

Scaled data based on original data using
LM-31-95 IESNA Approved Method for Photometric Testing of Roadway Luminaires
Using Incandescent Filament and High Intensity Discharge Lamps

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: STREETWORKS

Report Number: 767412

Luminaire Tested: **OVZ10SXX2EG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-31-95
Report Number: 767412
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: OVZ10SXX2EG
Description: 100W High Pressure Sodium Type II Roadway
Light Source: 100W HPS CL ED-23.5
Ballast/Driver: -

Summary

Lumens per Lamp: 9500 (1 lamp)
Luminaire Lumens: 6920 lumens
Efficiency: 72.8%
Efficacy: 46.1 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1.1' x L: 2.35' x H: 0.94')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U3 - G2

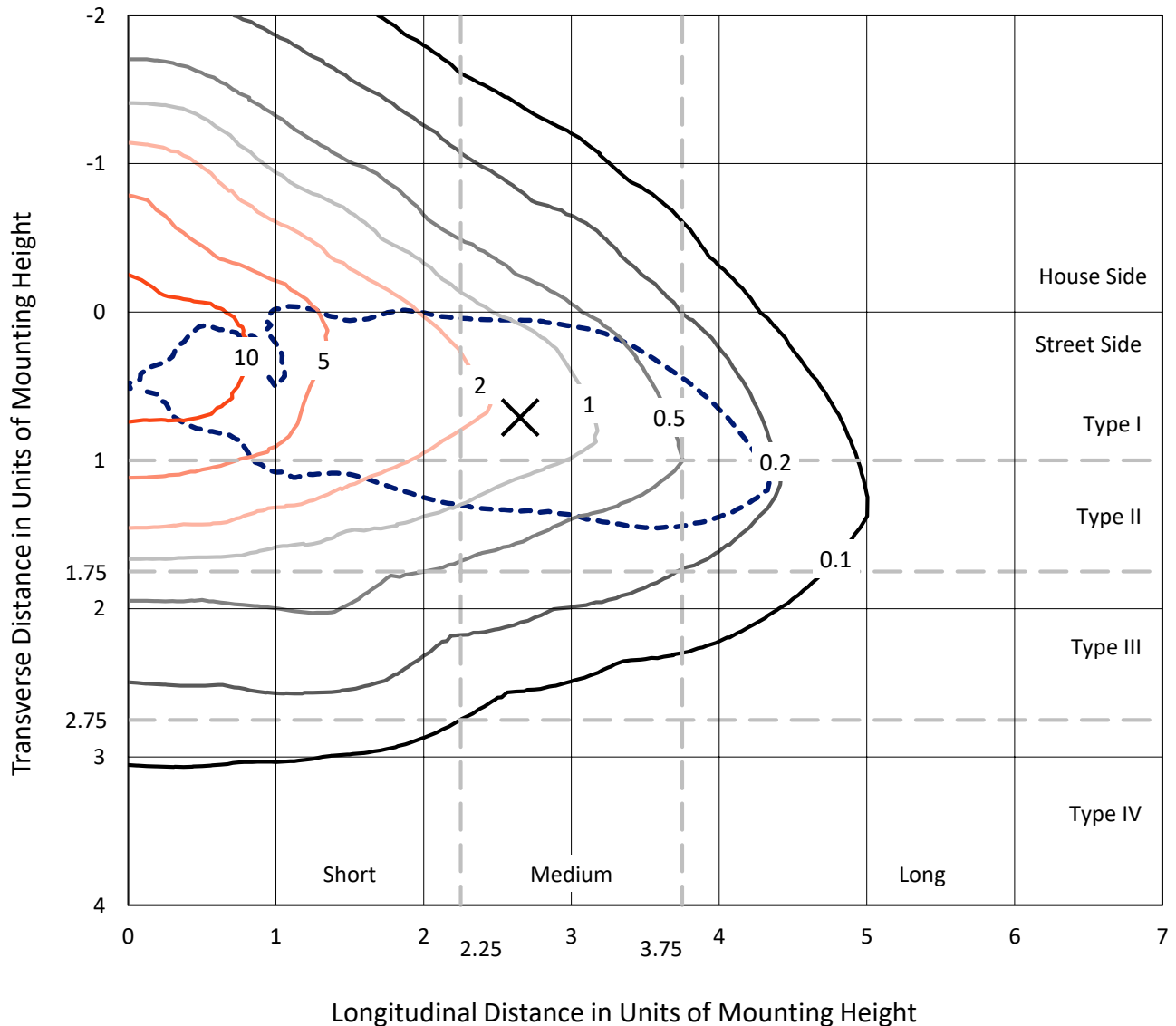
Input Watts (W): 150
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

