

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-SL2-HSS-ULG**

Issue Date: 3/30/2022

Test Information

Test Method: LM-79-08
Report Number: REPORT IS A COMBINATION OF REPORTS P401846 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-SL2-HSS-ULG
Description: ENTRI LED LUMINAIRE WITH UPLIGHT
(1) 70 CRI, 4000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8066.9 lumens
Efficiency: N/A
Efficacy: 97.4 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

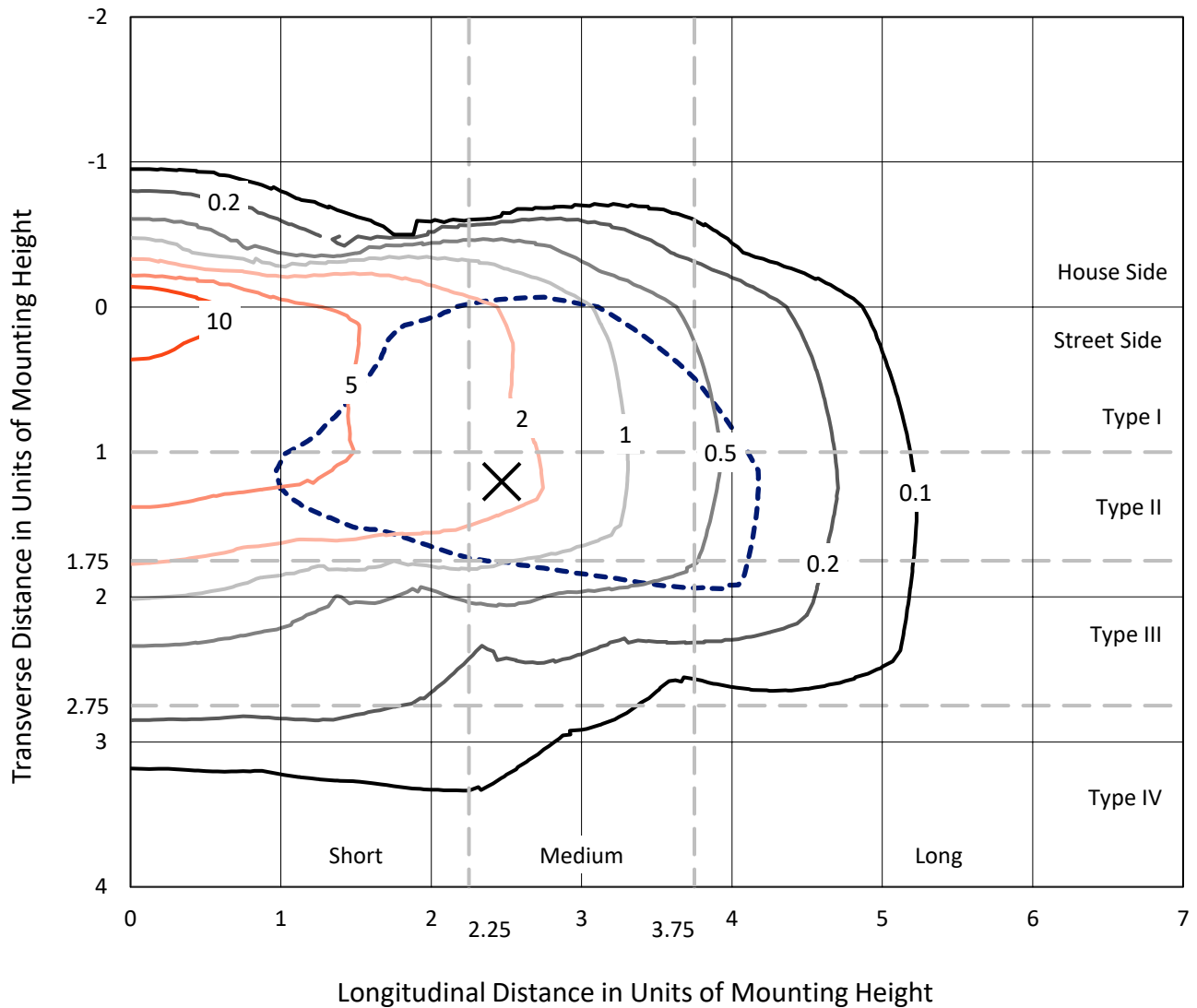
Input Watts (W): 82.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

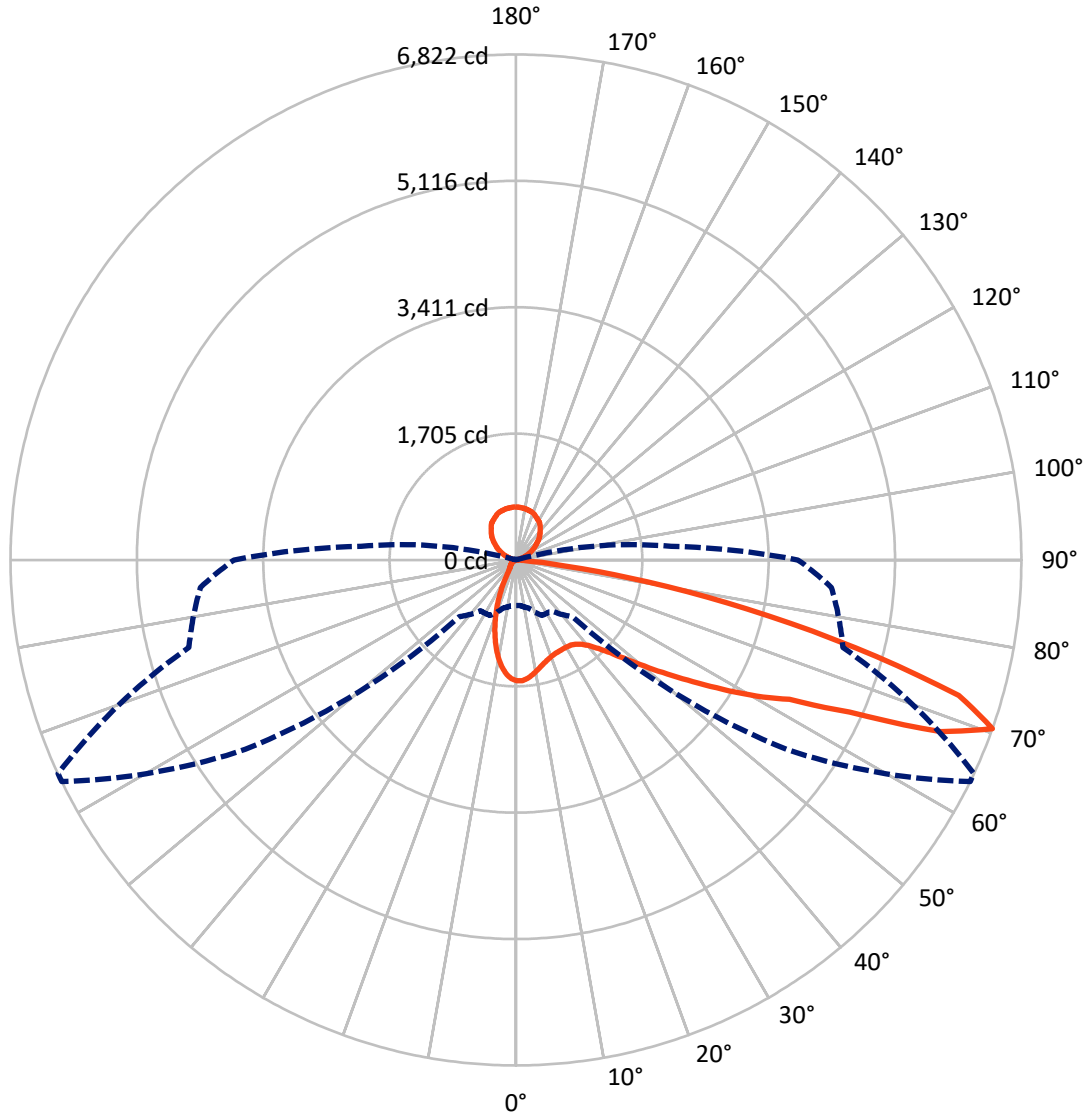
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16.3 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 64-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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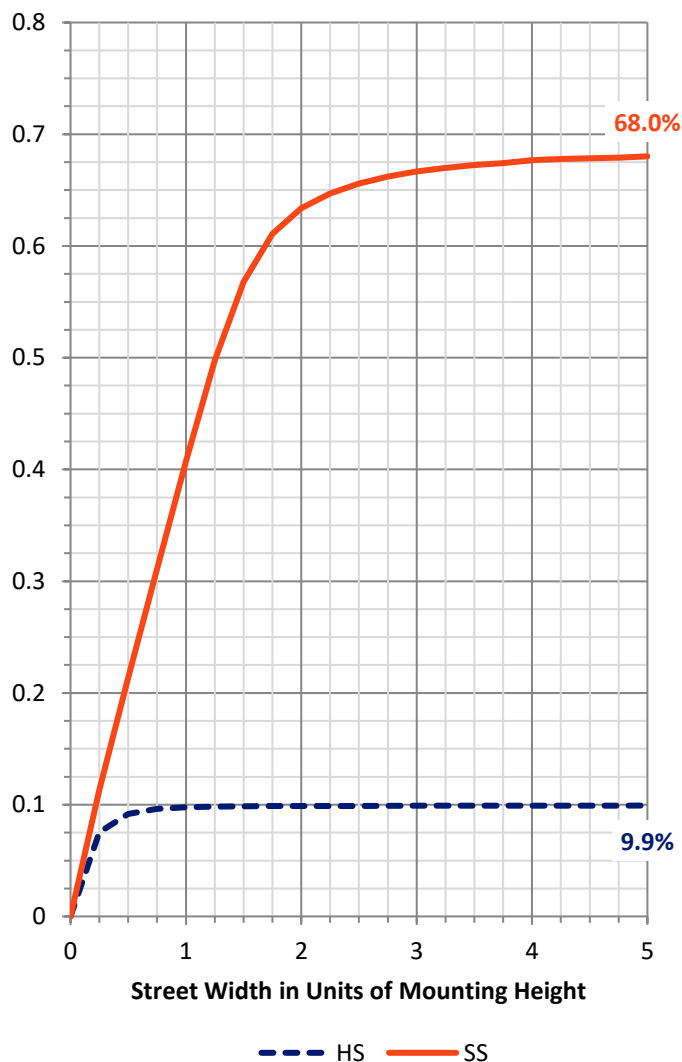
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	808.4	887.0	1695.4
	% Fixture	10.0	11.0	21.0
Street Side	Lumens	5484.6	887.0	6371.5
	% Fixture	68.0	11.0	79.0
Total	Lumens	6293.0	1773.9	8066.9
	% Fixture	78.0	22.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.3	1.7
10°-20°	304.6	3.8
20°-30°	419.6	5.2
30°-40°	577.7	7.2
40°-50°	861.0	10.7
50°-60°	1360.2	16.9
60°-70°	1541.2	19.1
70°-80°	1012.0	12.5
80°-90°	79.3	1.0
90°-100°	8.4	0.1
100°-110°	58.7	0.7
110°-120°	169.9	2.1
120°-130°	279.4	3.5
130°-140°	344.6	4.3
