

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:

Luminaire Tested: **ENT-SA1F-740-U-T4FT-ULG**

Issue Date: 3/30/2022

**Test Information**

Test Method: LM-79-08  
Report Number: REPORT IS A COMBINATION OF REPORTS P401876 AND P226775  
Test Lab: INNOVATION CENTER  
Issue Date: 3/30/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: ENT-SA1F-740-U-T4FT-ULG  
Description: ENTRI LED LUMINAIRE WITH UPLIGHT  
(1) 70 CRI, 4000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV FORWARD THROW OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

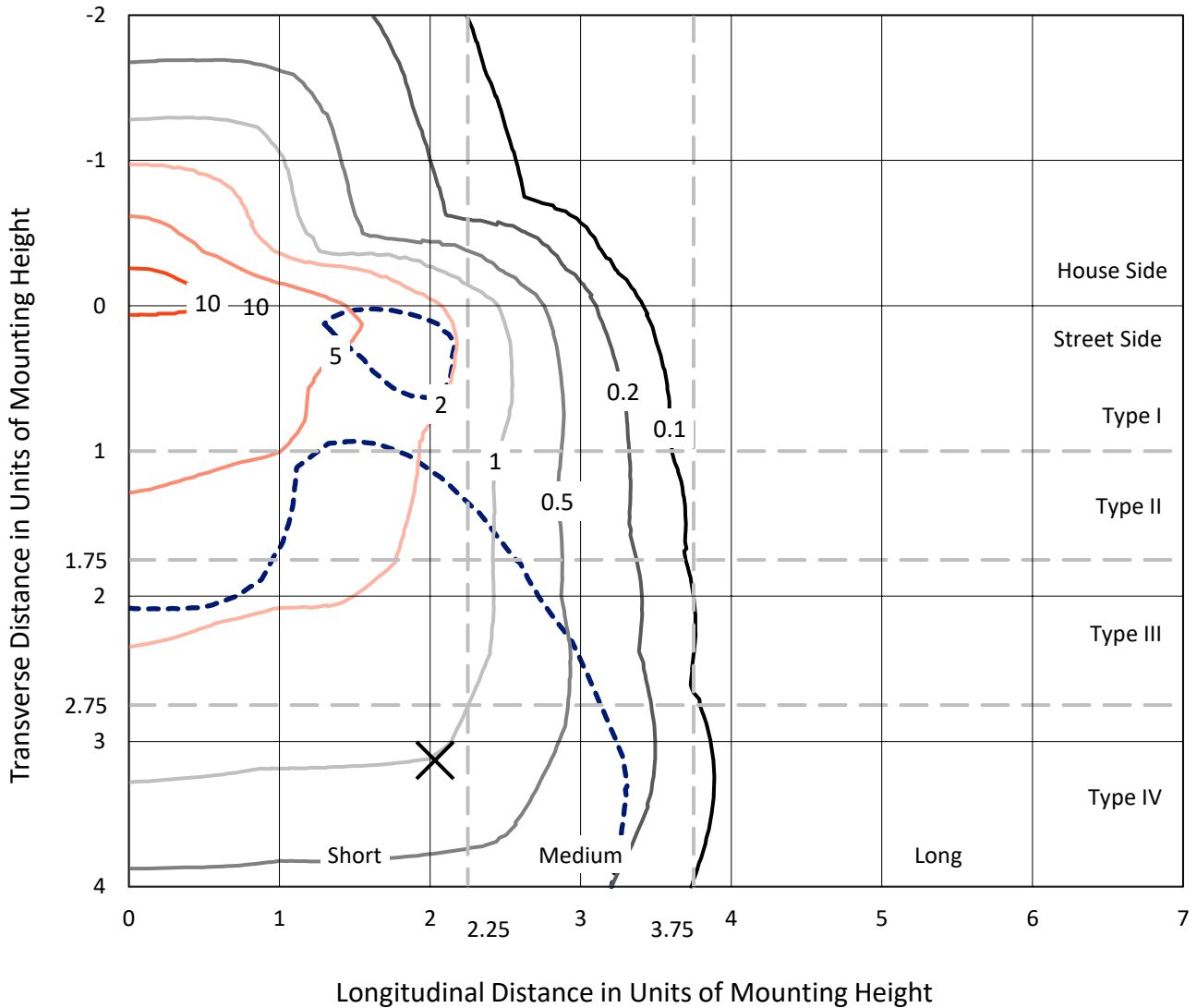
Lumens per Lamp: N/A  
Luminaire Lumens: 9228.9 lumens  
Efficiency: N/A  
Efficacy: 111.5 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.1')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U5 - G2  
  
