

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-SA1D-740-U-SL3-ULG**

Issue Date: 3/30/2022

Test Information

Test Method: LM-79-08
Report Number: REPORT IS A COMBINATION OF REPORTS P401492 AND P226775
Test Lab: INNOVATION CENTER
Issue Date: 3/30/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1D-740-U-SL3-ULG
Description: ENTRI LED LUMINAIRE WITH UPLIGHT
(1) 70 CRI, 4000K, 800mA LIGHTSQUARE WITH 16 LEDS AND TYPE III SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7312.9 lumens
Efficiency: N/A
Efficacy: 122.3 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.1')
IES Classification: Type III - Medium
BUG Rating: B1 - U5 - G2

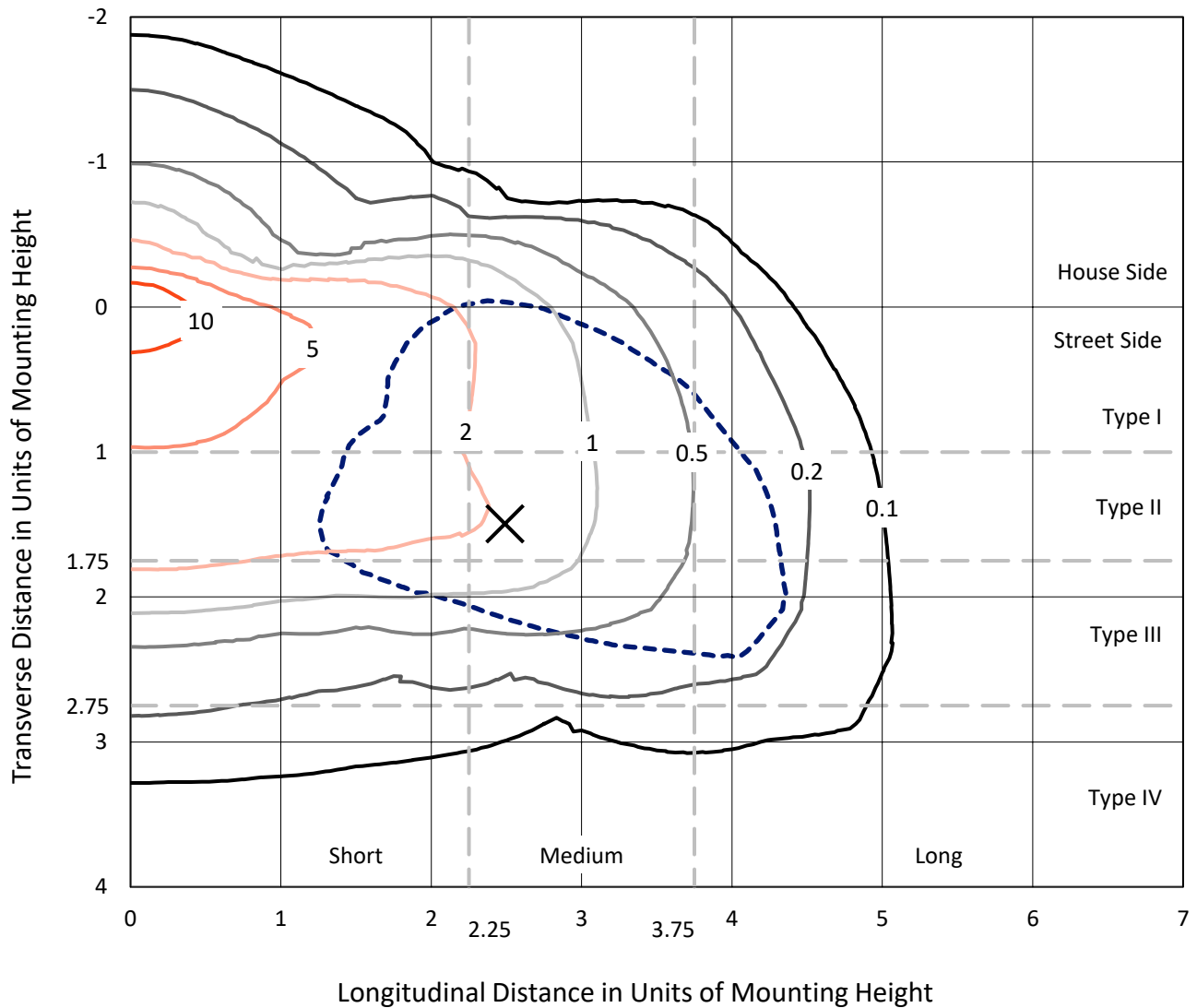
Input Watts (W): 59.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

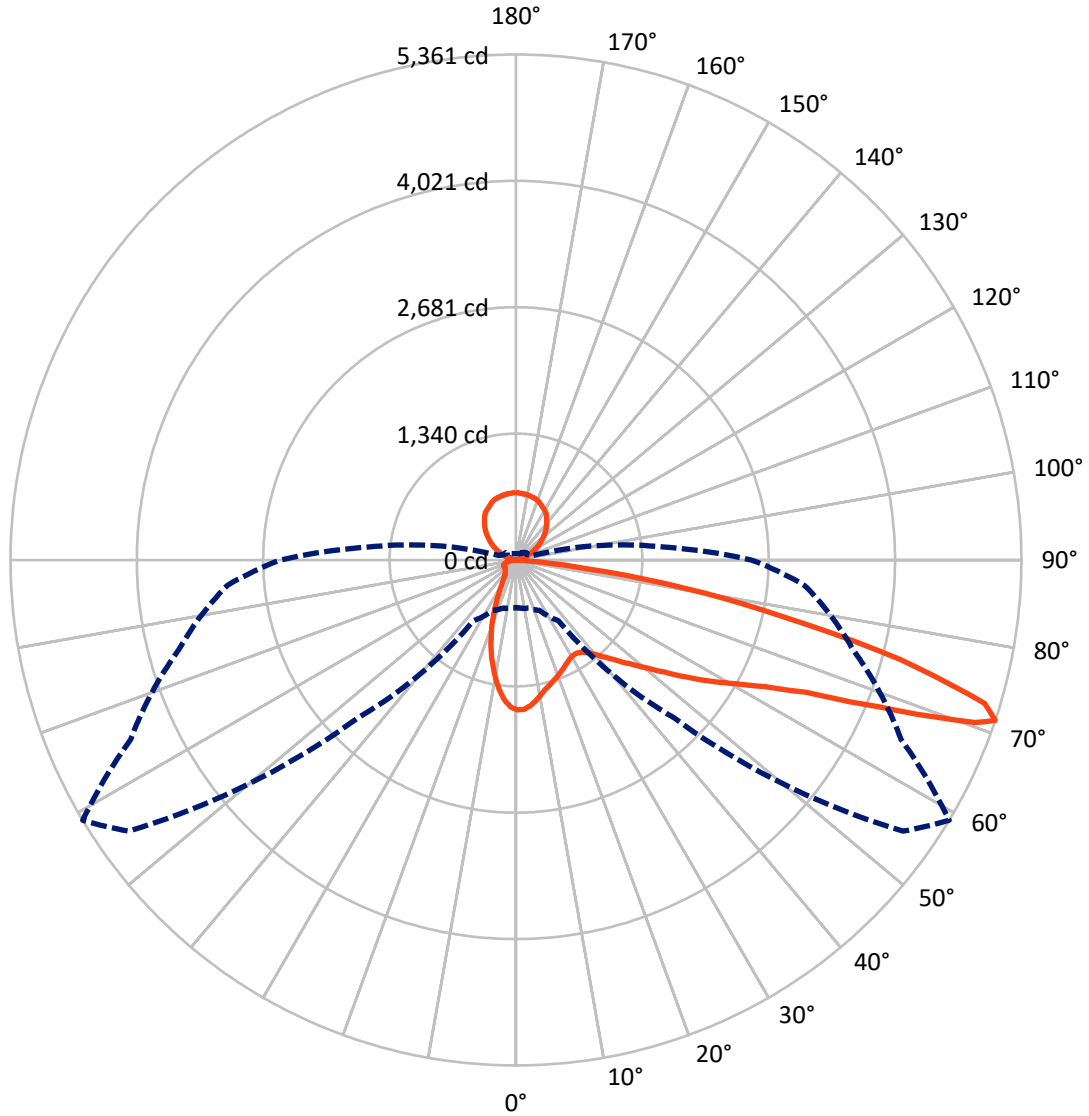
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 15.9 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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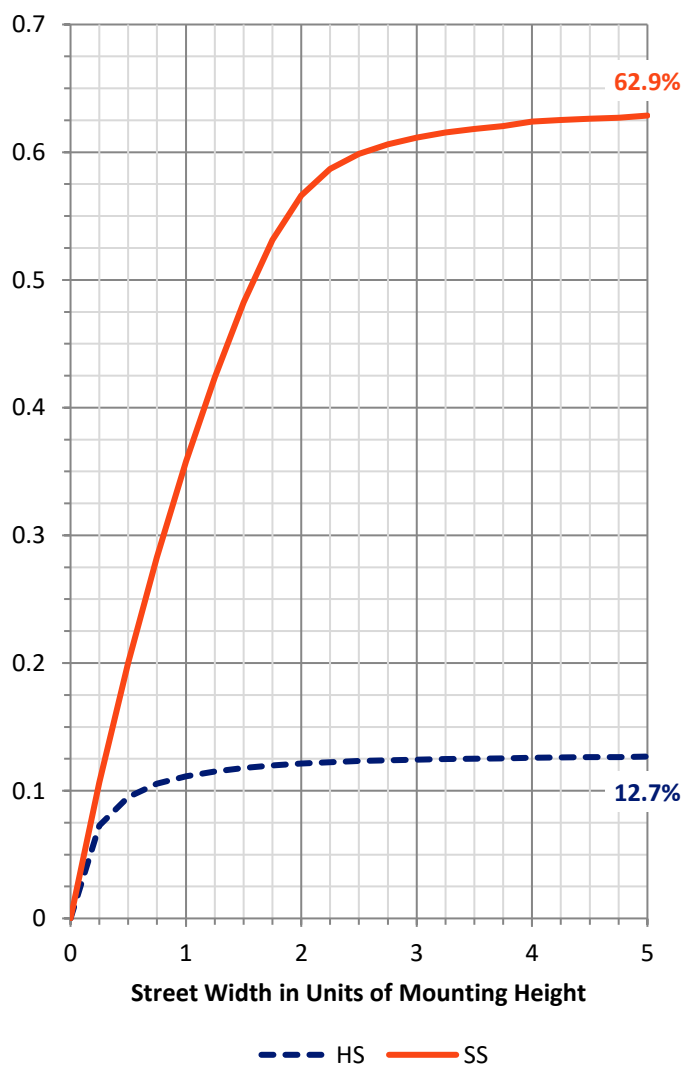
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	940.1	887.0	1827.1
	% Fixture	12.9	12.1	25.0
Street Side	Lumens	4598.9	887.0	5485.8
	% Fixture	62.9	12.1	75.0
Total	Lumens	5539.0	1773.9	7312.9
	% Fixture	75.7	24.3	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.3	1.9
10°-20°	308.5	4.2
20°-30°	392.0	5.4
30°-40°	501.2	6.9
40°-50°	695.5	9.5
50°-60°	1029.8	14.1
60°-70°	1391.9	19.0
70°-80°	987.0	13.5
80°-90°	95.9	1.3
90°-100°	8.4	0.1
100°-110°	58.7	0.8
