

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: P165532

Luminaire Tested: **VST-F09-LED-E-U-SL4-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P165532
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33728)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: VST-F09-LED-E-U-SL4-HSS
Description: VENTUS LED SITE/ROADWAY LUMINAIRE
(9) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND
HOUSE SIDE SHIELD
Light Source: (63) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14937.4 lumens
Efficiency: N/A
Efficacy: 63.6 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1.5' x L: 1' x H: 0.1')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G4

Input Watts (W): 234.8
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

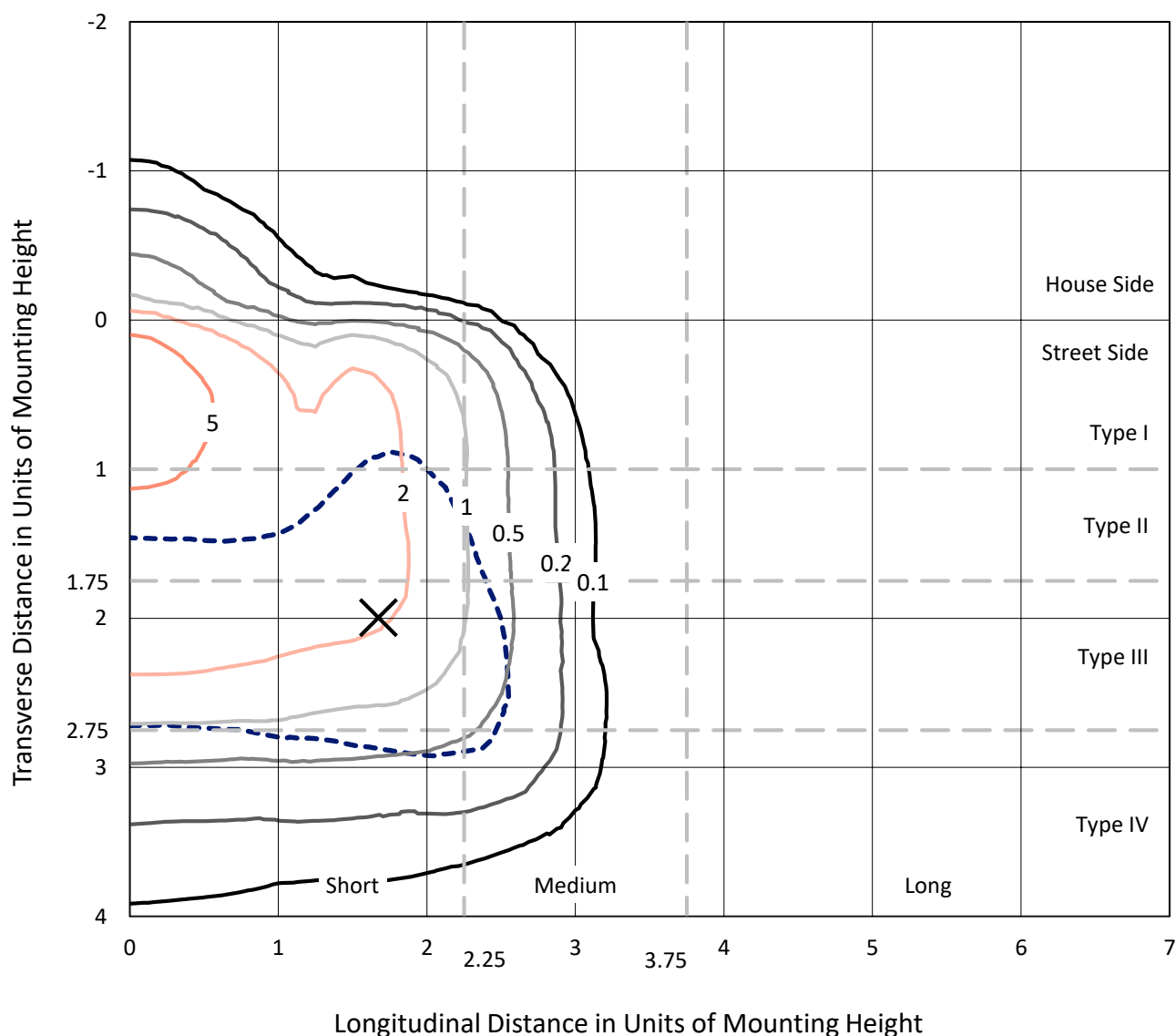


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 --- 1/2 Max cd

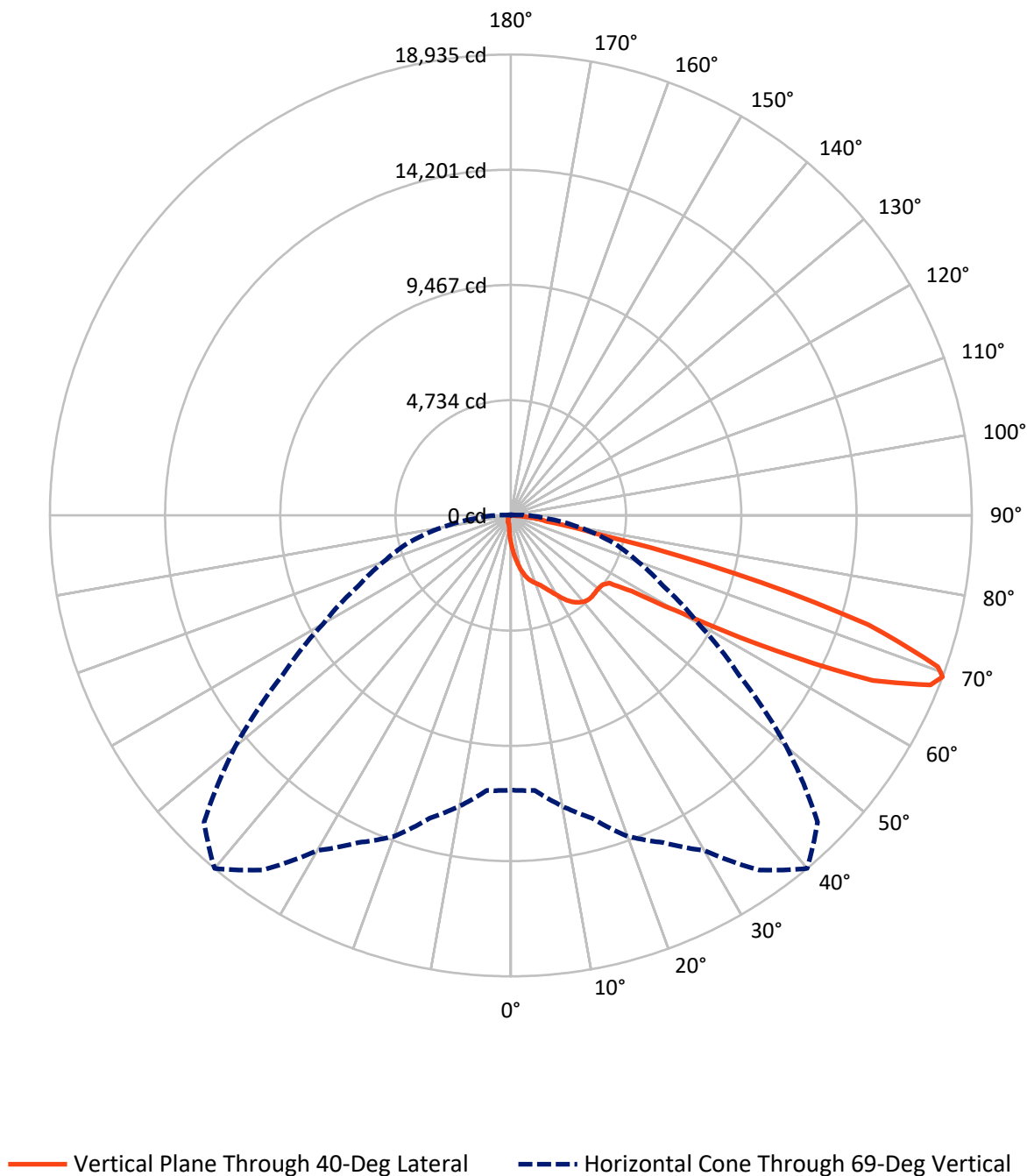


Based on 20 foot mounting height. Maximum calculated value = 8.4 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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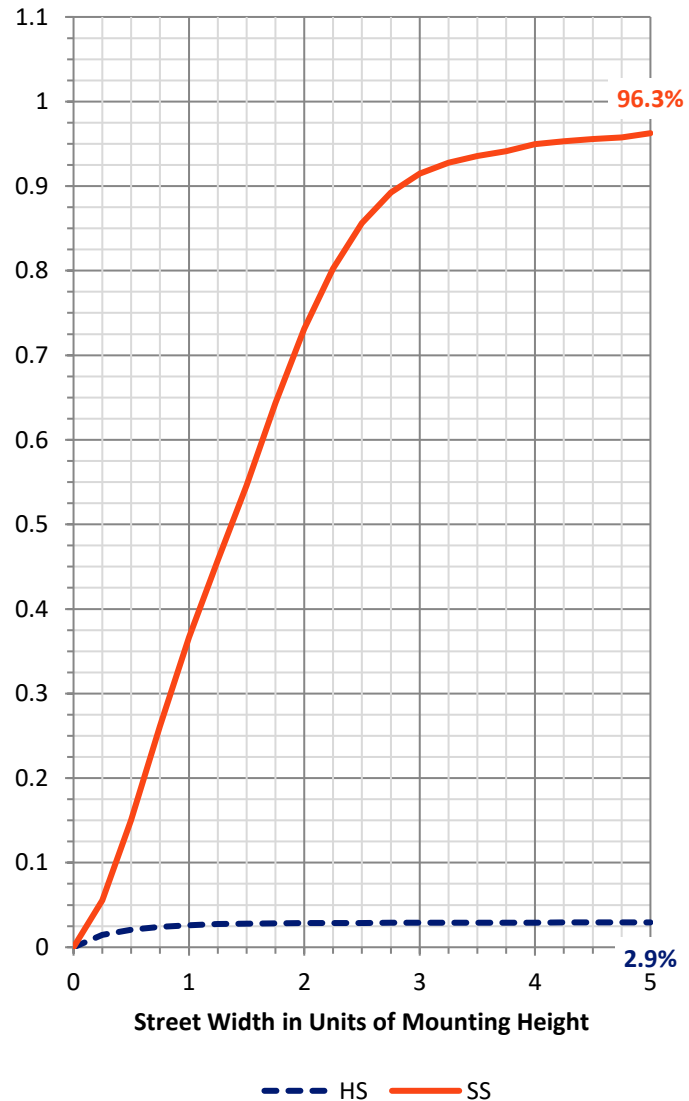
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	444.8	0.0	444.8
	% Fixture	3.0	0.0	3.0
Street Side	Lumens	14492.6	0.0	14492.6
	% Fixture	97.0	0.0	97.0
Total	Lumens	14937.4	0.0	14937.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.9	0.8
10°-20°	399.8	2.7
20°-30°	765.1	5.1
30°-40°	1272.4	8.5
