

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-SL4-ULG**

Issue Date: 3/30/2022

Test Information

Test Method: LM-79-08
Report Number:
REPORT IS A COMBINATION OF REPORTS P401856 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-SL4-ULG
Description: ENTRI LED LUMINAIRE WITH UPLIGHT
(1) 70 CRI, 4000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9156.9 lumens
Efficiency: N/A
Efficacy: 110.6 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

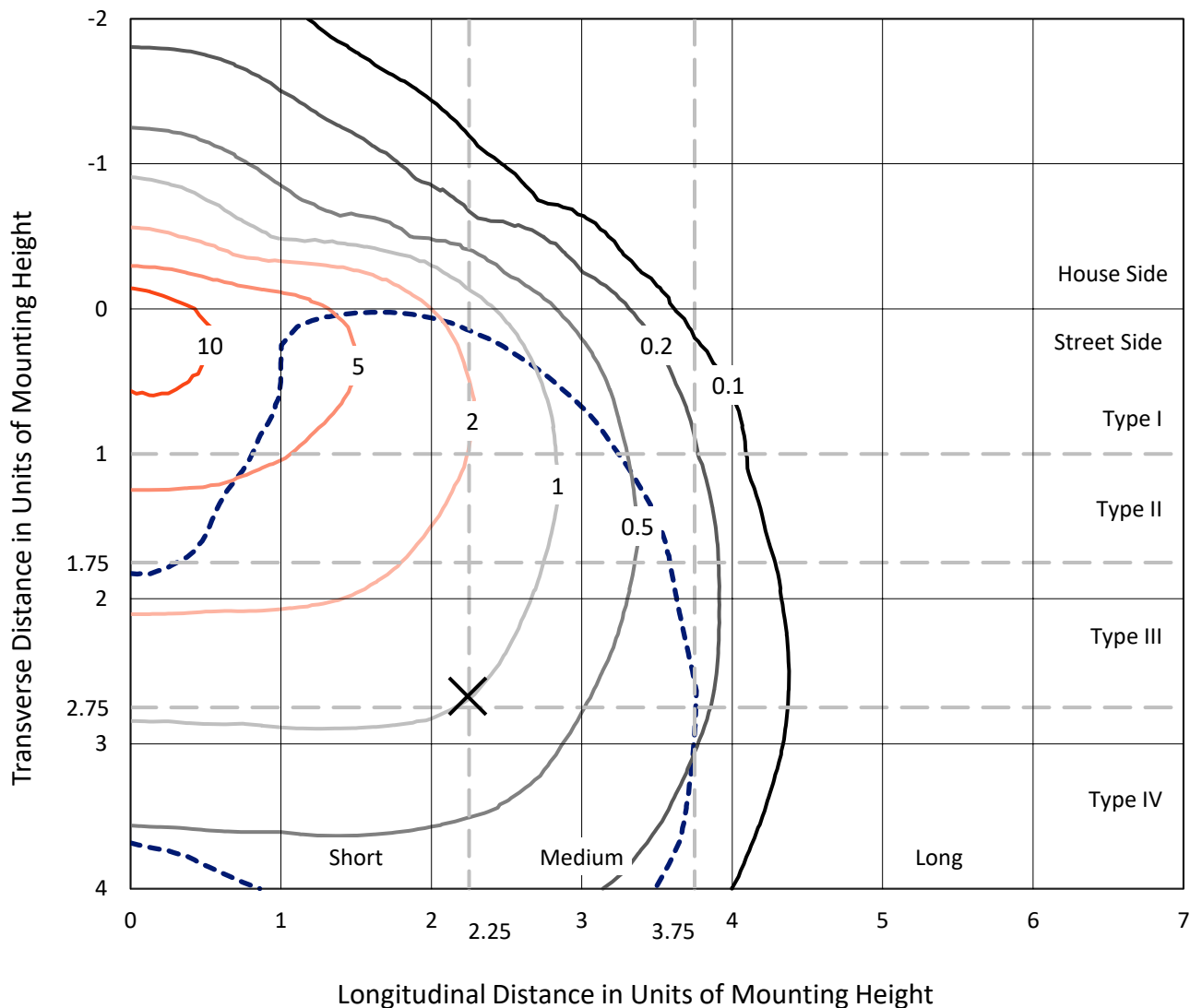
Input Watts (W): 82.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

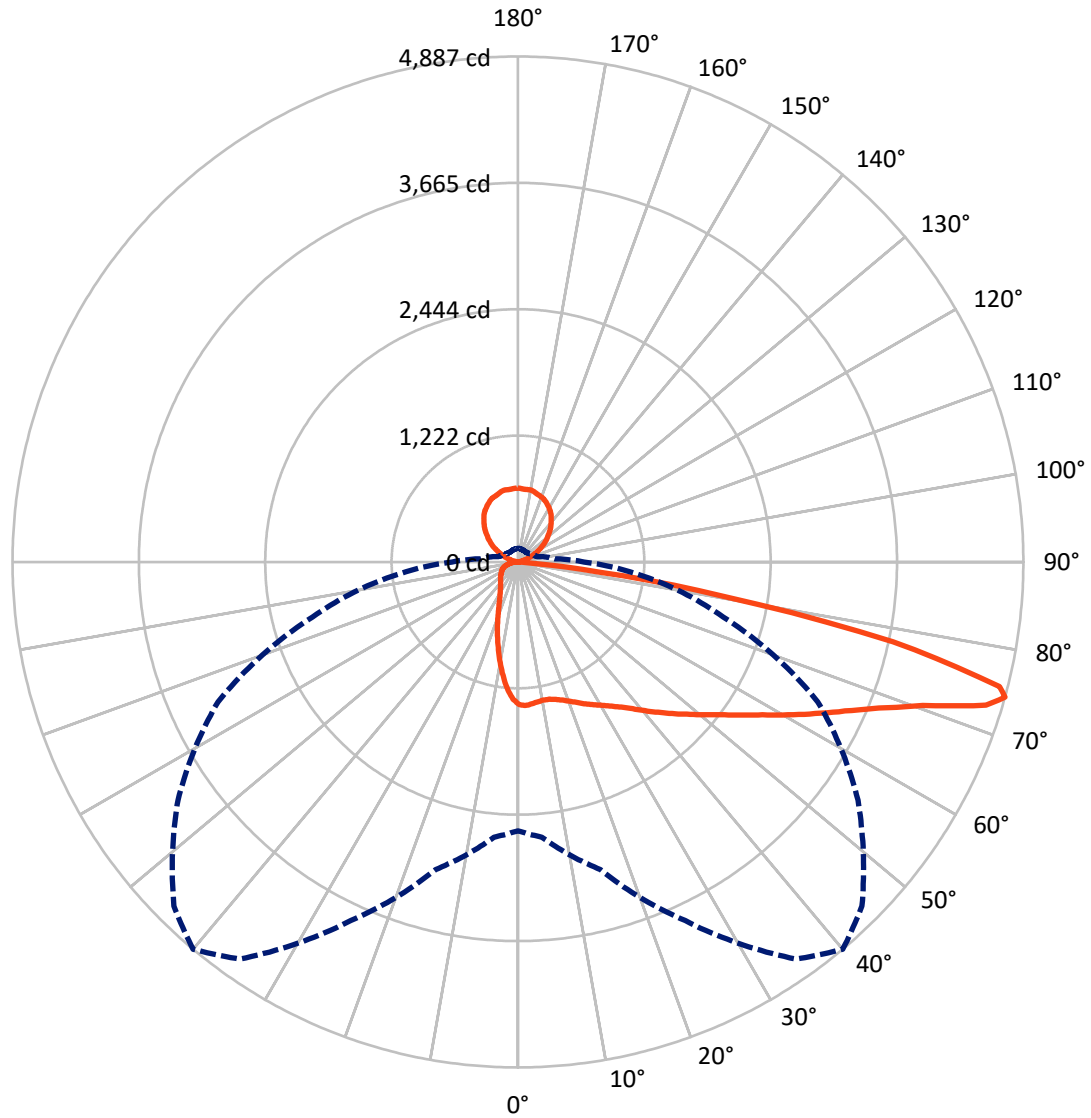
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13.8 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral - - - Horizontal Cone Through 74-Deg Vertical

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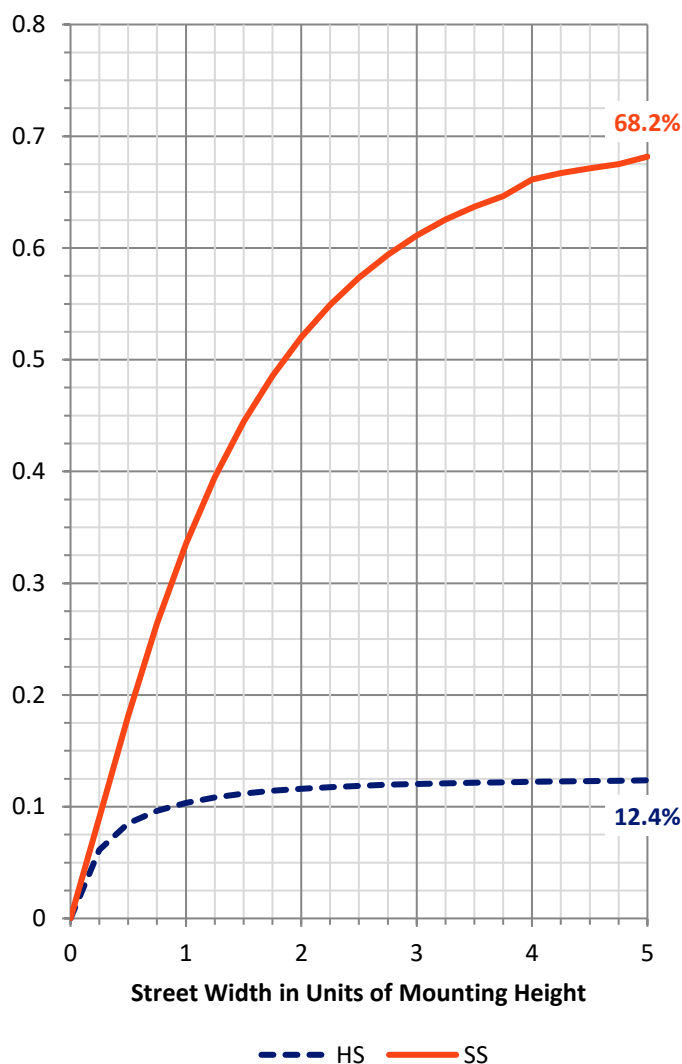
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1151.1	887.0	2038.1
	% Fixture	12.6	9.7	22.3
Street Side	Lumens	6231.9	887.0	7118.8
	% Fixture	68.1	9.7	77.7
Total	Lumens	7383.0	1773.9	9156.9
	% Fixture	80.6	19.4	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.7	1.3
10°-20°	313.3	3.4
20°-30°	480.5	5.2
30°-40°	694.0	7.6
40°-50°	998.5	10.9
50°-60°	1378.7	15.1
60°-70°	1738.2	19.0
70°-80°	1507.3	16.5
80°-90°	150.9	1.6
90°-100°	8.4	0.1
100°-110°	58.7	0.6
110°-120°	169.9	1.9
120°-130°	279.4	3.1
130°-140°	344.6	3.8
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°	7383.0	80.6
