698.9	700.4	700.7	702.9	701.5	705.1	705.1	706.2
15°	727.4	730.0	730.3	734.0	734.7	735.1	738.0	738.0	740.5	740.9	741.7
17.5°	758.8	761.0	762.5	765.4	767.9	769.0	770.2	772.3	774.2	774.9	776.7
20°	785.8	788.0	789.5	792.4	794.6	796.4	797.5	800.1	801.9	802.7	805.2
22.5°	808.5	809.9	812.5	816.5	817.3	819.5	822.7	824.6	825.3	827.5	830.4
25°	832.6	834.8	836.3	839.9	842.8	846.5	849.4	852.4	853.1	856.0	858.5
27.5°	864.8	866.9	867.3	874.6	877.6	882.7	886.0	890.3	892.5	895.1	900.2
30°	912.2	917.3	919.6	928.0	929.4	935.3	941.1	942.6	945.8	946.3	954.7
32.5°	985.0	992.3	995.2	1004.0	1006.1	1011.6	1014.9	1022.6	1022.9	1026.6	1028.5
35°	1104.1	1102.3	1113.5	1115.8	1122.3	1127.1	1130.3	1130.3	1137.3	1137.7	1139.9
37.5°	1266.7	1263.0	1265.9	1252.7	1256.0	1250.2	1249.1	1250.6	1247.6	1248.4	1248.0
40°	1526.8	1510.3	1493.2	1452.6	1443.8	1427.0	1413.8	1403.3	1393.0	1382.1	1374.8
42.5°	1853.0	1829.3	1803.7	1738.7	1708.3	1675.8	1644.1	1625.8	1589.2	1567.0	1554.9
45°	2195.0	2167.2	2131.4	2077.3	2034.2	1999.5	1941.4	1914.0	1857.4	1829.3	1791.2
47.5°	2475.2	2475.5	2446.7	2391.9	2345.8	2322.8	2286.7	2233.7	2169.4	2133.2	2065.6
50°	2720.3	2720.0	2718.1	2685.2	2653.1	2627.9	2596.1	2548.3	2495.6	2454.7	2377.3
52.5°	2901.5	2925.7	2935.9	2935.5	2931.5	2919.8	2895.7	2854.4	2801.0	2778.1	2716.3
55°	3051.3	3103.9	3131.3	3191.2	3196.7	3216.1	3194.9	3195.2	3163.9	3166.0	3146.3
57.5°	3278.2	3374.3	3429.4	3562.1	3628.6	3709.0	3694.7	3761.9	3786.4	3817.4	3858.7
60°	3535.7	3715.1	3845.9	4109.7	4217.1	4347.2	4418.8	4495.1	4550.7	4607.6	4649.7
62.5°	3719.9	3955.6	4170.4	4546.3	4685.9	4822.9	4913.1	5005.5	5068.0	5108.9	5139.2
65°	3644.6	3905.1	4159.0	4553.2	4705.2	4804.6	4912.0	4965.4	5027.8	5061.8	5105.3
67.5°	3097.0	3358.2	3630.4	4095.5	4254.4	4391.8	4475.4	4544.5	4594.9	4638.0	4688.0
70°	2303.1	2588.8	2870.1	3380.1	3580.7	3779.1	3877.7	3963.2	4015.8	4059.3	4114.4
72.5°	1657.6	1836.5	2012.3	2583.3	2783.9	3040.4	3142.7	3237.7	3305.9	3303.8	3362.2
75°	1319.6	1392.3	1470.5	1765.3	1909.3	2125.6	2182.9	2236.3	2204.1	2142.4	2138.7
77.5°	1098.6	1128.5	1154.8	1247.3	1268.5	1320.0	1291.5	1261.9	1166.5	1086.2	1043.8
80°	891.8	951.0	989.7	1055.5	1082.5	1097.8	1101.8	1091.6	1056.5	1008.0	930.5
82.5°	663.1	775.6	852.4	981.7	1029.2	1039.0	1058.0	1046.3	1023.3	983.9	928.3
85°	194.3	220.0	252.1	341.9	400.8	450.8	502.0	527.2	542.9	521.0	463.6
87.5°	68.3	77.1	86.2	118.7	126.4	152.7	149.8	176.8	177.9	185.6	177.5
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):