40°-50°	1721.8	11.5
50°-60°	2692.7	18.0
60°-70°	5536.1	37.1
70°-80°	2227.6	14.9
80°-90°	206.1	1.4
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°	14937.4	100.0
0°-180°	14937.4	100.0

Coefficient of Utilization



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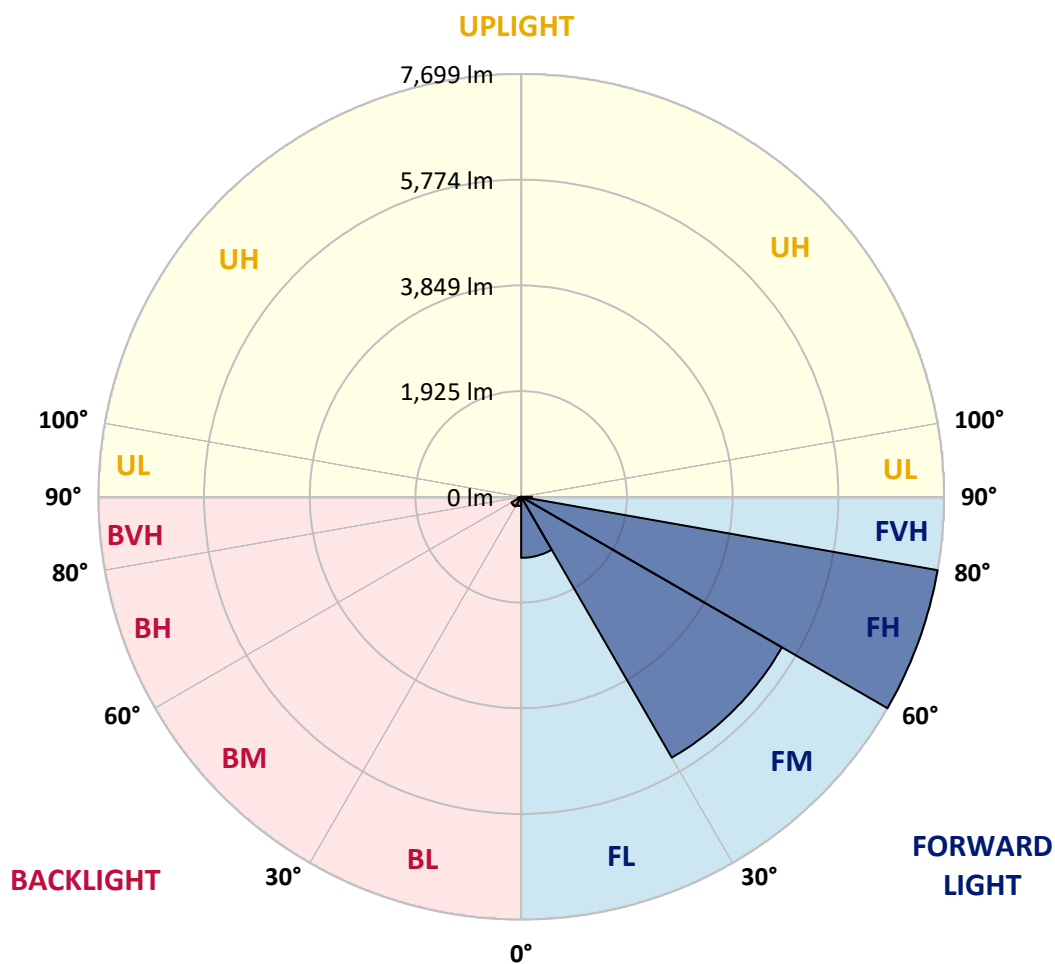
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1111.6	7.4			
FM	(30°-60°)	5483.7	36.7			
FH	(60°-80°)	7698.8	51.5			G4/12000
FVH	(80°-90°)	198.4	1.3			G2/225
BL	(0°-30°)	169.2	1.1	B1/500		
BM	(30°-60°)	203.1	1.4	B0/220		
BH	(60°-80°)	64.9	0.4	B0/110		G0/110
BVH	(80°-90°)	7.7	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1
2.5°	1505.0	1487.7	1468.1	1468.1	1443.7	1443.7	1429.0	1390.0	1385.0	1362.9	1340.9
5°	1920.9	1906.2	1881.8	1859.7	1840.2	1805.9	1781.4	1734.8	1683.6	1634.5	1590.6
7.5°	2327.1	2319.7	2275.7	2268.3	2236.5	2180.3	2131.3	2062.8	1974.7	1906.2	1825.5
10°	2704.0	2686.7	2676.9	2635.3	2589.0	2527.7	2451.8	2368.7	2265.9	2158.2	2043.2
12.5°	3002.5	2992.7	2948.6	2931.5	2882.6	2821.4	2726.0	2618.2	2515.6	2376.0	2241.4
15°	3225.1	3208.0	3178.6	3151.7	3093.0	3039.2	2951.1	2833.5	2708.9	2557.2	2395.6
17.5°	3411.1	3379.3	3371.9	3330.3	3269.2	3205.5	3107.7	3000.0	2853.2	2701.4	2525.2
20°	3660.6	3616.6	3601.9	3540.7	3469.8	3381.7	3269.2	3134.6	2980.4	2814.1	2632.9
22.5°	3954.2	3922.4	3890.6	3836.9	3746.4	3621.5	3457.6	3310.8	3115.0	2931.5	2735.8