0°-180°	9156.9	100.0

Coefficient of Utilization



REPORT NUMBER:

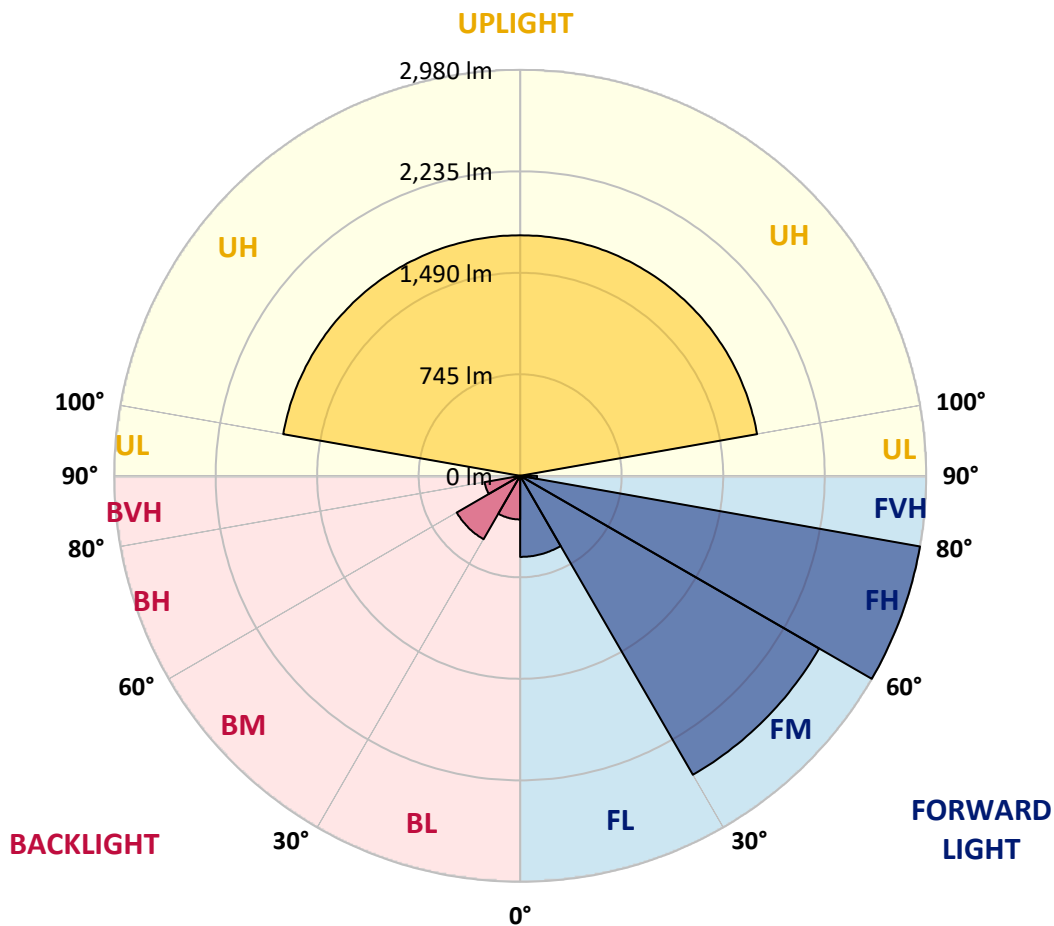
CATALOG NUMBER: ENT-SA1F-740-U-SL4-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	595.2	6.5			
FM (30°-60°)	2533.6	27.7			
FH (60°-80°)	2979.8	32.5			G2/5000
FVH (80°-90°)	123.4	1.3			G2/225
BL (0°-30°)	320.3	3.5	B1/500		
BM (30°-60°)	537.6	5.9	B1/1000		
BH (60°-80°)	265.7	2.9	B1/500		G1/500
BVH (80°-90°)	27.5	0.3			G1/100
UL (90°-100°)	8.4	0.1		U1/10	
UH (100°-180°)	1765.5	19.3		U5	

BUG Rating: B1-U5-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	40°	45°	55°	65°	75°	85°
0°	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1
2.5°	1395.8	1394.7	1398.1	1395.8	1392.5	1390.3	1389.2	1382.6	1380.3	1373.7	1364.8
5°	1390.3	1390.3	1390.3	1388.1	1381.5	1379.2	1377.0	1367.1	1360.4	1349.4	1332.7
7.5°	1371.5	1374.8	1373.7	1372.6	1367.1	1364.8	1361.5	1349.4	1340.5	1323.9	1302.9
10°	1353.8	1353.8	1354.9	1359.3	1357.1	1358.2	1357.1	1343.8	1331.6	1310.6	1284.0
12.5°	1328.3	1332.7	1339.4	1351.6	1357.1	1361.5	1361.5	1351.6	1338.3	1312.8	1281.8
15°	1312.8	1318.4	1335.0	1357.1	1370.4	1378.1	1380.3	1368.2	1351.6	1326.1	1291.8
17.5°	1306.2	1312.8	1343.8	1374.8	1398.1	1404.7	1405.8	1392.5	1374.8	1343.8	1304.0
20°	1312.8	1320.6	1361.5	1403.6	1431.3	1436.8	1439.0	1420.2	1398.1	1368.2	1316.1
22.5°	1338.3	1349.4	1394.7	1440.1	1468.9	1476.6	1474.4	1447.9	1425.7	1393.6	1331.6
25°	1393.6	1400.3	1441.2	1489.9	1512.1	1520.9	1515.4	1485.5	1456.7	1424.6	1353.8