	72°	73°	74°	75°	76°	77°	78°	79°	80°	81°	82°
0°	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3
2.5°	605.0	605.0	605.0	605.3	605.3	605.3	604.6	604.3	604.6	605.3	605.3
5°	619.3	619.6	620.3	618.9	619.3	620.3	619.6	619.3	619.6	620.3	619.6
7.5°	642.2	642.7	641.9	643.4	643.4	644.1	645.2	644.1	644.5	644.8	645.2
10°	672.2	672.6	673.3	674.4	674.8	675.5	676.3	677.3	677.3	676.6	678.4
12.5°	708.0	707.6	708.4	709.9	710.6	711.7	713.9	713.9	715.3	715.0	716.8
15°	743.1	744.9	745.3	747.8	748.9	750.8	753.4	754.8	754.8	757.0	757.7
17.5°	778.2	779.6	781.1	783.3	784.7	785.8	788.8	790.6	790.3	794.2	794.2
20°	805.2	808.1	809.9	811.4	814.0	815.8	818.0	820.2	821.6	824.2	824.9
22.5°	831.5	833.3	835.9	837.7	840.7	842.8	845.4	847.2	849.8	853.1	854.2
25°	860.8	863.6	866.6	869.2	871.3	873.9	878.3	882.3	886.0	888.9	890.0
27.5°	901.3	904.6	908.9	910.8	914.1	916.3	922.9	928.0	929.8	934.9	936.4
30°	956.1	959.8	964.1	966.3	972.2	975.1	982.0	987.5	989.3	995.6	996.7
32.5°	1035.4	1037.6	1046.3	1046.0	1054.0	1062.4	1066.4	1070.8	1078.9	1082.2	1083.2
35°	1145.3	1150.4	1156.7	1156.3	1166.5	1171.3	1179.3	1184.0	1189.9	1189.6	1195.7
37.5°	1251.7	1253.5	1255.7	1260.4	1267.7	1274.3	1277.2	1282.0	1286.3	1292.9	1301.0
40°	1367.5	1371.8	1372.2	1374.8	1378.4	1386.8	1392.3	1397.4	1412.4	1421.9	1426.7
42.5°	1541.0	1539.9	1532.6	1537.4	1539.5	1552.3	1556.3	1572.1	1588.9	1609.0	1614.4
45°	1764.2	1749.6	1745.2	1743.4	1755.1	1761.7	1778.1	1807.3	1824.9	1843.9	1853.0
47.5°	2039.0	1993.3	1971.7	1967.0	1979.0	2007.2	2012.6	2041.5	2064.5	2078.4	2087.6
50°	2314.1	2278.3	2233.0	2217.6	2214.3	2240.3	2246.5	2270.6	2294.0	2298.0	2293.3
52.5°	2659.7	2601.2	2526.3	2499.3	2477.8	2479.6	2484.7	2494.9	2509.9	2503.7	2490.9
55°	3101.8	3035.2	2998.3	2947.2	2914.7	2908.9	2886.5	2855.9	2854.7	2858.8	2820.4
57.5°	3837.9	3810.1	3825.8	3820.4	3788.2	3807.6	3707.1	3678.6	3656.0	3616.5	3581.0
60°	4687.0	4715.5	4748.0	4822.9	4819.6	4894.8	4825.0	4807.5	4786.3	4664.6	4605.1
62.5°	5192.2	5203.6	5251.4	5321.2	5389.9	5461.9	5494.4	5505.7	5461.4	5362.1	5237.9
65°	5104.1	5154.2	5200.6	5260.9	5331.4	5403.4	5472.1	5512.3	5502.0	5436.2	5299.6
67.5°	4704.1	4756.7	4824.7	4887.9	4963.9	5026.3	5101.6	5175.4	5177.6	5144.7	5049.7
70°	4120.3	4181.3	4251.5	4286.9	4369.1	4425.7	4488.2	4561.3	4585.0	4589.0	4478.3
72.5°	3349.8	3375.4	3409.7	3391.1	3407.5	3443.7	3426.9	3432.7	3342.5	3359.3	3222.7
75°	2040.1	2016.7	1912.9	1818.3	1702.9	1614.1	1635.2	1465.7	1298.8	1290.4	1169.8