Input Watts (W): 82.8  
Input Voltage (V): NR  
Input Current (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: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

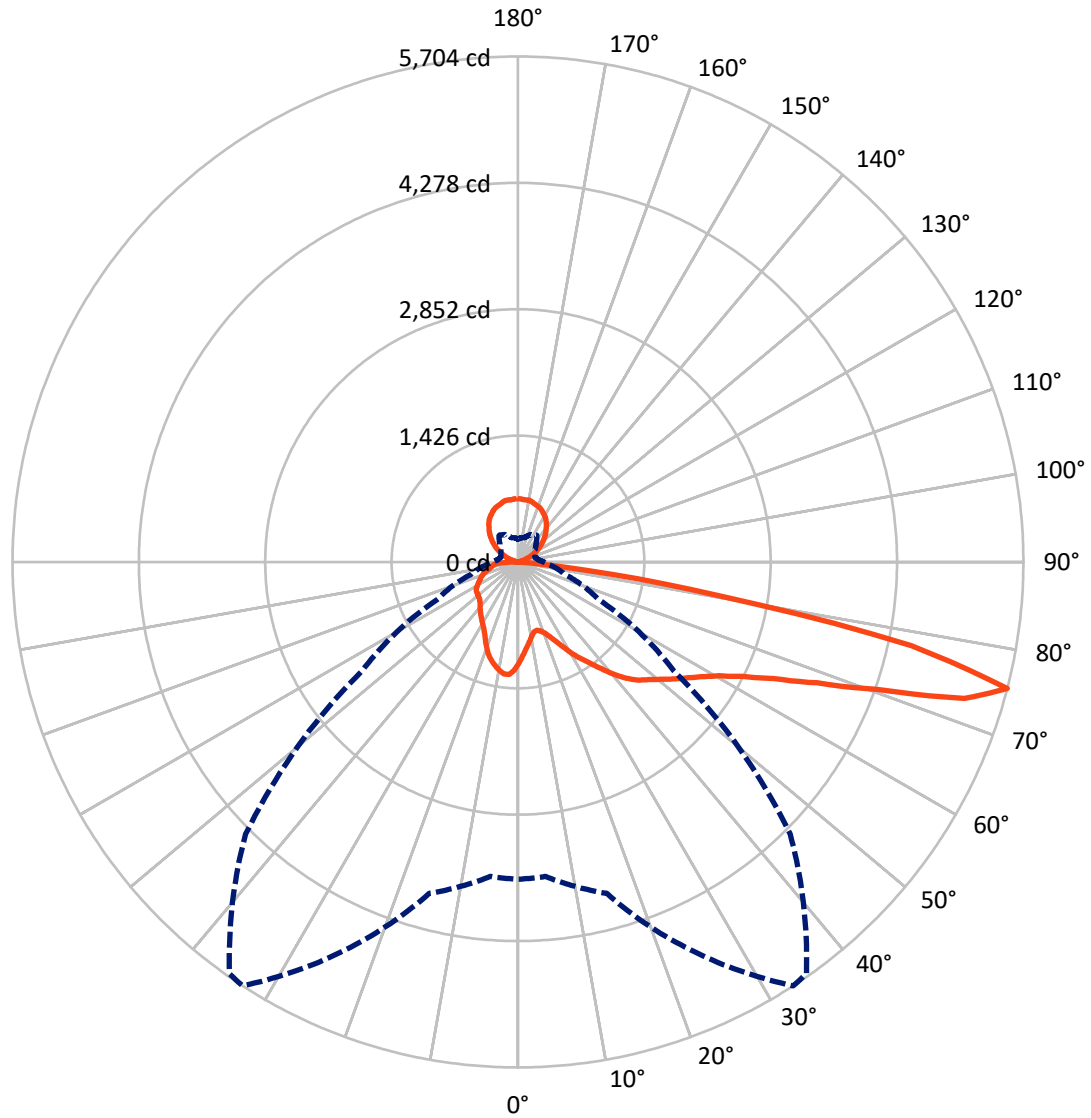
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12.2 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral    - - - Horizontal Cone Through 75-Deg Vertical

