

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-SL3-HSS-ULG**

Issue Date: 3/30/2022

Test Information

Test Method: LM-79-08
Report Number:
REPORT IS A COMBINATION OF REPORTS P401850 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-SL3-HSS-ULG
Description: ENTRI LED LUMINAIRE WITH UPLIGHT
(1) 70 CRI, 4000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE III SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8297.9 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.1')
IES Classification: Type III - Short
BUG Rating: B1 - U5 - G2

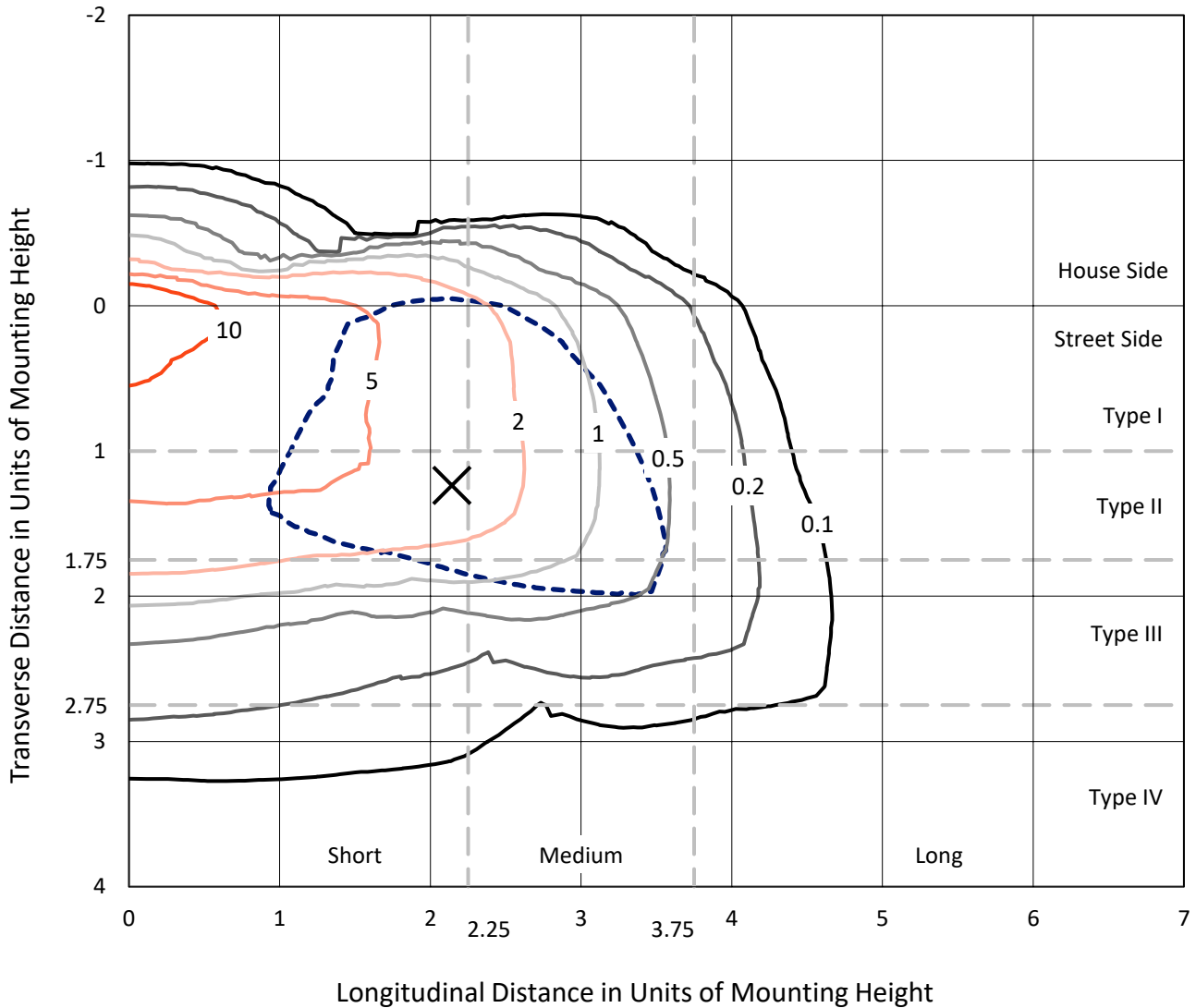
Input Watts (W): 82.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