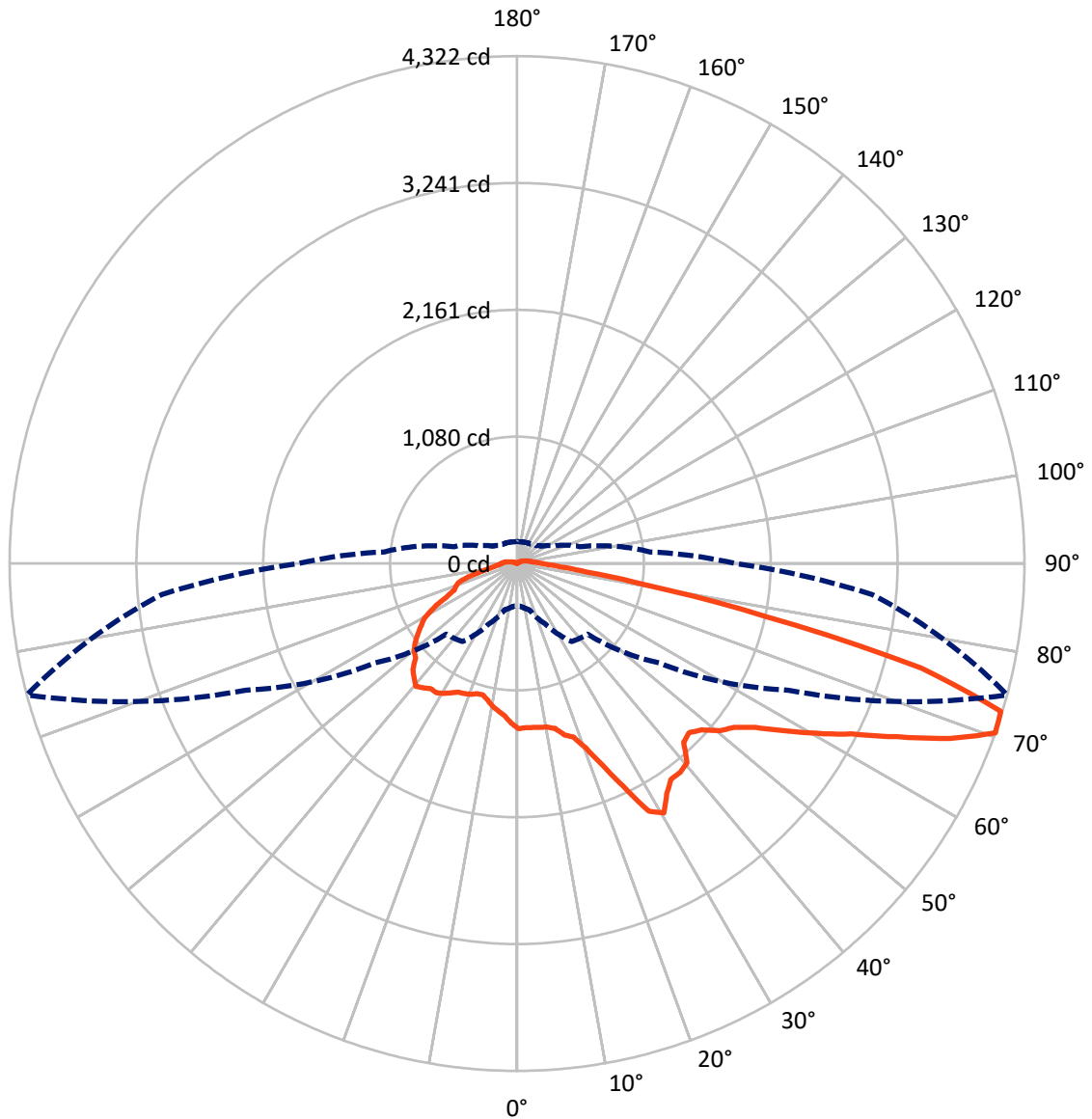
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 18.8 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical