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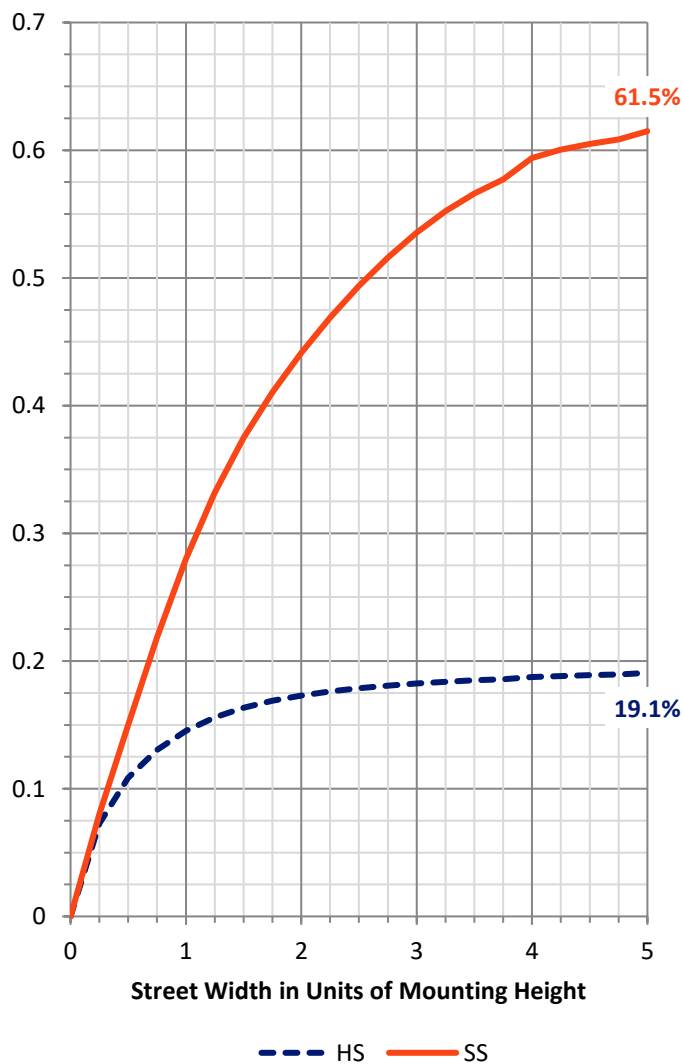
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1811.0	887.0	2698.0
	% Fixture	19.6	9.6	29.2
<b>Street Side</b>	Lumens	5644.0	887.0	6530.9
	% Fixture	61.2	9.6	70.8
<b>Total</b>	Lumens	7455.0	1773.9	9228.9
	% Fixture	80.8	19.2	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.7	1.2
10°-20°	300.2	3.3
20°-30°	499.1	5.4
30°-40°	744.5	8.1
40°-50°	1040.1	11.3
50°-60°	1388.3	15.0
60°-70°	1721.4	18.7
70°-80°	1488.3	16.1
80°-90°	166.4	1.8
90°-100°	8.4	0.1
100°-110°	58.7	0.6
110°-120°	169.9	1.8
120°-130°	279.4	3.0
130°-140°	344.6	3.7
140°-150°	352.5	3.8
150°-160°	297.0	3.2
160°-170°	195.5	2.1
170°-180°	67.8	0.7
0°-90°	7455.0	80.8
0°-180°	9228.9	100.0