77.5°	1034.6	997.4	933.1	866.2	768.3	656.2	562.6	461.8	376.7	328.1	281.7
80°	881.2	854.9	819.5	770.9	699.6	616.7	519.1	442.4	371.2	297.0	237.8
82.5°	843.2	762.8	711.3	670.7	593.7	517.0	463.6	411.0	360.6	314.9	249.5
85°	418.3	370.1	313.1	277.7	213.7	167.3	156.7	128.9	120.2	92.8	78.2
87.5°	140.6	115.1	85.9	72.4	57.7	47.1	46.4	41.3	40.9	37.3	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):

	83°	84°	85°	86°	87°	88°	89°	90°	95°	105°	115°
0°	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3
2.5°	605.0	605.8	605.8	605.0	605.3	604.6	605.0	605.3	604.3	603.9	602.8
5°	620.0	619.6	619.6	620.0	621.1	621.4	619.6	620.3	620.7	618.9	614.9
7.5°	644.8	644.8	645.9	645.5	647.8	647.0	646.7	646.7	646.7	643.0	636.4
10°	678.4	678.4	679.6	681.0	681.4	680.6	680.6	681.0	682.8	675.5	665.3
12.5°	716.0	717.9	717.5	717.5	721.9	720.8	719.3	720.8	722.6	712.4	697.8
15°	758.1	759.2	759.9	762.5	761.8	764.3	765.0	764.3	766.1	752.9	728.5
17.5°	796.1	798.2	799.0	801.9	801.9	802.3	805.2	804.1	804.5	789.5	754.4
20°	827.5	829.7	830.8	834.1	834.8	836.3	837.4	838.1	839.9	822.0	775.6
22.5°	858.9	860.8	862.6	864.8	867.7	869.5	871.0	871.7	875.0	854.2	795.7
25°	894.0	898.0	899.8	903.5	906.4	909.4	911.5	911.9	917.3	891.4	812.2
27.5°	940.7	946.3	949.1	955.0	957.9	960.8	960.1	964.5	972.2	934.2	824.9
30°	1002.1	1009.1	1010.9	1016.8	1021.5	1024.4	1027.7	1031.3	1036.4	981.7	831.1
32.5°	1087.6	1098.2	1100.8	1104.1	1111.0	1116.1	1118.3	1124.2	1125.6	1026.6	829.3
35°	1204.9	1200.1	1212.5	1215.5	1225.4	1229.3	1231.9	1239.6	1233.8	1075.6	817.3
37.5°	1310.8	1309.4	1321.4	1328.0	1340.8	1337.9	1344.1	1349.2	1328.4	1110.2	795.0
40°	1440.2	1438.3	1455.1	1457.3	1477.1	1472.7	1475.2	1479.2	1432.9	1134.4	754.4
42.5°	1620.7	1621.4	1639.3	1641.5	1644.1	1652.0	1638.9	1639.6	1543.9	1141.0	687.6
45°	1858.5	1871.3	1860.3	1860.7	1859.9	1844.6	1828.1	1808.8	1659.4	1118.3	601.3
47.5°	2089.0	2080.3	2066.3	2053.6	2043.0	2018.9	1994.8	1961.9	1759.1	1064.6	505.3
50°	2286.3	2266.6	2254.1	2218.7	2193.5	2162.1	2128.5	2090.8	1840.9	987.1	415.4
52.5°	2469.7	2449.3	2402.8	2365.9	2329.8	2288.1	2249.0	2204.8	1913.3	898.7	346.7
55°	2774.4	2756.5	2710.1	2642.5	2597.9	2540.6	2489.0	2429.2	2059.8	827.2	301.4
57.5°	3483.5	3468.2	3370.6	3327.9	3269.0	3125.1	3103.9	3010.4	2452.5	818.7	274.7
60°	4482.0	4416.2	4335.1	4218.2	4080.5	4033.0	3927.1	3802.4	3084.5	841.7	253.2
62.5°	5095.0	4945.3	4826.2	4691.3	4564.6	4455.7	4339.9	4216.7	3407.9	811.4	226.5
65°	5141.0	4965.0	4807.5	4649.3	4506.8	4371.3	4258.7	4135.7	3302.7	697.4	191.8