27.5°	1457.8	1466.7	1509.9	1546.4	1560.8	1563.0	1557.5	1526.5	1494.4	1467.8	1388.1
30°	1535.3	1543.1	1578.5	1606.2	1607.3	1608.4	1605.1	1569.6	1543.1	1522.0	1437.9
32.5°	1617.2	1618.3	1654.9	1668.1	1659.3	1662.6	1659.3	1620.6	1601.7	1595.1	1503.2
35°	1692.5	1693.6	1731.2	1735.7	1721.3	1722.4	1729.0	1683.6	1683.6	1699.1	1600.6
37.5°	1764.5	1767.8	1801.0	1796.6	1791.0	1801.0	1809.8	1771.1	1793.2	1837.5	1719.1
40°	1818.7	1826.4	1870.7	1868.5	1880.7	1890.6	1898.4	1878.5	1913.9	2000.2	1865.2
42.5°	1854.1	1869.6	1932.7	1948.2	1969.2	1986.9	2000.2	1999.1	2061.1	2180.7	2020.2
45°	1890.6	1906.1	1990.3	2027.9	2063.3	2091.0	2116.5	2129.7	2228.3	2371.1	2200.6
47.5°	1934.9	1948.2	2042.3	2116.5	2161.8	2199.5	2244.9	2273.6	2398.7	2564.8	2367.7
50°	2002.4	2011.3	2095.4	2210.5	2268.1	2320.1	2376.6	2435.3	2582.5	2762.9	2513.8
52.5°	2089.9	2095.4	2157.4	2305.7	2397.6	2453.0	2537.1	2614.6	2769.5	2942.2	2633.4
55°	2189.5	2185.1	2232.7	2419.8	2527.1	2610.1	2714.2	2792.8	2966.6	3098.3	2728.6
57.5°	2289.1	2285.8	2323.5	2529.3	2691.0	2788.4	2895.7	2978.8	3147.0	3244.4	2797.2
60°	2384.3	2372.2	2425.3	2657.7	2889.1	3000.9	3097.2	3173.6	3317.5	3349.6	2833.8
62.5°	2468.5	2468.5	2545.9	2816.0	3126.0	3226.7	3303.1	3354.0	3480.2	3427.1	2819.4
65°	2545.9	2555.9	2666.6	2993.1	3371.7	3474.7	3541.1	3561.0	3641.8	3430.4	2697.6
67.5°	2633.4	2648.9	2805.0	3200.1	3655.1	3764.7	3822.2	3815.6	3756.9	3379.5	2436.4
70°	2718.6	2744.1	2976.5	3466.9	4004.9	4153.2	4216.3	4085.7	3816.7	3097.2	2023.5