**Coefficient of Utilization**

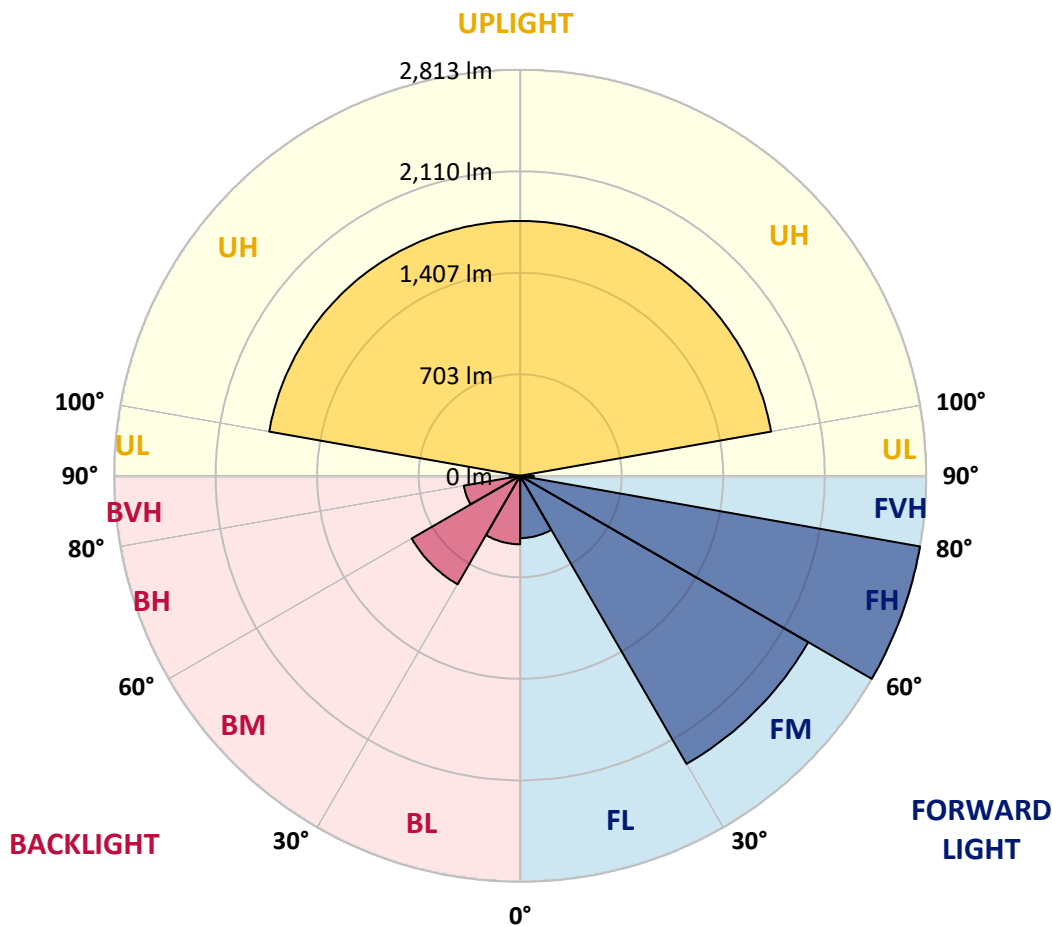


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	431.6	4.7			
FM (30°-60°)	2305.1	25.0			
FH (60°-80°)	2813.2	30.5			G2/5000
FVH (80°-90°)	94.0	1.0			G1/100
BL (0°-30°)	474.3	5.1	B1/500		
BM (30°-60°)	867.8	9.4	B1/1000		
BH (60°-80°)	396.5	4.3	B1/500		G1/500
BVH (80°-90°)	72.4	0.8			G1/100
UL (90°-100°)	8.4	0.1		U1/10	
UH (100°-180°)	1765.5	19.1		U5	