25°	4370.3	4343.4	4292.0	4218.6	4106.0	3956.8	3758.5	3543.2	3313.2	3078.3	2848.3
27.5°	4774.0	4749.5	4712.8	4656.7	4529.3	4365.4	4120.7	3846.7	3555.4	3271.6	3017.1
30°	5153.4	5131.3	5094.6	5038.4	4925.8	4764.2	4487.7	4194.1	3832.0	3501.6	3195.8
32.5°	5562.0	5554.6	5513.0	5432.3	5334.4	5116.7	4815.7	4500.0	4133.0	3751.3	3393.9
35°	6024.5	5968.1	5929.1	5848.2	5682.0	5449.4	5097.1	4752.1	4365.4	3973.9	3575.0
37.5°	6416.0	6362.2	6313.2	6210.5	6007.4	5711.2	5312.4	4933.0	4534.2	4135.4	3729.1
40°	6702.2	6675.3	6616.6	6482.0	6254.5	5902.2	5471.4	5057.9	4656.7	4255.3	3853.9
42.5°	6915.1	6873.5	6807.6	6668.0	6398.9	5997.6	5535.0	5109.3	4712.8	4328.7	3934.8
45°	6993.5	6959.3	6898.1	6746.3	6455.1	6024.5	5532.6	5094.6	4715.3	4350.7	3988.6
47.5°	6946.9	6912.8	6858.8	6716.9	6430.7	5992.7	5488.6	5053.0	4690.8	4358.1	4037.5
50°	6792.8	6773.2	6731.6	6611.7	6354.8	5931.4	5449.4	5031.0	4685.9	4394.8	4106.0
52.5°	6778.1	6766.0	6714.5	6594.6	6332.8	5911.8	5444.5	5043.3	4727.5	4441.3	4155.0
55°	8283.0	8109.2	7720.2	7389.9	6846.6	6200.7	5691.6	5241.4	4903.8	4624.9	4424.1
57.5°	11772.4	11513.1	11001.6	10372.8	9124.7	7898.8	6917.7	6208.0	5858.0	5730.8	5806.6
60°	13406.9	13360.6	13279.7	12981.2	12342.6	11288.0	10113.3	8843.5	8334.4	8290.4	8444.5
62.5°	14182.7	14153.3	14177.8	14141.1	13942.9	13634.6	13296.8	12748.8	12244.6	11919.2	11229.1
65°	14540.0	14559.6	14699.0	14809.1	14833.6	14914.3	15161.5	15844.2	16343.3	15504.1	13588.1