140°-150°	352.5	4.4
150°-160°	297.0	3.7
160°-170°	195.5	2.4
170°-180°	67.8	0.8
0°-90°	6293.0	78.0
0°-180°	8066.9	100.0

Coefficient of Utilization

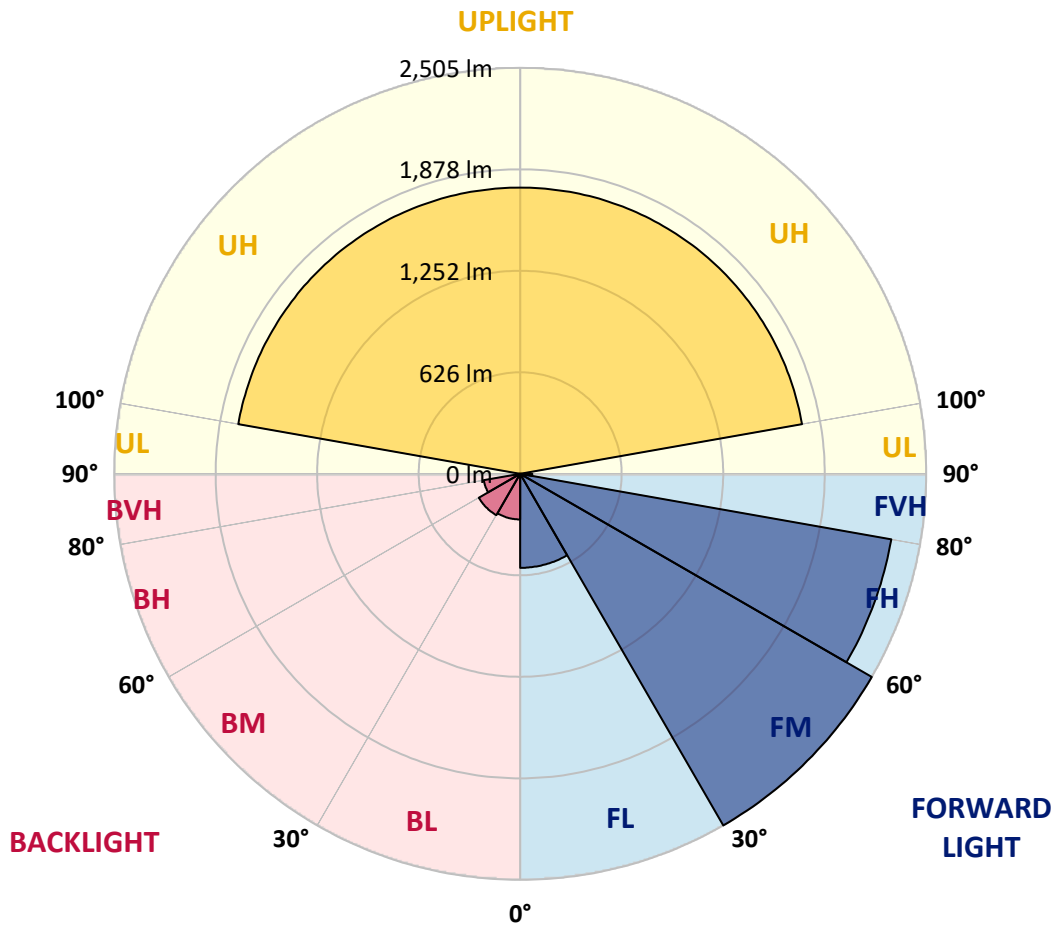


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	580.1	7.2			
FM (30°-60°)	2504.5	31.0			
FH (60°-80°)	2325.0	28.8			G2/5000
FVH (80°-90°)	74.9	0.9			G1/100
BL (0°-30°)	281.4	3.5	B1/500		
BM (30°-60°)	294.4	3.6	B1/1000		
BH (60°-80°)	228.2	2.8	B1/500		G1/500
BVH (80°-90°)	4.4	0.1			G0/10
UL (90°-100°)	8.4	0.1		U1/10	
UH (100°-180°)	1765.5	21.9		U5	

BUG Rating: B1-U5-G2
 Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	64°	65°	75°	85°
0°	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0
2.5°	1583.6	1583.6	1591.4	1599.1	1603.6	1615.7	1624.6	1631.2	1631.2	1635.7	1627.9
5°	1478.5	1478.5	1485.2	1504.0	1523.9	1549.3	1578.1	1606.9	1612.4	1633.4	1632.3
7.5°	1381.1	1390.0	1401.0	1419.9	1440.9	1478.5	1518.4	1568.2	1573.7	1624.6	1635.7
10°	1313.6	1319.2	1325.8	1346.8	1377.8	1421.0	1464.1	1522.8	1532.7	1609.1	1635.7
12.5°	1259.4	1260.5	1270.5	1293.7	1323.6	1365.6	1414.3	1478.5	1490.7	1581.4	1631.2
15°	1220.7	1219.6	1230.6	1252.8	1281.5	1324.7	1372.3	1439.8	1453.1	1558.2	1630.1
17.5°	1197.4	1198.5	1207.4	1224.0	1251.6	1292.6	1341.3	1407.7	1421.0	1539.4	1635.7
20°	1197.4	1197.4	1203.0	1210.7	1231.7	1268.2	1315.8	1384.4	1397.7	1527.2	1643.4
22.5°	1220.7	1218.4	1222.9	1216.2	1226.2	1251.6	1300.3	1369.0	1383.3	1521.7	1655.6