**BUG Rating: B1-U5-G2**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	1142.3	1142.3	1142.3	1142.3	1142.3	1142.3	1142.3	1142.3	1142.3	1142.3	1142.3
2.5°	1036.1	1038.3	1044.9	1052.7	1057.1	1057.1	1069.3	1083.7	1101.4	1116.9	1133.5
5°	949.7	953.0	958.6	968.5	980.7	982.9	1007.3	1032.7	1064.8	1099.2	1132.4
7.5°	864.5	871.1	882.2	895.5	914.3	918.7	953.0	987.4	1031.6	1083.7	1137.9
10°	799.2	803.6	809.1	828.0	851.2	859.0	904.3	947.5	1008.4	1072.6	1144.5
12.5°	781.5	781.5	781.5	790.3	809.1	815.8	863.4	918.7	987.4	1064.8	1154.5
15°	806.9	805.8	793.7	787.0	798.1	803.6	844.6	898.8	976.3	1067.1	1173.3
17.5°	864.5	861.2	832.4	810.3	818.0	821.3	847.9	894.4	973.0	1075.9	1201.0
20°	939.8	932.0	887.7	854.5	853.4	855.6	875.6	907.7	978.5	1091.4	1230.9
22.5°	1039.4	1035.0	969.7	918.7	909.9	909.9	918.7	938.7	992.9	1109.1	1271.8
25°	1167.8	1155.6	1077.0	1008.4	988.5	982.9	981.8	981.8	1018.4	1135.7	1322.8
27.5°	1299.5	1285.1	1205.4	1112.4	1085.9	1075.9	1058.2	1044.9	1051.6	1164.5	1383.6
30°	1417.9	1398.0	1330.5	1234.2	1194.4	1178.9	1146.8	1119.1	1101.4	1204.3	1464.4
32.5°	1483.3	1475.5	1429.0	1341.6	1296.2	1289.5	1236.4	1199.9	1168.9	1256.3	1572.9
35°	1570.7	1560.7	1530.9	1458.9	1404.7	1388.1	1348.2	1305.0	1255.2	1326.1	1710.2
37.5°	1651.5	1646.0	1634.9	1585.1	1527.5	1510.9	1474.4	1429.0	1361.5	1429.0	1864.0
40°	1733.4	1726.8	1722.3	1704.6	1663.7	1652.6	1634.9	1581.8	1491.0	1541.9	2015.7
42.5°	1853.0	1838.6	1792.1	1791.0	1794.3	1803.2	1804.3	1745.6	1632.7	1682.5	2148.5
45°	2009.0	1969.2	1865.1	1861.8	1900.6	1923.8	1980.3	1930.4	1779.9	1826.4	2296.8
47.5°	2088.7	2047.8	1940.4	1933.8	1984.7	2019.0	2158.5	2109.8	1932.7	1988.0	2450.7
50°	2127.5	2100.9	2006.8	2027.9	2079.9	2113.1	2327.8	2289.1	2090.9	2162.9	2644.4
52.5°	2181.7	2137.4	2071.0	2115.3	2192.8	2227.1	2479.5	2472.8	2224.9	2353.3	2856.9
55°	2162.9	2139.7	2151.8	2211.6	2309.0	2359.9	2632.2	2632.2	2361.0	2557.0	3067.2
57.5°	2178.4	2162.9	2263.6	2316.8	2439.6	2512.7	2816.0	2767.3	2476.2	2727.4	3208.9
60°	2310.1	2265.8	2344.4	2449.6	2607.9	2678.7	3026.3	2909.0	2570.2	2874.6	3234.4
62.5°	2542.6	2507.1	2514.9	2635.5	2840.3	2922.2	3234.4	3034.0	2633.3	2936.6	3139.2
65°	2927.8	2911.2	2816.0	2889.0	3171.3	3245.5	3494.5	3142.5	2615.6	2890.1	2887.9
67.5°	3445.8	3379.4	3251.0	3316.3	3641.7	3717.0	3807.8	3183.5	2500.5	2612.3	2321.2
70°	3875.3	3819.9	3761.3	3932.8	4307.0	4347.9	4134.3	3144.7	2220.5	2044.5	1556.3
72.5°	4148.7	4108.8	4163.1	4667.8	5266.7	5189.2	4456.4	2873.5	1732.3	1251.9	778.2
75°	3580.8	3562.0	3872.0	4895.9	5703.9	5675.1	4344.6	2150.7	1005.1	551.2	354.2
77.5°	1800.9	2005.7	2332.3	3473.5	4538.3	4543.9	3165.8	1033.9	422.8	308.8	243.5
80°	507.0	513.6	778.2	1432.3	2265.8	2414.2	1197.7	350.9	241.3	230.2	181.5