67.5°	13632.1	13747.1	14067.7	14468.9	14938.8	15393.9	16128.0	17566.8	18592.1	17606.1	14885.0
69°	11285.5	11341.8	12124.7	12880.9	14028.5	14831.2	15895.6	17782.2	18934.8	17821.4	14782.2
70°	8884.9	8936.3	9775.7	10803.4	12743.9	13776.5	15168.8	17417.7	18614.1	17535.0	14253.6
72.5°	4008.2	3934.8	4230.8	4781.3	6890.6	8530.2	10964.9	14111.7	15357.2	14048.1	10663.9
75°	2799.4	2767.6	2799.4	2801.7	3129.7	4037.5	5094.6	7649.2	9460.0	8163.2	5094.6
77.5°	2168.0	2146.0	2124.0	2099.5	2138.7	2395.6	2498.3	2713.6	3523.6	3332.8	1942.9
80°	1715.4	1695.8	1749.6	1732.5	1732.5	1761.9	1742.3	1661.4	1509.7	1399.6	1252.8
82.5°	797.7	802.6	802.6	871.1	1049.8	1225.9	1282.2	1201.5	1066.9	907.8	731.7
85°	75.8	85.6	144.4	222.7	443.0	499.1	501.7	415.9	415.9	327.9	264.2
87.5°	0.0	2.4	2.4	2.4	22.0	61.2	51.4	14.7	7.3	7.3	12.2
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1
2.5°	1301.8	1294.4	1265.1	1235.7	1208.8	1179.4	1152.5	1125.6	1096.2	1074.2	1047.3
5°	1522.1	1468.1	1407.0	1348.3	1289.5	1228.4	1164.8	1108.5	1049.8	995.9	944.5
7.5°	1744.6	1639.4	1556.2	1451.0	1355.6	1260.2	1172.1	1081.6	998.4	920.1	846.7
10°	1933.1	1805.9	1676.1	1541.7	1404.5	1277.3	1155.0	1047.3	937.2	841.8	751.3
12.5°	2087.3	1925.8	1766.8	1597.8	1443.7	1282.2	1130.5	1000.8	871.1	763.5	670.5
15°	2226.7	2040.8	1849.9	1654.2	1458.5	1274.9	1106.0	944.5	812.4	690.1	584.9
17.5°	2339.3	2126.4	1911.1	1690.9	1480.4	1265.1	1074.2	905.4	751.3	623.9	521.3
20°	2437.2	2214.5	1982.1	1734.8	1495.2	1262.6	1047.3	856.5	697.4	562.9	462.4