25°	1262.7	1258.3	1261.6	1247.2	1236.2	1247.2	1290.4	1362.3	1377.8	1522.8	1666.6
27.5°	1321.4	1321.4	1314.7	1294.8	1267.1	1255.0	1289.3	1357.9	1373.4	1522.8	1674.4
30°	1403.3	1399.9	1390.0	1370.1	1326.9	1286.0	1300.3	1357.9	1373.4	1523.9	1676.6
32.5°	1485.2	1487.4	1492.9	1473.0	1414.3	1339.1	1326.9	1367.8	1381.1	1522.8	1673.3
35°	1568.2	1569.3	1593.6	1595.8	1520.6	1424.3	1372.3	1394.4	1403.3	1533.8	1675.5
37.5°	1641.2	1646.7	1694.3	1717.6	1655.6	1533.8	1444.2	1444.2	1448.6	1563.7	1688.8
40°	1723.1	1737.5	1795.0	1847.0	1822.7	1674.4	1549.3	1517.2	1519.5	1618.0	1718.7
42.5°	1818.3	1836.0	1911.2	1986.5	1985.4	1847.0	1682.1	1633.4	1635.7	1712.0	1779.5
45°	1938.9	1951.1	2046.2	2140.3	2160.2	2037.4	1849.2	1785.1	1787.3	1854.8	1897.9
47.5°	2086.1	2100.5	2192.3	2305.2	2356.1	2266.5	2066.2	1996.4	1989.8	2037.4	2068.4
50°	2278.6	2306.3	2360.5	2469.0	2591.8	2532.1	2320.7	2251.0	2242.1	2279.7	2289.7
52.5°	2462.3	2487.8	2509.9	2609.5	2847.5	2861.9	2632.8	2556.4	2547.6	2556.4	2568.6
55°	2490.0	2504.4	2521.0	2656.0	3054.4	3281.3	2988.0	2897.3	2871.8	2855.2	2896.2
57.5°	2269.8	2260.9	2316.3	2500.0	3088.7	3745.0	3468.3	3292.3	3268.0	3176.1	3135.2
60°	1797.2	1785.1	1837.1	2088.3	2896.2	3975.2	4134.5	3729.5	3669.7	3362.1	3322.2
62.5°	1262.7	1248.3	1315.8	1464.1	2246.5	3929.8	4886.0	4143.4	4025.0	3527.0	3472.7
65°	972.8	966.1	1002.6	1035.8	1371.2	3404.1	5299.8	4951.2	4706.7	3706.2	3636.5