82.5°	120.7	111.8	199.2	423.9	760.4	791.4	359.7	126.2	135.0	143.9	111.8
85°	1.1	1.1	1.1	1.1	1.1	2.2	13.3	13.3	32.1	41.0	32.1
87.5°	0.0	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	4.1	4.1	5.1	6.1	6.1	6.1	6.1	7.2	7.2	6.1	6.1
95°	5.1	5.1	6.1	7.2	7.2	7.2	7.2	7.2	8.2	7.2	7.2
97.5°	7.2	7.2	8.2	8.2	9.0	9.2	9.2	12.3	10.2	9.2	8.2
100°	8.2	8.2	9.2	10.2	11.9	12.3	21.5	29.7	26.6	23.5	19.4
102.5°	11.3	11.3	13.3	18.4	25.8	27.6	40.9	51.1	48.1	43.0	39.9
105°	21.5	22.5	27.6	36.8	46.6	49.1	64.4	73.7	71.6	66.5	62.4
107.5°	41.9	43.0	50.1	59.3	71.6	74.7	90.0	97.2	96.2	92.1	89.0
110°	67.5	69.6	75.7	89.0	101.2	104.3	116.6	122.8	123.8	121.7	118.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
112.5°	101.3	101.3	108.4	123.8	134.4	137.1	146.3	151.4	153.4	152.4	150.4
115°	143.2	142.2	150.4	162.6	170.0	171.9	178.0	183.1	186.2	183.1	181.1
117.5°	188.2	188.2	193.3	201.5	205.6	206.6	209.7	215.8	219.9	214.8	212.8
120°	230.2	228.1	231.2	238.3	241.6	242.4	248.6	251.6	255.7	250.6	248.6
122.5°	269.0	266.0	267.0	273.1	276.4	277.2	283.4	285.4	289.5	284.4	282.3
125°	304.8	300.7	302.8	305.9	310.8	312.0	317.1	320.2	322.2	317.1	317.1
127.5°	337.6	336.6	336.6	340.6	345.6	346.8	347.8	352.9	353.9	353.9	352.9
130°	371.3	369.3	370.3	374.4	377.7	378.5	380.5	385.7	389.7	389.7	387.7
132.5°	405.1	403.0	402.0	410.2	412.7	413.3	414.3	420.4	425.5	423.5	423.5
135°	438.8	435.8	435.8	441.9	444.4	445.0	447.0	453.2	458.3	457.3	460.3
137.5°	470.6	467.5	469.5	470.6	473.8	474.6	478.7	483.9	485.9	486.9	492.0
140°	499.2	496.1	498.2	500.2	501.9	502.3	508.4	511.5	513.5	515.6	520.7
142.5°	529.9	526.8	528.9	529.9	532.4	533.0	537.0	539.1	545.2	545.2	546.3
145°	562.6	558.5	556.5	559.6	562.0	562.6	563.6	568.8	574.9	573.9	570.8
147.5°	588.2	585.1	584.1	587.2	587.2	587.2	588.2	593.3	598.4	599.4	596.4
150°	608.7	605.6	606.6	606.6	606.6	606.6	606.6	610.7	613.8	616.8	619.9
152.5°	625.0	622.0	622.0	623.0	623.8	624.0	624.0	625.0	628.1	632.2	637.3
155°	643.4	639.3	639.3	641.4	643.9	644.5	642.4	640.4	645.5	650.6	652.6
157.5°	660.8	657.8	657.8	658.8	660.4	660.8	659.8	658.8	662.9	664.9	664.9
160°	678.2	675.1	674.1	671.1	670.2	670.0	670.0	673.1	679.2	676.2	675.1
162.5°	688.4	684.4	684.4	680.3	677.0	676.2	678.2	682.3	686.4	685.4	683.3
165°	696.6	693.6	691.5	691.5	689.0	688.4	688.4	687.4	692.5	695.6	693.6
167.5°	705.8	702.8	699.7	701.7	703.4	703.8	700.7	693.6	699.7	703.8	703.8
170°	714.0	711.0	707.9	707.9	708.7	708.9	706.9	701.7	704.8	709.9	712.0
172.5°	715.0	713.0	711.0	708.9	706.4	705.8	705.8	704.8	707.9	709.9	712.0
175°	716.1	714.0	713.0	711.0	707.7	706.9	705.8	705.8	711.0	712.0	709.9
177.5°	723.2	721.2	716.1	715.0	713.4	713.0	711.0	709.9	715.0	717.1	714.0
180°	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1