22.5°	2527.7	2305.0	2055.5	1791.2	1517.1	1260.2	1022.8	819.8	650.8	516.4	415.9
25°	2630.6	2395.6	2133.8	1849.9	1556.2	1270.0	1008.2	790.4	609.2	472.2	379.2
27.5°	2745.6	2498.3	2226.7	1923.3	1607.6	1289.5	1003.3	758.6	572.5	430.6	349.9
30°	2907.0	2620.8	2319.7	1996.7	1654.2	1311.6	998.4	739.0	535.8	398.8	320.5
32.5°	3049.0	2740.7	2422.5	2072.6	1705.6	1333.6	995.9	712.1	501.7	367.0	298.5
35°	3198.2	2850.8	2510.7	2146.0	1749.6	1358.0	993.5	692.5	469.9	335.2	276.5
37.5°	3327.9	2943.7	2579.2	2209.6	1798.6	1380.1	995.9	675.4	440.4	308.3	256.9
40°	3438.0	3039.2	2654.9	2268.3	1849.9	1414.3	998.4	658.3	411.2	283.8	239.8
42.5°	3536.0	3129.7	2735.8	2334.4	1908.7	1453.6	1013.1	643.6	386.6	261.8	222.7
45°	3611.7	3212.9	2823.7	2427.4	2004.1	1517.1	1040.0	633.8	362.1	242.2	208.0
47.5°	3690.0	3335.2	2973.1	2574.3	2143.6	1617.5	1086.5	631.4	342.5	227.5	195.7
50°	3797.8	3457.6	3105.2	2723.4	2270.8	1720.3	1142.7	633.8	318.1	212.9	183.5
52.5°	3876.1	3582.3	3276.5	2982.9	2574.3	2033.4	1360.5	677.7	305.8	200.6	168.8
55°	4338.5	4287.1	4294.4	4343.4	4027.8	3460.0	2275.7	978.8	359.7	227.5	166.4
57.5°	6117.5	6298.5	6403.7	6401.3	5880.0	4876.9	3056.3	1257.7	401.4	264.2	198.2
60°	8456.8	8319.8	8126.5	7649.2	6956.7	5566.9	3418.4	1353.2	347.4	210.4	181.1
62.5°	10524.5	9721.8	9009.7	8236.6	7328.7	5806.6	3491.8	1345.8	303.4	159.0	127.2
65°	11814.0	10370.3	9220.3	8251.2	7181.9	5606.0	3303.4	1235.7	256.9	129.7	105.2