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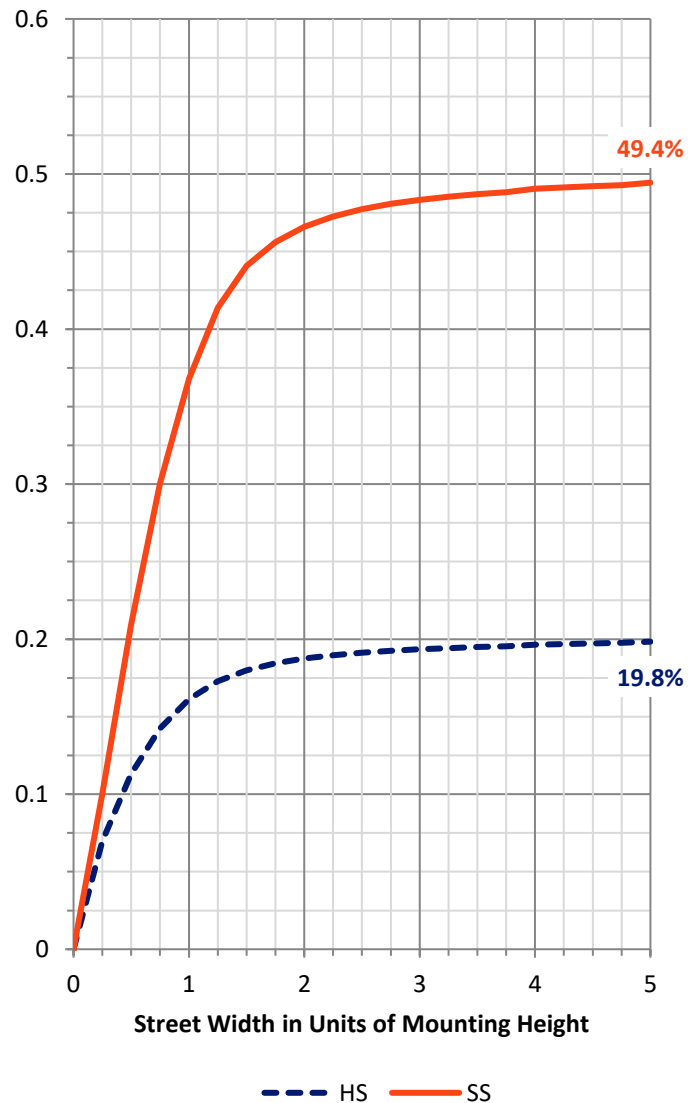
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1927.9	79.8	2007.7
	% Lamp	20.3	0.8	21.1
Street Side	Lumens	4755.1	157.2	4912.3
	% Lamp	50.1	1.7	51.7
Total	Lumens	6683.0	237.0	6920.0
	% Lamp	70.3	2.5	72.8

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	129.6	1.9	1.4
10°-20°	394.1	5.7	4.1
20°-30°	743.0	10.7	7.8
30°-40°	1050.9	15.2	11.1
40°-50°	1178.7	17.0	12.4
50°-60°	1187.7	17.2	12.5
60°-70°	1066.5	15.4	11.2
70°-80°	708.1	10.2	7.5
80°-90°	224.4	3.2	2.4
90°-100°	118.3	1.7	1.2
100°-110°	70.1	1.0	0.7
110°-120°	36.2	0.5	0.4
120°-130°	14.5	0.2	0.2
130°-140°	3.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-90°	6683.0	96.6	70.3
0°-180°	6920.0	100.0	72.8