110°-120°	169.9	2.3
120°-130°	279.4	3.8
130°-140°	344.6	4.7
140°-150°	352.5	4.8
150°-160°	297.0	4.1
160°-170°	195.5	2.7
170°-180°	67.8	0.9
0°-90°	5539.0	75.7
0°-180°	7312.9	100.0

Coefficient of Utilization



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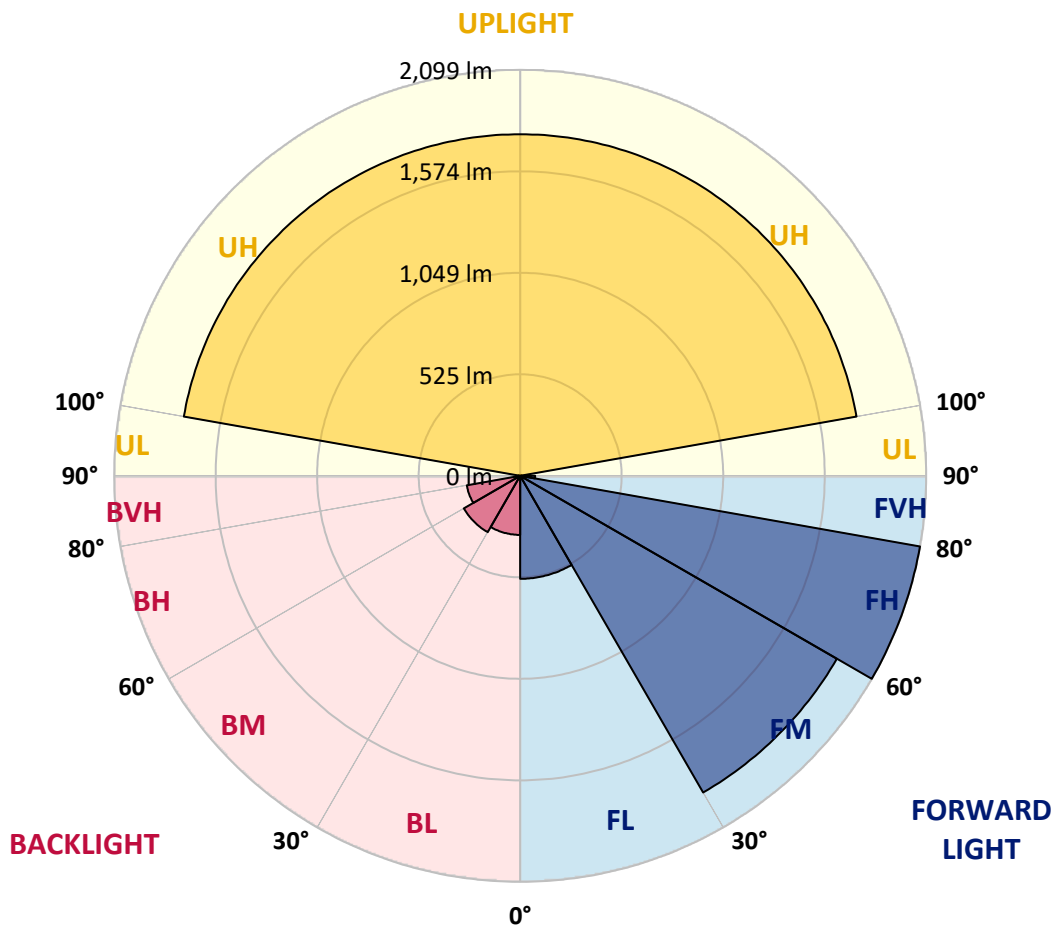
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	532.4	7.3			
FM	(30°-60°)	1890.2	25.8			
FH	(60°-80°)	2098.7	28.7			G2/5000
FVH	(80°-90°)	77.6	1.1			G1/100
BL	(0°-30°)	305.4	4.2	B1/500		
BM	(30°-60°)	336.2	4.6	B1/1000		
BH	(60°-80°)	280.2	3.8	B1/500		G1/500
BVH	(80°-90°)	18.3	0.2			G1/100
UL	(90°-100°)	8.4	0.1		U1/10	
UH	(100°-180°)	1765.5	24.1		U5	

BUG Rating: B1-U5-G2

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1589.1	1589.1	1589.1	1589.1	1589.1	1589.1	1589.1	1589.1	1589.1	1589.1	1589.1
2.5°	1575.5	1581.1	1583.5	1587.5	1587.5	1589.1	1587.5	1586.7	1589.9	1586.7	1577.9
5°	1505.7	1508.1	1515.3	1523.3	1531.3	1548.2	1553.0	1556.2	1563.4	1565.0	1556.2
7.5°	1411.0	1419.8	1429.4	1439.8	1456.7	1480.0	1500.0	1508.1	1521.7	1529.7	1516.9
10°	1330.7	1335.5	1340.3	1358.8	1385.3	1417.4	1438.2	1453.5	1475.2	1485.6	1473.6
12.5°	1250.4	1254.4	1264.1	1289.0	1316.2	1354.8	1392.5	1404.5	1430.2	1451.1	1441.4
15°	1188.6	1188.6	1195.9	1223.1	1252.0	1303.4	1347.5	1366.0	1398.1	1427.8	1415.8
17.5°	1134.1	1136.5	1141.3	1158.9	1199.1	1252.8	1309.0	1332.3	1372.4	1411.0	1394.9
20°	1103.6	1102.0	1105.2	1114.0	1146.1	1203.1	1270.5	1297.8	1347.5	1400.5	1374.8