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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1142.3	1142.3	1142.3	1142.3	1142.3	1142.3	1142.3	1142.3	1142.3	1142.3	1142.3
2.5°	1141.2	1152.3	1170.0	1185.5	1198.8	1208.7	1224.2	1226.5	1230.9	1233.1	1235.3
5°	1151.2	1172.2	1205.4	1234.2	1254.1	1259.7	1272.9	1271.8	1272.9	1272.9	1271.8
7.5°	1164.5	1193.2	1239.7	1271.8	1282.9	1279.6	1276.3	1264.1	1254.1	1249.7	1244.2
10°	1181.1	1214.3	1268.5	1291.8	1286.2	1268.5	1247.5	1225.3	1207.6	1198.8	1196.6
12.5°	1197.7	1240.8	1291.8	1298.4	1276.3	1244.2	1208.7	1184.4	1161.1	1149.0	1149.0
15°	1225.3	1272.9	1310.6	1297.3	1257.4	1216.5	1167.8	1134.6	1108.0	1091.4	1090.3
17.5°	1258.6	1309.5	1330.5	1291.8	1234.2	1176.6	1118.0	1074.8	1040.5	1023.9	1013.9
20°	1299.5	1347.1	1340.5	1274.1	1199.9	1129.0	1056.0	1004.0	968.5	950.8	947.5
22.5°	1346.0	1385.8	1343.8	1245.3	1153.4	1062.6	982.9	930.9	907.7	894.4	895.5
25°	1402.5	1433.4	1344.9	1211.0	1087.0	975.2	905.5	881.1	877.8	872.2	874.5
27.5°	1473.3	1483.3	1340.5	1164.5	1001.8	883.3	842.4	852.3	861.2	857.9	860.1
30°	1557.4	1543.0	1330.5	1096.9	896.6	799.2	801.4	823.5	835.7	832.4	833.5
32.5°	1655.9	1602.8	1311.7	1015.0	797.0	748.3	766.0	788.1	800.3	800.3	801.4
35°	1766.6	1674.8	1275.2	908.8	727.2	717.3	732.8	750.5	758.2	753.8	757.1
37.5°	1882.9	1736.7	1216.5	790.3	675.2	692.9	701.8	706.2	705.1	698.5	695.1
40°	1991.3	1785.4	1111.3	673.0	632.0	667.5	671.9	659.7	645.3	633.2	625.4
42.5°	2074.3	1810.9	965.2	587.8	591.1	638.7	642.0	617.7	590.0	571.2	566.7
45°	2159.6	1819.8	820.2	519.1	546.8	609.9	618.8	585.6	547.9	525.8	522.5
47.5°	2257.0	1841.9	677.4	471.5	509.2	590.0	604.4	563.4	521.4	488.1	482.6
50°	2387.6	1884.0	570.1	435.0	482.6	580.0	599.9	545.7	492.6	456.0	451.6
52.5°	2553.6	1945.9	470.4	406.2	461.6	564.5	593.3	528.0	471.5	427.3	420.6
55°	2696.4	1969.2	406.2	381.9	439.4	545.7	587.8	521.4	448.3	398.5	390.7
57.5°	2761.7	1902.8	360.9	357.5	416.2	522.5	576.7	499.2	422.8	384.1	377.5
60°	2731.8	1737.8	326.5	335.4	389.6	492.6	547.9	477.1	405.1	373.0	366.4
62.5°	2599.0	1547.5	301.1	314.4	359.7	454.9	514.7	457.2	389.6	360.9	352.0
65°	2365.5	1338.3	282.3	295.5	333.2	418.4	488.1	433.9	371.9	343.1	335.4
67.5°	1930.4	1064.8	262.3	276.7	311.0	388.5	463.8	415.1	352.0	333.2	326.5
70°	1277.4	716.2	243.5	257.9	288.9	359.7	438.3	395.2	333.2	321.0	312.1
72.5°	586.7	385.2	223.6	238.0	263.4	327.6	406.2	365.3	307.7	300.0	286.7
75°	290.0	236.9	199.2	212.5	232.5	288.9	368.6	339.8	284.5	271.2	255.7
77.5°	211.4	177.1	171.6	184.9	201.5	255.7	328.8	313.3	261.2	242.4	233.6
80°	157.2	137.3	143.9	157.2	172.7	231.3	307.7	293.3	241.3	222.5	215.8
82.5°	96.3	91.9	110.7	126.2	145.0	212.5	293.3	267.9	217.0	199.2	191.5
85°	27.7	33.2	56.5	81.9	102.9	171.6	273.4	234.7	182.6	152.8	147.2
87.5°	0.0	3.3	17.7	37.6	60.9	114.0	210.3	183.7	139.5	112.9	108.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	6.1	6.1	6.1	7.2	7.2	6.1	6.1	6.1	5.1	4.1	4.1
95°	7.2	7.2	7.2	8.2	7.2	7.2	7.2	7.2	6.1	5.1	5.1
97.5°	8.2	8.2	9.2	10.2	12.3	9.2	9.2	8.2	8.2	7.2	7.2
100°	19.4	19.4	23.5	26.6	29.7	21.5	12.3	10.2	9.2	8.2	8.2
102.5°	38.9	39.9	43.0	48.1	51.1	40.9	27.6	18.4	13.3	11.3	11.3
105°	62.4	62.4	66.5	71.6	73.7	64.4	49.1	36.8	27.6	22.5	21.5
107.5°	88.0	89.0	92.1	96.2	97.2	90.0	74.7	59.3	50.1	43.0	41.9
110°	119.7	118.7	121.7	123.8	122.8	116.6	104.3	89.0	75.7	69.6	67.5