67.5°	12122.3	10020.3	8393.2	7157.4	5999.9	4363.0	2424.9	929.9	200.6	107.7	93.0
69°	11449.4	8907.1	6954.4	5552.2	4365.4	2894.8	1500.1	587.2	154.1	97.9	85.6
70°	10531.8	7747.1	5664.7	4455.9	3232.5	2033.4	1049.8	413.5	124.8	90.5	78.3
72.5°	6775.8	4069.3	2784.7	1938.0	1333.6	810.0	411.2	186.0	95.4	75.8	63.6
75°	2628.0	1505.0	1091.4	829.5	648.5	450.2	249.6	119.9	80.7	63.6	48.9
77.5°	1294.4	991.0	810.0	555.4	323.0	200.6	134.6	93.0	66.1	46.5	31.8
80°	1022.8	680.3	406.3	252.0	190.8	144.4	102.8	75.8	48.9	29.4	22.0
82.5°	523.6	286.3	210.4	171.3	141.9	112.6	83.2	53.8	31.8	19.6	17.1
85°	163.9	119.9	107.7	105.2	97.9	80.7	58.7	34.3	19.6	12.2	12.2
87.5°	12.2	17.1	22.0	17.1	19.6	17.1	22.0	14.7	9.8	9.8	7.3
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1	1128.1
2.5°	1027.7	998.4	971.5	954.3	922.5	910.3	898.1	893.2	871.1	876.0	856.5
5°	898.1	846.7	807.5	768.4	731.7	704.8	682.6	655.7	633.8	623.9	604.3
7.5°	780.6	714.6	663.2	621.6	577.4	543.3	513.8	494.2	474.8	455.1	445.3
10°	677.7	606.9	548.2	506.6	465.0	435.5	413.5	398.8	386.6	379.2	376.8
12.5°	582.3	513.8	460.0	423.3	391.5	376.8	367.0	359.7	357.2	354.8	354.8
15°	508.9	440.4	398.8	371.9	357.2	349.9	347.4	342.5	337.8	335.2	335.2
17.5°	440.4	389.0	359.7	345.0	337.8	332.9	327.9	323.0	318.1	315.6	315.6
20°	393.9	352.3	337.8	327.9	320.5	315.6	308.3	303.4	301.1	298.5	296.1
22.5°	357.2	330.3	320.5	313.2	303.4	296.1	291.2	286.3	281.4	278.9	276.5