22.5°	1093.1	1091.5	1089.1	1088.3	1109.2	1157.3	1229.6	1263.3	1325.1	1394.9	1356.4
25°	1101.2	1101.2	1093.9	1080.3	1089.9	1122.8	1192.6	1228.8	1300.2	1390.9	1339.5
27.5°	1122.8	1122.8	1112.4	1094.7	1090.7	1105.2	1160.5	1199.1	1279.3	1393.3	1325.9
30°	1152.5	1151.7	1141.3	1126.0	1114.0	1109.2	1145.3	1180.6	1264.9	1403.7	1319.5
32.5°	1186.2	1184.6	1179.8	1169.4	1154.9	1134.1	1146.9	1178.2	1261.7	1422.2	1320.3
35°	1226.4	1223.9	1226.4	1220.7	1207.1	1184.6	1176.6	1201.5	1277.7	1456.7	1333.9
37.5°	1261.7	1260.1	1272.1	1275.3	1272.1	1242.4	1232.0	1248.0	1315.4	1511.3	1362.0
40°	1291.4	1293.0	1314.6	1337.9	1342.7	1317.0	1309.8	1323.5	1376.4	1577.9	1412.6
42.5°	1324.3	1329.1	1361.2	1402.9	1419.0	1402.1	1406.1	1415.8	1453.5	1668.6	1485.6
45°	1356.4	1366.8	1411.0	1464.7	1505.7	1505.7	1519.3	1528.9	1553.0	1782.6	1592.3
47.5°	1412.6	1419.8	1467.9	1532.9	1595.5	1615.6	1653.3	1650.1	1668.6	1907.8	1717.5
50°	1485.6	1497.6	1546.6	1614.0	1693.5	1750.4	1793.8	1800.2	1807.4	2036.2	1866.0
52.5°	1586.7	1601.2	1641.3	1703.9	1797.8	1890.9	1982.4	1978.4	1968.8	2175.8	2036.2
55°	1688.6	1703.9	1741.6	1792.2	1902.9	2045.8	2195.1	2189.5	2145.3	2318.7	2193.5
57.5°	1792.2	1805.0	1844.3	1888.5	2019.3	2228.8	2419.8	2423.8	2333.1	2477.6	2349.2
60°	1835.5	1854.8	1951.9	2037.0	2200.7	2431.8	2649.3	2659.8	2528.2	2638.1	2520.9
62.5°	1639.7	1663.0	1823.5	2053.0	2449.5	2823.5	2947.9	2954.3	2763.3	2815.5	2708.7
65°	1213.5	1212.7	1378.8	1722.4	2399.7	3349.2	3480.0	3378.9	3055.5	3050.6	2956.7