72.5°	2780.6	2823.8	3117.1	3733.7	4506.3	4734.4	4708.9	4159.9	3536.7	2552.6	1530.9
74°	2599.1	2671.0	3078.4	3825.6	4686.8	4887.1	4704.5	4012.6	3199.0	2055.6	1084.8
75°	2387.7	2457.4	2882.5	3789.0	4721.1	4810.7	4476.4	3753.6	2869.2	1592.9	708.4
77.5°	1767.8	1822.0	2213.9	2987.6	3733.7	3707.1	3333.0	2543.7	1413.6	480.4	298.9
80°	780.4	821.3	1092.5	1503.2	2022.4	2014.6	1876.3	1168.9	456.1	251.3	182.6
82.5°	235.8	234.7	314.4	438.3	768.2	782.6	665.3	402.9	218.1	104.1	88.6
85°	1.1	1.1	1.1	1.1	3.3	28.8	24.4	77.5	39.8	18.8	32.1
87.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	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	9.2	9.2	9.2	12.3	10.2	9.2	8.2
100°	8.2	8.2	9.2	10.2	12.3	16.9	21.5	29.7	26.6	23.5	19.4
102.5°	11.3	11.3	13.3	18.4	27.6	34.2	40.9	51.1	48.1	43.0	39.9
105°	21.5	22.5	27.6	36.8	49.1	56.8	64.4	73.7	71.6	66.5	62.4
107.5°	41.9	43.0	50.1	59.3	74.7	82.4	90.0	97.2	96.2	92.1	89.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	40°	45°	55°	65°	75°	85°
110°	67.5	69.6	75.7	89.0	104.3	110.4	116.6	122.8	123.8	121.7	118.7
112.5°	101.3	101.3	108.4	123.8	137.1	141.7	146.3	151.4	153.4	152.4	150.4
115°	143.2	142.2	150.4	162.6	171.9	175.0	178.0	183.1	186.2	183.1	181.1
117.5°	188.2	188.2	193.3	201.5	206.6	208.2	209.7	215.8	219.9	214.8	212.8
120°	230.2	228.1	231.2	238.3	242.4	245.5	248.6	251.6	255.7	250.6	248.6
122.5°	269.0	266.0	267.0	273.1	277.2	280.3	283.4	285.4	289.5	284.4	282.3
125°	304.8	300.7	302.8	305.9	312.0	314.6	317.1	320.2	322.2	317.1	317.1