25°	330.3	313.2	305.8	296.1	286.3	278.9	271.6	264.2	259.4	256.9	252.0
27.5°	310.7	298.5	288.7	276.5	266.7	259.4	252.0	244.7	239.8	234.9	232.4
30°	293.6	281.4	269.1	259.4	247.1	239.8	230.0	222.7	220.2	215.3	210.4
32.5°	276.5	264.2	252.0	239.8	227.5	217.8	212.9	203.1	198.2	195.7	190.8
35°	256.9	244.7	230.0	220.2	208.0	198.2	190.8	183.5	178.6	173.7	171.3
37.5°	239.8	225.1	210.4	198.2	188.4	178.6	171.3	163.9	159.0	154.1	151.7
40°	220.2	205.5	190.8	178.6	168.8	161.5	154.1	146.8	141.9	139.5	139.5
42.5°	203.1	186.0	171.3	161.5	154.1	144.4	137.0	129.7	127.2	124.8	127.2
45°	186.0	168.8	156.6	146.8	139.5	129.7	122.3	117.4	115.0	117.4	119.9
47.5°	171.3	154.1	141.9	134.6	127.2	119.9	112.6	107.7	107.7	112.6	117.4
50°	156.6	139.5	129.7	124.8	117.4	110.1	100.3	97.9	100.3	105.2	110.1
52.5°	141.9	122.3	115.0	112.6	105.2	97.9	90.5	88.1	90.5	95.4	93.0
55°	127.2	107.7	105.2	102.8	95.4	85.6	78.3	78.3	78.3	75.8	71.0
57.5°	122.3	95.4	93.0	90.5	83.2	73.4	68.5	63.6	61.2	53.8	51.4
60°	127.2	85.6	85.6	80.7	73.4	63.6	56.3	48.9	44.0	39.1	39.1
62.5°	102.8	78.3	75.8	71.0	61.2	51.4	44.0	36.7	34.3	31.8	31.8
65°	83.2	71.0	66.1	58.7	51.4	41.6	34.3	29.4	26.9	26.9	29.4
67.5°	75.8	63.6	56.3	48.9	41.6	31.8	26.9	24.5	24.5	26.9	26.9
69°	71.0	58.7	51.4	44.0	36.7	29.4	24.5	24.5	24.5	24.5	26.9
70°	66.1	56.3	48.9	41.6	31.8	24.5	22.0	22.0	24.5	24.5	26.9
72.5°	51.4	44.0	41.6	34.3	24.5	22.0	19.6	22.0	22.0	24.5	24.5
75°	39.1	31.8	31.8	26.9	19.6	17.1	17.1	19.6	19.6	22.0	22.0