67.5°	695.0	715.9	768.9	1027.3	1828.3	3446.3	4427.1	4163.0	3573.1	3416.6	3287.4
70°	560.2	555.4	571.4	640.5	996.8	2833.9	5044.3	5164.7	4308.3	3715.2	3212.8
71°	504.8	512.1	528.1	590.7	786.5	2364.4	5013.8	5361.3	4508.9	3707.2	3070.7
72.5°	434.2	435.8	472.7	546.6	646.1	1667.8	4635.8	5199.2	4719.2	3602.0	2862.0
75°	295.4	299.4	357.2	439.8	589.9	792.2	3317.1	4205.6	4295.5	3366.1	2363.6
77.5°	169.3	172.6	214.3	321.8	502.4	558.6	2036.2	2906.2	3088.4	2461.5	1267.3
80°	87.5	91.5	118.8	203.1	383.6	451.9	1167.8	1827.5	1756.9	850.7	293.7
82.5°	23.3	26.5	34.5	73.0	185.4	294.6	517.7	756.0	540.1	176.6	106.7
85°	0.0	0.0	0.0	0.8	1.6	40.9	109.2	135.6	75.4	34.5	28.9
87.5°	0.0	0.0	0.0	0.0	0.8	1.6	1.6	1.6	1.6	2.4	3.2
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	7.2	7.2	7.2	6.1	6.1
95°	5.1	5.1	6.1	7.2	7.2	7.2	7.2	7.6	8.2	7.2	7.2
97.5°	7.2	7.2	8.2	8.2	9.2	9.2	12.3	11.5	10.2	9.2	8.2
100°	8.2	8.2	9.2	10.2	12.3	21.5	29.7	28.4	26.6	23.5	19.4
102.5°	11.3	11.3	13.3	18.4	27.6	40.9	51.1	49.9	48.1	43.0	39.9
105°	21.5	22.5	27.6	36.8	49.1	64.4	73.7	72.8	71.6	66.5	62.4
107.5°	41.9	43.0	50.1	59.3	74.7	90.0	97.2	96.8	96.2	92.1	89.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
110°	67.5	69.6	75.7	89.0	104.3	116.6	122.8	123.2	123.8	121.7	118.7
112.5°	101.3	101.3	108.4	123.8	137.1	146.3	151.4	152.2	153.4	152.4	150.4
115°	143.2	142.2	150.4	162.6	171.9	178.0	183.1	184.3	186.2	183.1	181.1
117.5°	188.2	188.2	193.3	201.5	206.6	209.7	215.8	217.5	219.9	214.8	212.8