67.5°	762.5	771.3	816.7	913.0	885.3	2121.5	5261.1	6184.1	5939.5	4036.0	3991.8
70°	613.1	615.3	671.7	825.6	835.5	1080.1	4454.4	6821.5	6818.2	4568.3	4274.0
72.5°	370.7	380.7	472.5	713.8	843.3	826.7	2994.7	6250.5	6336.8	4692.3	3854.5
75°	178.2	188.1	244.6	479.2	837.8	804.5	1620.2	4732.1	4842.8	4207.6	3125.2
77.5°	66.4	75.3	112.9	234.6	620.8	737.0	852.1	3190.5	3278.0	3079.9	2117.1
80°	21.0	24.3	44.3	107.3	315.4	608.7	548.9	1799.4	1858.1	1347.9	711.6
82.5°	2.2	3.3	12.2	36.5	121.7	309.9	322.0	677.3	707.2	263.4	143.9
85°	0.0	0.0	0.0	0.0	2.2	2.2	79.7	129.5	106.2	25.5	42.1
87.5°	0.0	0.0	0.0	0.0	0.0	1.1	2.2	3.3	3.3	3.3	4.4
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	8.1	8.2	7.2	7.2
97.5°	7.2	7.2	8.2	8.2	9.2	9.2	12.3	10.4	10.2	9.2	8.2
100°	8.2	8.2	9.2	10.2	12.3	21.5	29.7	26.9	26.6	23.5	19.4
102.5°	11.3	11.3	13.3	18.4	27.6	40.9	51.1	48.4	48.1	43.0	39.9
105°	21.5	22.5	27.6	36.8	49.1	64.4	73.7	71.8	71.6	66.5	62.4
107.5°	41.9	43.0	50.1	59.3	74.7	90.0	97.2	96.3	96.2	92.1	89.0
110°	67.5	69.6	75.7	89.0	104.3	116.6	122.8	123.7	123.8	121.7	118.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	64°	65°	75°	85°
112.5°	101.3	101.3	108.4	123.8	137.1	146.3	151.4	153.2	153.4	152.4	150.4
115°	143.2	142.2	150.4	162.6	171.9	178.0	183.1	185.9	186.2	183.1	181.1
117.5°	188.2	188.2	193.3	201.5	206.6	209.7	215.8	219.5	219.9	214.8	212.8
120°	230.2	228.1	231.2	238.3	242.4	248.6	251.6	255.3	255.7	250.6	248.6
122.5°	269.0	266.0	267.0	273.1	277.2	283.4	285.4	289.1	289.5	284.4	282.3