127.5°	337.6	336.6	336.6	340.6	346.8	347.3	347.8	352.9	353.9	353.9	352.9
130°	371.3	369.3	370.3	374.4	378.5	379.5	380.5	385.7	389.7	389.7	387.7
132.5°	405.1	403.0	402.0	410.2	413.3	413.8	414.3	420.4	425.5	423.5	423.5
135°	438.8	435.8	435.8	441.9	445.0	446.0	447.0	453.2	458.3	457.3	460.3
137.5°	470.6	467.5	469.5	470.6	474.6	476.6	478.7	483.9	485.9	486.9	492.0
140°	499.2	496.1	498.2	500.2	502.3	505.4	508.4	511.5	513.5	515.6	520.7
142.5°	529.9	526.8	528.9	529.9	533.0	535.0	537.0	539.1	545.2	545.2	546.3
145°	562.6	558.5	556.5	559.6	562.6	563.1	563.6	568.8	574.9	573.9	570.8
147.5°	588.2	585.1	584.1	587.2	587.2	587.7	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	624.0	624.0	624.0	625.0	628.1	632.2	637.3
155°	643.4	639.3	639.3	641.4	644.5	643.4	642.4	640.4	645.5	650.6	652.6
157.5°	660.8	657.8	657.8	658.8	660.8	660.3	659.8	658.8	662.9	664.9	664.9
160°	678.2	675.1	674.1	671.1	670.0	670.0	670.0	673.1	679.2	676.2	675.1
162.5°	688.4	684.4	684.4	680.3	676.2	677.2	678.2	682.3	686.4	685.4	683.3
165°	696.6	693.6	691.5	691.5	688.4	688.4	688.4	687.4	692.5	695.6	693.6
167.5°	705.8	702.8	699.7	701.7	703.8	702.2	700.7	693.6	699.7	703.8	703.8
170°	714.0	711.0	707.9	707.9	708.9	707.9	706.9	701.7	704.8	709.9	712.0
172.5°	715.0	713.0	711.0	708.9	705.8	705.8	705.8	704.8	707.9	709.9	712.0
175°	716.1	714.0	713.0	711.0	706.9	706.3	705.8	705.8	711.0	712.0	709.9
177.5°	723.2	721.2	716.1	715.0	713.0	712.0	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°	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1