120°	230.2	228.1	231.2	238.3	242.4	248.6	251.6	253.3	255.7	250.6	248.6
122.5°	269.0	266.0	267.0	273.1	277.2	283.4	285.4	287.0	289.5	284.4	282.3
125°	304.8	300.7	302.8	305.9	312.0	317.1	320.2	321.0	322.2	317.1	317.1
127.5°	337.6	336.6	336.6	340.6	346.8	347.8	352.9	353.3	353.9	353.9	352.9
130°	371.3	369.3	370.3	374.4	378.5	380.5	385.7	387.3	389.7	389.7	387.7
132.5°	405.1	403.0	402.0	410.2	413.3	414.3	420.4	422.5	425.5	423.5	423.5
135°	438.8	435.8	435.8	441.9	445.0	447.0	453.2	455.2	458.3	457.3	460.3
137.5°	470.6	467.5	469.5	470.6	474.6	478.7	483.9	484.7	485.9	486.9	492.0
140°	499.2	496.1	498.2	500.2	502.3	508.4	511.5	512.3	513.5	515.6	520.7
142.5°	529.9	526.8	528.9	529.9	533.0	537.0	539.1	541.6	545.2	545.2	546.3
145°	562.6	558.5	556.5	559.6	562.6	563.6	568.8	571.2	574.9	573.9	570.8
147.5°	588.2	585.1	584.1	587.2	587.2	588.2	593.3	595.4	598.4	599.4	596.4
150°	608.7	605.6	606.6	606.6	606.6	606.6	610.7	611.9	613.8	616.8	619.9
152.5°	625.0	622.0	622.0	623.0	624.0	624.0	625.0	626.3	628.1	632.2	637.3
155°	643.4	639.3	639.3	641.4	644.5	642.4	640.4	642.4	645.5	650.6	652.6
157.5°	660.8	657.8	657.8	658.8	660.8	659.8	658.8	660.4	662.9	664.9	664.9
160°	678.2	675.1	674.1	671.1	670.0	670.0	673.1	675.6	679.2	676.2	675.1
162.5°	688.4	684.4	684.4	680.3	676.2	678.2	682.3	684.0	686.4	685.4	683.3
165°	696.6	693.6	691.5	691.5	688.4	688.4	687.4	689.5	692.5	695.6	693.6
167.5°	705.8	702.8	699.7	701.7	703.8	700.7	693.6	696.0	699.7	703.8	703.8
170°	714.0	711.0	707.9	707.9	708.9	706.9	701.7	703.0	704.8	709.9	712.0