125°	304.8	300.7	302.8	305.9	312.0	317.1	320.2	322.0	322.2	317.1	317.1
127.5°	337.6	336.6	336.6	340.6	346.8	347.8	352.9	353.8	353.9	353.9	352.9
130°	371.3	369.3	370.3	374.4	378.5	380.5	385.7	389.3	389.7	389.7	387.7
132.5°	405.1	403.0	402.0	410.2	413.3	414.3	420.4	425.0	425.5	423.5	423.5
135°	438.8	435.8	435.8	441.9	445.0	447.0	453.2	457.8	458.3	457.3	460.3
137.5°	470.6	467.5	469.5	470.6	474.6	478.7	483.9	485.7	485.9	486.9	492.0
140°	499.2	496.1	498.2	500.2	502.3	508.4	511.5	513.3	513.5	515.6	520.7
142.5°	529.9	526.8	528.9	529.9	533.0	537.0	539.1	544.6	545.2	545.2	546.3
145°	562.6	558.5	556.5	559.6	562.6	563.6	568.8	574.3	574.9	573.9	570.8
147.5°	588.2	585.1	584.1	587.2	587.2	588.2	593.3	597.9	598.4	599.4	596.4
150°	608.7	605.6	606.6	606.6	606.6	606.6	610.7	613.5	613.8	616.8	619.9
152.5°	625.0	622.0	622.0	623.0	624.0	624.0	625.0	627.8	628.1	632.2	637.3
155°	643.4	639.3	639.3	641.4	644.5	642.4	640.4	645.0	645.5	650.6	652.6
157.5°	660.8	657.8	657.8	658.8	660.8	659.8	658.8	662.5	662.9	664.9	664.9
160°	678.2	675.1	674.1	671.1	670.0	670.0	673.1	678.6	679.2	676.2	675.1
162.5°	688.4	684.4	684.4	680.3	676.2	678.2	682.3	686.0	686.4	685.4	683.3
165°	696.6	693.6	691.5	691.5	688.4	688.4	687.4	692.0	692.5	695.6	693.6
167.5°	705.8	702.8	699.7	701.7	703.8	700.7	693.6	699.1	699.7	703.8	703.8
170°	714.0	711.0	707.9	707.9	708.9	706.9	701.7	704.5	704.8	709.9	712.0