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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	150.4	150.4	152.4	153.4	151.4	146.3	137.1	123.8	108.4	101.3	101.3
115°	182.1	181.1	183.1	186.2	183.1	178.0	171.9	162.6	150.4	142.2	143.2
117.5°	213.8	212.8	214.8	219.9	215.8	209.7	206.6	201.5	193.3	188.2	188.2
120°	248.6	248.6	250.6	255.7	251.6	248.6	242.4	238.3	231.2	228.1	230.2
122.5°	283.4	282.3	284.4	289.5	285.4	283.4	277.2	273.1	267.0	266.0	269.0
125°	317.1	317.1	317.1	322.2	320.2	317.1	312.0	305.9	302.8	300.7	304.8
127.5°	355.0	352.9	353.9	353.9	352.9	347.8	346.8	340.6	336.6	336.6	337.6
130°	388.7	387.7	389.7	389.7	385.7	380.5	378.5	374.4	370.3	369.3	371.3
132.5°	424.5	423.5	423.5	425.5	420.4	414.3	413.3	410.2	402.0	403.0	405.1
135°	461.4	460.3	457.3	458.3	453.2	447.0	445.0	441.9	435.8	435.8	438.8
137.5°	493.1	492.0	486.9	485.9	483.9	478.7	474.6	470.6	469.5	467.5	470.6
140°	522.7	520.7	515.6	513.5	511.5	508.4	502.3	500.2	498.2	496.1	499.2
142.5°	548.3	546.3	545.2	545.2	539.1	537.0	533.0	529.9	528.9	526.8	529.9
145°	572.9	570.8	573.9	574.9	568.8	563.6	562.6	559.6	556.5	558.5	562.6
147.5°	598.4	596.4	599.4	598.4	593.3	588.2	587.2	587.2	584.1	585.1	588.2
150°	624.0	619.9	616.8	613.8	610.7	606.6	606.6	606.6	606.6	605.6	608.7
152.5°	642.4	637.3	632.2	628.1	625.0	624.0	624.0	623.0	622.0	622.0	625.0
155°	655.7	652.6	650.6	645.5	640.4	642.4	644.5	641.4	639.3	639.3	643.4
157.5°	670.0	664.9	664.9	662.9	658.8	659.8	660.8	658.8	657.8	657.8	660.8
160°	681.3	675.1	676.2	679.2	673.1	670.0	670.0	671.1	674.1	675.1	678.2
162.5°	689.5	683.3	685.4	686.4	682.3	678.2	676.2	680.3	684.4	684.4	688.4
165°	697.7	693.6	695.6	692.5	687.4	688.4	688.4	691.5	691.5	693.6	696.6
167.5°	709.9	703.8	703.8	699.7	693.6	700.7	703.8	701.7	699.7	702.8	705.8
170°	717.1	712.0	709.9	704.8	701.7	706.9	708.9	707.9	707.9	711.0	714.0
172.5°	717.1	712.0	709.9	707.9	704.8	705.8	705.8	708.9	711.0	713.0	715.0
175°	715.0	709.9	712.0	711.0	705.8	705.8	706.9	711.0	713.0	714.0	716.1
177.5°	718.1	714.0	717.1	715.0	709.9	711.0	713.0	715.0	716.1	721.2	723.2
180°	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1	716.1

(END OF REPORT)