2.5°	1359.3	1358.2	1354.9	1347.1	1341.6	1325.0	1330.5	1319.5	1318.4	1316.1	1315.0
5°	1325.0	1320.6	1307.3	1291.8	1274.1	1246.4	1237.6	1220.9	1211.0	1207.7	1209.9
7.5°	1289.6	1279.6	1254.2	1220.9	1185.5	1144.6	1114.7	1091.4	1074.8	1069.3	1061.5
10°	1267.4	1250.8	1207.7	1152.3	1094.8	1037.2	987.4	953.1	927.6	907.7	907.7
12.5°	1259.7	1237.6	1174.5	1093.7	1010.6	928.7	856.8	811.4	768.2	747.2	743.9
15°	1264.1	1233.1	1146.8	1040.5	929.8	823.6	735.0	669.7	628.7	603.3	612.1
17.5°	1268.5	1229.8	1118.0	984.1	851.2	728.4	625.4	551.3	501.4	488.2	482.6
20°	1274.1	1223.2	1081.5	923.2	770.4	636.5	528.0	452.7	415.1	398.5	398.5
22.5°	1281.8	1214.3	1043.8	855.7	687.4	546.8	446.1	389.6	359.8	349.8	349.8
25°	1292.9	1208.8	1005.1	788.1	608.8	476.0	391.9	347.6	332.1	325.4	324.3
27.5°	1313.9	1209.9	967.5	719.5	531.3	416.2	353.1	324.3	312.2	308.8	307.7
30°	1346.0	1220.9	927.6	646.4	462.7	370.8	326.5	306.6	298.9	296.7	296.7
32.5°	1390.3	1240.9	894.4	581.1	411.8	334.3	304.4	291.1	286.7	284.5	285.6
35°	1458.9	1275.2	854.6	521.4	364.2	308.8	286.7	276.7	273.4	273.4	274.5
37.5°	1548.6	1328.3	815.8	466.0	332.1	286.7	270.1	264.6	261.2	263.5	264.6
40°	1661.5	1391.4	779.3	416.2	305.5	269.0	255.7	251.3	250.2	252.4	254.6
42.5°	1783.3	1467.8	746.1	375.3	284.5	254.6	243.5	241.3	240.2	241.3	244.6
45°	1925.0	1555.2	718.4	344.3	269.0	242.4	232.5	230.2	229.1	231.3	233.6
47.5°	2055.6	1633.8	696.3	323.2	255.7	233.6	223.6	220.3	220.3	220.3	222.5