172.5°	715.0	713.0	711.0	708.9	705.8	705.8	704.8	707.6	707.9	709.9	712.0
175°	716.1	714.0	713.0	711.0	706.9	705.8	705.8	710.4	711.0	712.0	709.9
177.5°	723.2	721.2	716.1	715.0	713.0	711.0	709.9	714.5	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°	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0	1629.0
2.5°	1626.8	1626.8	1619.1	1606.9	1591.4	1569.3	1563.7	1546.0	1546.0	1531.6	1529.4
5°	1629.0	1622.4	1596.9	1559.3	1507.3	1450.8	1415.4	1376.7	1343.5	1322.5	1324.7
7.5°	1629.0	1614.6	1563.7	1480.7	1383.3	1286.0	1211.8	1125.5	1085.6	1059.1	1071.3
10°	1624.6	1600.2	1511.7	1385.6	1231.7	1096.7	975.0	875.4	806.8	778.0	753.6
12.5°	1614.6	1579.2	1446.4	1267.1	1070.2	893.1	724.9	594.3	503.5	458.2	452.6
15°	1605.8	1557.1	1370.1	1137.7	887.6	656.3	468.1	343.1	265.6	247.9	250.1
17.5°	1603.6	1536.1	1297.0	1000.4	709.4	437.1	270.0	218.0	206.9	202.5	201.4
20°	1604.7	1517.2	1217.3	864.3	502.4	272.2	204.7	192.6	188.1	185.9	184.8
22.5°	1609.1	1496.2	1138.8	721.5	343.1	199.2	182.6	174.9	169.3	166.0	164.9
25°	1609.1	1473.0	1051.3	569.9	224.7	174.9	163.8	153.8	146.1	141.7	141.7
27.5°	1605.8	1446.4	960.6	432.7	178.2	156.0	143.9	130.6	120.6	115.1	115.1
30°	1595.8	1414.3	873.2	302.1	156.0	139.4	123.9	107.3	95.2	89.6	87.4
32.5°	1581.4	1380.0	772.5	212.5	140.5	121.7	104.0	86.3	75.3	68.6	68.6
35°	1565.9	1345.7	664.0	162.7	127.3	107.3	87.4	69.7	59.8	55.3	54.2
37.5°	1558.2	1309.2	557.8	140.5	114.0	91.9	70.8	56.4	48.7	45.4	44.3