172.5°	715.0	713.0	711.0	708.9	705.8	705.8	704.8	706.0	707.9	709.9	712.0
175°	716.1	714.0	713.0	711.0	706.9	705.8	705.8	707.9	711.0	712.0	709.9
177.5°	723.2	721.2	716.1	715.0	713.0	711.0	709.9	712.0	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°	1589.1	1589.1	1589.1	1589.1	1589.1	1589.1	1589.1	1589.1	1589.1	1589.1	1589.1
2.5°	1576.3	1576.3	1571.5	1564.2	1556.2	1537.8	1541.0	1526.5	1528.1	1526.5	1526.5
5°	1549.0	1544.2	1532.1	1509.7	1484.8	1451.9	1447.1	1420.6	1405.3	1400.5	1406.1
7.5°	1511.3	1497.6	1467.1	1427.8	1380.5	1337.9	1298.6	1263.3	1236.8	1225.6	1220.7
10°	1461.5	1444.7	1394.9	1325.9	1260.9	1194.3	1132.5	1092.3	1039.4	1023.3	1018.5
12.5°	1420.6	1391.7	1317.0	1220.7	1119.6	1031.3	947.9	863.6	813.0	776.9	771.3
15°	1385.3	1344.3	1237.6	1113.2	987.2	865.2	752.0	638.9	567.4	536.9	515.3
17.5°	1354.0	1301.0	1158.1	996.8	841.1	679.8	541.7	433.4	388.5	365.2	366.0
20°	1321.9	1254.4	1075.5	880.4	696.6	517.7	382.8	332.3	309.8	305.0	302.6
22.5°	1291.4	1201.5	988.0	765.7	549.0	380.4	308.2	283.3	277.7	277.7	277.7
25°	1256.9	1147.7	899.7	648.5	415.7	300.2	264.9	256.0	257.6	260.8	261.6
27.5°	1228.8	1101.2	812.2	512.9	322.6	255.2	236.8	235.2	241.6	248.8	248.8
30°	1203.9	1058.6	717.5	400.5	256.8	223.9	217.5	219.9	226.3	232.8	235.2
32.5°	1187.0	1020.1	632.4	311.4	219.1	202.3	200.6	203.9	210.3	213.5	215.9
35°	1179.8	992.0	540.9	251.2	195.0	186.2	185.4	187.8	191.0	191.8	191.0
37.5°	1187.8	972.7	447.0	212.7	179.8	175.0	174.2	174.2	174.2	175.0	174.2