50°	2161.8	1695.8	683.0	308.8	244.6	223.6	214.7	211.4	210.3	209.2	210.3
52.5°	2253.7	1742.3	678.6	300.0	235.8	214.7	205.9	203.7	201.5	199.2	200.4
55°	2314.6	1765.6	669.7	292.2	228.0	204.8	197.0	194.8	192.6	189.3	189.3
57.5°	2350.0	1763.3	649.8	287.8	223.6	195.9	188.2	188.2	186.0	180.4	181.5
60°	2353.3	1724.6	601.1	282.3	220.3	187.1	178.2	180.4	180.4	176.0	176.0
62.5°	2296.9	1622.8	507.0	267.9	215.9	180.4	170.5	176.0	178.2	173.8	173.8
65°	2123.1	1382.6	407.4	246.8	204.8	172.7	161.6	172.7	179.3	176.0	174.9
67.5°	1789.9	1094.8	336.5	223.6	192.6	162.7	152.8	167.1	176.0	176.0	174.9
70°	1436.8	831.3	276.7	198.1	173.8	150.5	142.8	155.0	162.7	164.9	164.9
72.5°	989.6	508.1	224.7	170.5	152.8	136.2	129.5	137.3	141.7	146.1	145.0
74°	638.7	356.4	197.0	155.0	139.5	125.1	121.8	125.1	127.3	131.7	132.8
75°	427.3	291.1	183.8	143.9	131.7	117.3	115.1	118.4	120.7	124.0	124.0
77.5°	245.7	208.1	148.3	119.5	109.6	100.7	99.6	100.7	104.1	107.4	106.3
80°	170.5	158.3	117.3	93.0	86.3	81.9	83.0	84.1	89.7	90.8	89.7
82.5°	102.9	114.0	83.0	69.7	65.3	64.2	67.5	69.7	74.2	75.3	74.2
85°	41.0	54.2	41.0	38.7	43.2	47.6	53.1	56.5	58.7	58.7	58.7
87.5°	0.0	7.7	10.0	15.5	24.4	28.8	37.6	41.0	43.2	42.1	41.0
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°	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



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	119.7	118.7	121.7	123.8	122.8	116.6	104.3	89.0	75.7	69.6	67.5
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)