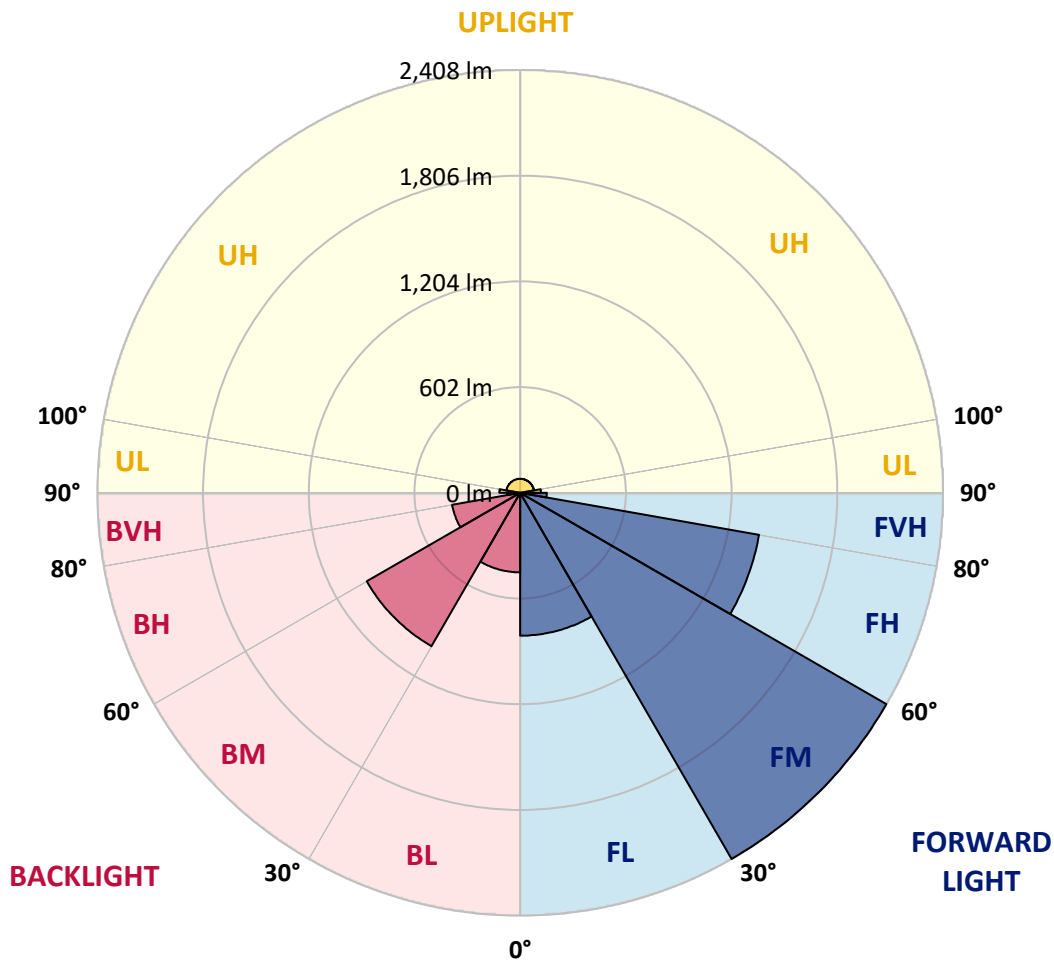


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Lamp	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	813.7	8.6			
FM	(30°-60°)	2408.3	25.4			
FH	(60°-80°)	1381.4	14.5			G1/1800
FVH	(80°-90°)	151.7	1.6			G2/225
BL	(0°-30°)	453.0	4.8	B1/500		
BM	(30°-60°)	1009.0	10.6	B2/2500		
BH	(60°-80°)	393.3	4.1	B1/500		G1/500
BVH	(80°-90°)	72.6	0.8			G1/100
UL	(90°-100°)	118.3	1.2		U3/500	
UH	(100°-180°)	79.8	0.8		U3/500	
Trapped Light		2580.0	27.2			