77.5°	26.9	22.0	22.0	19.6	17.1	14.7	14.7	17.1	19.6	19.6	22.0
80°	19.6	17.1	14.7	17.1	14.7	12.2	14.7	17.1	17.1	19.6	19.6
82.5°	14.7	14.7	14.7	14.7	12.2	12.2	14.7	14.7	17.1	19.6	19.6
85°	12.2	12.2	12.2	12.2	12.2	12.2	12.2	14.7	14.7	17.1	17.1
87.5°	7.3	7.3	7.3	9.8	9.8	12.2	12.2	12.2	12.2	14.7	14.7
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°	170°	175°	180°
0°	1128.1	1128.1	1128.1	1128.1
2.5°	851.6	849.1	839.3	841.8
5°	597.1	582.3	592.1	589.8
7.5°	438.1	435.5	433.2	438.1
10°	374.5	374.5	371.9	374.5
12.5°	352.3	352.3	352.3	352.3
15°	335.2	335.2	332.9	332.9
17.5°	315.6	315.6	315.6	313.2
20°	296.1	293.6	293.6	293.6
22.5°	274.0	271.6	271.6	271.6
25°	252.0	249.6	249.6	249.6
27.5°	230.0	227.5	225.1	225.1
30°	208.0	205.5	203.1	203.1
32.5°	186.0	183.5	181.1	181.1
35°	166.4	166.4	163.9	161.5
37.5°	149.3	149.3	149.3	149.3
40°	137.0	139.5	139.5	139.5
42.5°	129.7	132.1	134.6	137.0
45°	124.8	129.7	132.1	132.1
47.5°	122.3	124.8	127.2	127.2
50°	112.6	110.1	110.1	110.1
52.5°	90.5	85.6	83.2	80.7
55°	66.1	63.6	58.7	58.7
57.5°	46.5	46.5	44.0	44.0
60°	36.7	36.7	34.3	36.7
62.5°	31.8	31.8	31.8	31.8
65°	29.4	29.4	29.4	29.4
67.5°	29.4	29.4	29.4	29.4
69°	26.9	26.9	26.9	26.9
70°	26.9	26.9	26.9	26.9
72.5°	24.5	24.5	24.5	24.5
75°	22.0	24.5	24.5	24.5
77.5°	22.0	22.0	22.0	22.0
80°	19.6	19.6	22.0	22.0
82.5°	19.6	19.6	19.6	19.6
85°	17.1	17.1	19.6	19.6
87.5°	14.7	14.7	17.1	17.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)