40°	1211.1	965.5	362.8	187.8	170.1	166.1	163.7	161.3	159.7	159.7	158.9
42.5°	1260.1	976.8	291.3	173.4	162.9	158.1	153.3	150.1	147.7	146.9	146.9
45°	1338.7	1008.1	242.4	163.7	156.5	149.3	143.7	140.5	138.0	138.8	138.0
47.5°	1447.1	1060.2	214.3	157.3	150.1	140.5	134.8	131.6	130.8	133.2	134.0
50°	1569.9	1134.1	197.4	152.5	145.3	133.2	126.8	124.4	125.2	130.0	130.8
52.5°	1714.3	1229.6	190.2	149.3	141.3	126.8	121.2	118.8	120.4	126.0	126.8
55°	1870.0	1338.7	200.6	150.9	137.2	122.8	116.4	113.2	115.6	120.4	121.2
57.5°	2028.1	1473.6	236.0	151.7	132.4	119.6	111.6	106.7	108.3	112.4	113.2
60°	2187.9	1607.6	297.0	152.5	130.8	116.4	107.5	100.3	101.1	103.5	104.3
62.5°	2375.7	1777.7	377.2	155.7	132.4	114.0	100.3	92.3	92.3	93.9	93.9
65°	2660.6	2031.4	430.2	154.1	136.4	111.6	93.1	85.1	84.3	85.1	85.1
67.5°	2865.2	2065.1	300.2	145.3	138.8	112.4	89.1	78.7	77.0	76.2	76.2
70°	2648.5	1737.6	198.2	137.2	134.8	114.0	85.9	74.6	71.4	69.0	68.2
71°	2498.5	1565.9	183.8	134.0	131.6	112.4	84.3	72.2	69.0	67.4	66.6
72.5°	2276.1	1397.3	169.3	129.2	124.4	109.2	81.9	69.8	65.8	63.4	62.6
75°	1798.6	1071.5	148.5	118.8	107.5	89.9	75.4	65.0	61.0	57.8	57.0
77.5°	813.0	426.2	114.0	102.7	87.5	71.4	65.8	60.2	55.4	53.0	52.2
80°	227.1	162.1	83.5	81.1	65.8	55.4	53.0	51.4	49.8	46.6	46.6
82.5°	105.1	94.7	59.4	57.0	44.9	39.3	41.7	42.5	42.5	39.3	38.5
85°	28.9	31.3	27.3	30.5	28.9	26.5	30.5	32.9	34.5	31.3	28.9
87.5°	2.4	5.6	7.2	12.0	14.4	15.2	19.3	23.3	24.1	19.3	20.1
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)