BUG Rating: B2-U3-G2
 Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1406.6	1406.6	1406.6	1406.6	1406.6	1406.6	1406.6	1406.6	1406.6	1406.6	1406.6
2.5°	1476.7	1476.7	1470.7	1454.7	1460.6	1448.2	1435.1	1425.6	1400.1	1387.0	1373.9
5°	1521.8	1541.4	1525.3	1509.3	1493.3	1473.7	1451.1	1428.6	1403.0	1361.5	1352.0
7.5°	1592.4	1585.9	1573.4	1547.3	1509.3	1480.2	1460.6	1432.1	1409.6	1361.5	1335.9
10°	1637.6	1618.0	1601.9	1592.4	1547.3	1512.3	1499.2	1470.7	1416.1	1361.5	1325.8
12.5°	1669.6	1679.1	1669.6	1647.1	1615.0	1596.0	1563.9	1509.3	1441.6	1361.5	1322.9
15°	1733.8	1746.8	1788.4	1765.8	1717.7	1676.2	1637.6	1589.5	1515.2	1400.1	1341.9
17.5°	1843.0	1833.5	1929.7	1942.8	1868.5	1794.9	1753.3	1672.6	1553.8	1432.1	1348.4
20°	1964.7	1942.8	2038.9	2093.6	2019.3	1952.2	1894.1	1827.0	1679.1	1483.2	1396.5
22.5°	2087.0	2093.6	2144.6	2196.3	2157.7	2144.6	2135.1	2071.0	1868.5	1560.4	1454.7
25°	2164.2	2183.2	2231.3	2224.8	2257.4	2321.6	2366.1	2340.6	2100.1	1688.6	1525.3
27.5°	2157.7	2164.2	2218.8	2247.3	2337.6	2443.3	2546.0	2693.8	2388.7	1810.9	1615.0
30°	2041.9	2009.8	2103.1	2260.4	2446.8	2549.6	2755.0	2937.9	2465.8	1868.5	1701.7
32.5°	1913.7	1891.1	1990.8	2228.3	2533.5	2693.8	2963.4	2876.7	2340.6	1852.5	1704.7
35°	1881.6	1875.1	1929.7	2160.7	2539.5	2796.6	2889.8	2693.8	2257.4	1807.4	1666.7
37.5°	1939.2	1910.7	1913.7	2116.1	2478.9	2664.8	2687.3	2552.5	2257.4	1920.2	1756.3
40°	2041.9	1977.8	1948.7	2093.6	2347.1	2472.4	2513.9	2398.2	2231.3	2035.4	1913.7
42.5°	2009.8	1952.2	1942.8	2035.4	2192.7	2398.2	2414.8	2196.3	2080.5	2022.9	1926.7
45°	1849.5	1846.0	1881.6	1942.8	2093.6	2353.6	2363.1	2071.0	2055.0	2244.4	2205.8
47.5°	1708.2	1727.2	1775.3	1849.5	2032.4	2205.8	2401.7	2055.0	2116.1	2443.3	2289.5
50°	1605.5	1605.5	1672.6	1836.5	2022.9	2186.8	2353.6	2160.7	2237.8	2501.5	2273.5
52.5°	1444.6	1435.1	1496.2	1743.2	1939.2	2347.1	2388.7	2244.4	2318.0	2411.2	2141.7
55°	1143.0	1159.0	1233.2	1553.8	1733.8	2350.1	2536.5	2385.7	2462.9	2334.0	2009.8
57.5°	841.3	857.4	937.5	1255.2	1438.7	2164.2	2530.0	2504.4	2687.3	2350.1	1939.2
60°	642.4	645.4	732.1	956.5	1117.4	1833.5	2337.6	2664.8	2937.9	2527.0	2109.6
62.5°	526.7	533.2	593.8	777.2	963.1	1435.1	2154.1	2876.7	3197.9	2819.1	2199.2
65°	442.9	456.0	513.6	703.0	995.1	1168.5	2003.3	2934.9	3557.8	2841.7	1974.8
67.5°	398.4	414.4	462.5	651.9	963.1	1043.2	1778.9	2867.2	3978.1	2902.2	1875.1
70°	359.8	365.8	407.9	568.2	812.2	850.8	1476.7	2552.5	4321.9	3037.6	1859.0
72.5°	321.2	330.7	349.7	430.5	581.3	638.9	1136.4	2125.6	4308.8	2764.5	1631.0
75°	282.6	295.1	314.7	340.2	423.9	507.1	850.8	1746.8	3557.8	1904.2	1162.6
77.5°	244.0	253.5	285.6	279.1	327.8	417.4	645.4	1322.9	2148.2	1113.9	729.1
80°	218.5	225.0	263.0	244.0	279.1	353.3	472.0	847.9	1117.4	629.4	440.0
82.5°	192.4	198.9	237.5	221.5	241.1	295.1	343.8	497.6	597.3	385.3	289.2
85°	179.9	189.4	208.4	198.9	225.0	244.0	263.0	324.2	382.4	273.1	221.5
87.5°	154.4	163.9	176.3	170.4	189.4	192.4	202.5	234.5	263.0	198.9	170.4
90°	147.8	150.8	157.3	160.3	170.4	166.8	173.4	186.4	202.5	173.4	150.8
95°	115.8	121.7	121.7	125.3	131.8	128.2	128.2	128.2	134.8	125.3	118.8