67.5°	4887.5	4701.9	4530.2	4350.8	4206.9	4084.5	3941.3	3822.9	3006.0	542.9	159.7
70°	4364.7	4201.8	4053.8	3860.5	3741.1	3592.0	3501.1	3353.1	2620.2	370.1	131.9
72.5°	3143.8	3021.0	2972.8	2837.9	2681.6	2593.9	2551.9	2408.3	1936.3	229.8	107.8
75°	1062.1	1092.4	1022.9	916.6	968.5	888.5	921.0	852.7	819.1	131.9	90.6
77.5°	235.6	221.4	204.6	190.0	188.9	177.5	188.2	177.9	190.3	84.0	80.0
80°	185.9	146.9	124.9	114.0	108.1	104.9	102.3	99.4	90.6	71.6	73.8
82.5°	200.9	151.6	111.1	88.8	76.0	71.2	70.1	67.2	66.5	69.4	74.5
85°	64.3	53.7	45.7	43.1	39.8	38.0	37.3	36.2	43.9	75.6	71.6
87.5°	33.6	29.6	26.3	25.2	21.9	20.5	20.1	20.5	30.7	75.6	51.9
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):

	125°	135°	145°	155°	165°	175°	180°
0°	601.3	601.3	601.3	601.3	601.3	601.3	601.3
2.5°	601.7	601.3	600.6	600.2	599.9	598.1	599.5
5°	613.0	609.4	606.1	602.1	599.9	598.1	598.1
7.5°	630.2	620.0	611.6	602.5	596.2	591.5	590.8
10°	651.8	632.0	612.7	596.2	584.5	575.8	574.7
12.5°	672.2	642.2	611.6	584.5	566.3	553.9	553.1
15°	691.2	647.8	603.2	563.3	536.0	519.5	517.7
17.5°	706.2	644.5	584.2	533.8	496.5	477.1	476.0
20°	709.5	631.3	557.2	497.2	457.8	437.3	432.5
22.5°	706.6	607.6	523.6	457.0	411.7	391.3	388.7
25°	697.8	578.7	481.9	410.3	368.3	347.5	342.3
27.5°	682.1	544.7	436.9	365.0	323.3	303.2	298.1
30°	658.7	503.8	389.1	322.6	279.5	263.4	258.3
32.5°	626.2	454.1	341.9	279.1	243.3	230.5	228.4
35°	581.3	397.1	292.6	243.3	217.0	209.3	208.3
37.5°	523.9	340.1	251.3	217.7	198.7	194.0	193.3
40°	449.0	281.7	222.1	199.5	185.6	181.6	180.8
42.5°	371.9	237.8	200.6	184.9	173.5	169.9	168.8
45°	304.3	208.3	184.5	172.8	162.2	158.2	157.8
47.5°	253.9	191.1	171.4	161.8	151.3	146.5	146.9
50°	217.0	175.4	160.4	152.3	140.3	135.9	136.3
52.5°	191.8	159.7	150.2	141.0	130.8	126.4	126.4
55°	172.1	146.9	140.3	130.4	122.4	118.4	118.0
57.5°	156.0	136.6	130.8	122.8	114.7	110.0	110.0
60°	146.2	129.4	124.6	117.3	107.8	102.7	102.3
62.5°	140.3	127.1	123.1	112.9	102.3	97.2	96.1
65°	135.9	132.2	127.1	110.3	97.9	92.5	91.3
67.5°	136.3	144.3	137.0	111.8	96.4	88.4	86.9
70°	138.5	153.8	143.9	115.1	102.7	86.6	83.3
72.5°	127.5	139.2	129.7	109.6	100.1	83.3	79.3
75°	106.3	101.6	93.2	89.2	89.9	75.6	74.2
77.5°	86.2	75.6	67.6	70.9	75.6	64.7	63.2
80°	74.9	61.4	57.4	62.8	68.7	55.1	51.5
82.5°	70.1	51.9	49.3	65.4	72.0	47.5	41.6
85°	61.7	42.4	38.7	77.1	72.0	35.8	33.2
87.5°	41.3	25.2	24.1	56.6	49.3	24.8	20.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)