40°	1563.7	1281.5	453.7	126.2	101.8	77.5	58.7	47.6	40.9	36.5	36.5
42.5°	1596.9	1266.0	355.2	115.1	90.7	65.3	48.7	38.7	32.1	28.8	28.8
45°	1664.4	1277.1	270.0	105.1	77.5	54.2	40.9	31.0	24.3	21.0	21.0
47.5°	1777.3	1321.4	204.7	96.3	66.4	44.3	33.2	24.3	18.8	16.6	15.5
50°	1942.2	1408.8	160.5	87.4	55.3	37.6	27.7	18.8	14.4	12.2	12.2
52.5°	2180.1	1560.4	137.2	77.5	45.4	31.0	22.1	14.4	11.1	8.9	8.9
55°	2472.3	1753.0	123.9	68.6	36.5	25.5	17.7	11.1	7.7	6.6	5.5
57.5°	2709.1	1905.7	116.2	59.8	31.0	22.1	13.3	8.9	6.6	4.4	4.4
60°	2918.3	2004.2	102.9	49.8	26.6	17.7	11.1	6.6	4.4	3.3	3.3
62.5°	3087.6	2068.4	85.2	39.8	22.1	14.4	8.9	5.5	4.4	3.3	3.3
65°	3280.2	2120.4	69.7	31.0	18.8	12.2	7.7	4.4	3.3	3.3	3.3
67.5°	3657.5	2236.6	52.0	24.3	14.4	10.0	6.6	4.4	3.3	2.2	2.2
70°	3804.7	2100.5	40.9	19.9	11.1	8.9	6.6	4.4	2.2	2.2	2.2
72.5°	3238.1	1572.6	32.1	16.6	10.0	7.7	6.6	4.4	3.3	3.3	2.2
75°	2568.6	1062.4	25.5	13.3	10.0	8.9	6.6	6.6	5.5	4.4	4.4
77.5°	1640.1	470.3	19.9	11.1	10.0	11.1	10.0	6.6	6.6	5.5	5.5
80°	489.1	112.9	14.4	8.9	7.7	8.9	10.0	6.6	4.4	3.3	3.3
82.5°	106.2	26.6	8.9	4.4	5.5	4.4	6.6	6.6	4.4	3.3	3.3
85°	35.4	10.0	5.5	4.4	3.3	3.3	3.3	3.3	3.3	3.3	2.2
87.5°	2.2	3.3	3.3	2.2	2.2	2.2	2.2	1.1	1.1	2.2	2.2
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°	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



REPORT NUMBER:

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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)