105°	83.7	83.7	83.7	89.7	89.7	86.7	86.7	83.7	80.2	73.6	77.2
115°	57.6	57.6	57.6	57.6	57.6	51.7	48.1	45.1	48.1	48.1	48.1
125°	32.1	35.0	38.6	32.1	32.1	29.1	22.6	22.6	9.5	19.0	22.6
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	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):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1406.6	1406.6	1406.6	1406.6	1406.6	1406.6	1406.6	1406.6	1406.6	1406.6
2.5°	1306.8	1361.5	1354.9	1345.4	1345.4	1338.9	1325.8	1329.4	1322.9	1309.8
5°	1271.2	1303.3	1287.2	1268.2	1258.8	1255.2	1255.2	1261.7	1268.2	1271.2
7.5°	1258.8	1268.2	1229.7	1200.6	1181.6	1181.6	1184.5	1178.6	1191.1	1194.6
10°	1242.7	1236.2	1181.6	1146.5	1133.5	1124.0	1120.4	1120.4	1126.9	1129.9
12.5°	1210.7	1191.1	1124.0	1097.8	1091.9	1094.9	1088.3	1094.9	1097.8	1104.4
15°	1204.1	1156.0	1091.9	1065.8	1056.3	1049.8	1049.8	1078.8	1091.9	1091.9
17.5°	1220.2	1159.0	1081.8	1040.2	1021.2	1014.7	1024.2	1040.2	1059.8	1065.8
20°	1281.3	1181.6	1081.8	1017.7	989.2	976.1	969.6	982.7	1011.2	1014.7
22.5°	1316.3	1194.6	1091.9	1011.2	966.6	934.6	924.5	937.5	973.2	976.1
25°	1354.9	1204.1	1081.8	982.7	918.5	885.9	885.9	905.5	950.6	950.6
27.5°	1419.1	1236.2	1072.3	956.5	885.9	853.8	857.4	892.4	928.0	937.5
30°	1544.3	1271.2	1049.8	937.5	876.4	847.9	847.9	889.4	928.0	937.5
32.5°	1589.5	1297.3	1014.7	918.5	866.9	850.8	866.9	918.5	973.2	982.7
35°	1547.3	1293.8	976.1	882.9	844.3	841.3	885.9	963.1	1033.7	1046.8
37.5°	1618.0	1325.8	992.2	828.3	812.2	809.3	863.9	956.5	1037.3	1046.8
40°	1753.3	1354.9	998.7	805.7	783.2	777.2	831.8	918.5	998.7	1014.7
42.5°	1756.3	1309.8	928.0	780.2	729.1	719.0	770.7	847.9	908.4	924.5
45°	1942.8	1265.3	882.9	745.2	670.9	664.4	719.0	780.2	825.3	828.3
47.5°	1888.1	1178.6	863.9	687.0	613.3	613.3	668.0	709.5	735.1	738.6
50°	1836.5	1152.5	850.8	645.4	552.2	555.8	613.3	638.9	648.4	648.4
52.5°	1730.8	1101.4	834.8	584.2	497.6	497.6	545.7	587.8	571.8	571.8
55°	1601.9	1037.3	764.2	526.7	449.5	430.5	475.0	520.1	504.1	501.1
57.5°	1534.8	973.2	716.1	481.5	401.4	378.8	394.8	442.9	440.0	430.5
60°	1647.1	912.0	651.9	436.4	356.2	337.2	333.7	362.8	375.8	372.3
62.5°	1592.4	802.8	577.7	394.8	317.7	289.2	289.2	301.6	314.7	314.7
65°	1352.0	668.0	481.5	349.7	279.1	253.5	250.6	260.1	266.6	263.0
67.5°	1197.6	581.3	398.4	298.7	247.0	225.0	218.5	218.5	225.0	225.0
70°	1136.4	555.8	356.2	257.1	218.5	202.5	195.9	189.4	186.4	186.4
72.5°	1011.2	523.1	333.7	228.0	192.4	179.9	173.4	163.9	160.3	160.3
75°	767.1	433.4	301.6	212.0	176.3	170.4	163.9	154.4	147.8	147.8
77.5°	510.6	317.7	244.0	186.4	154.4	150.8	138.3	134.8	128.2	128.2
80°	343.8	247.0	195.9	157.3	134.8	131.8	131.8	115.8	115.8	115.8
82.5°	241.1	198.9	163.9	141.3	121.7	118.8	118.8	105.7	102.7	102.7
85°	186.4	176.3	147.8	134.8	121.7	115.8	109.2	102.7	96.2	96.2
87.5°	144.3	147.8	128.2	115.8	102.7	102.7	93.2	83.7	77.2	77.2
90°	128.2	134.8	125.3	112.2	99.8	93.2	86.7	80.2	77.2	77.2
95°	99.8	115.8	109.2	96.2	80.2	73.6	67.7	57.6	57.6	57.6
105°	54.6	54.6	67.7	57.6	45.1	35.0	25.5	16.0	6.5	6.5
115°	22.6	19.0	35.0	29.1	19.0	6.5	0.0	3.0	0.0	0.0
125°	9.5	6.5	9.5	3.0	3.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)