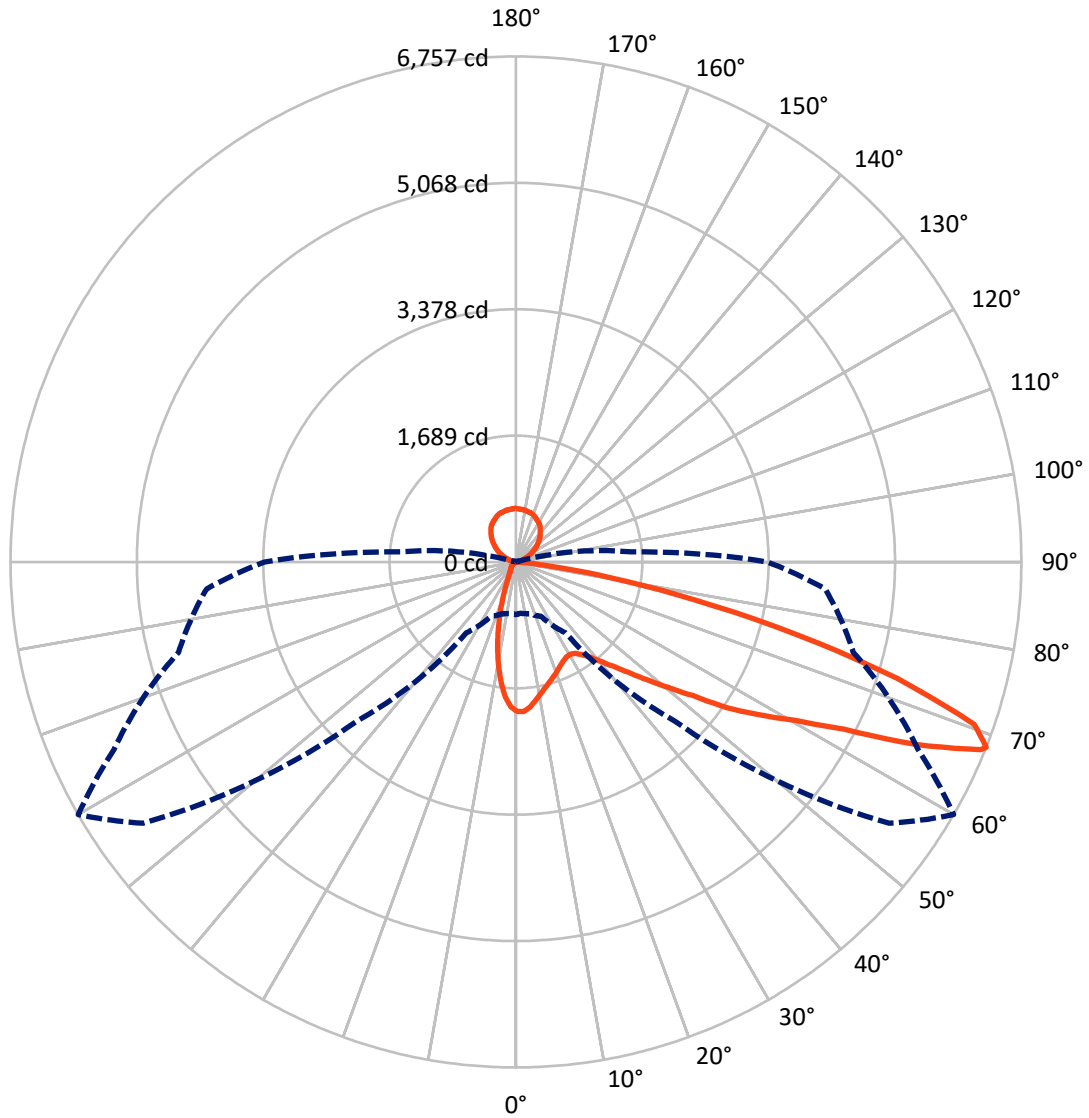
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 20 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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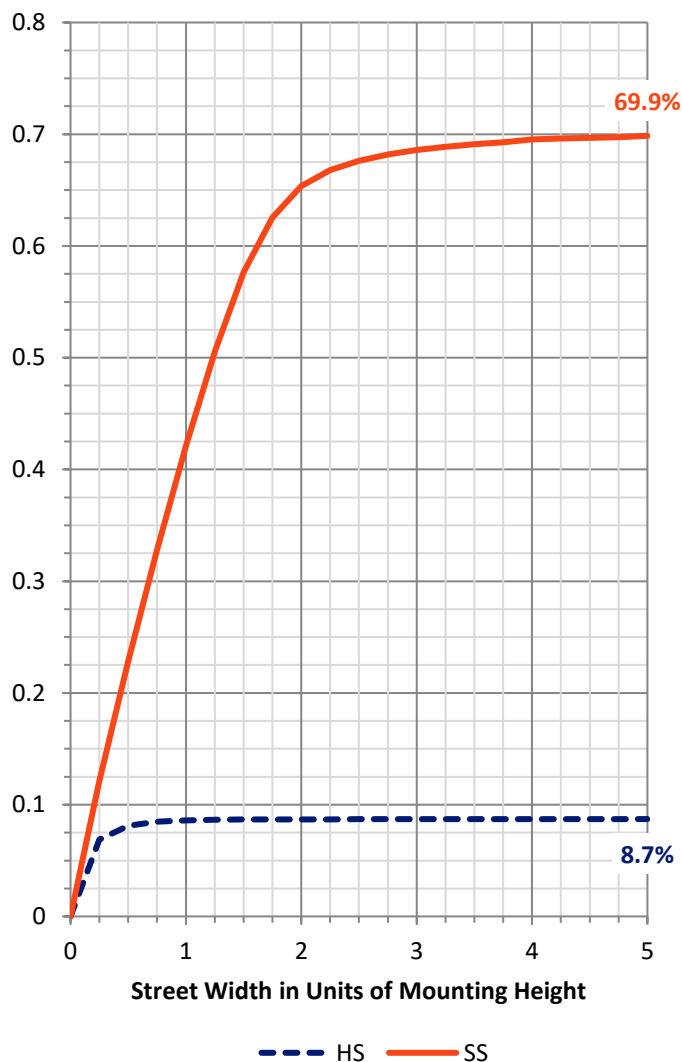
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	729.4	887.0	1616.4
	% Fixture	8.8	10.7	19.5
Street Side	Lumens	5794.6	887.0	6681.5
	% Fixture	69.8	10.7	80.5
Total	Lumens	6524.0	1773.9	8297.9
	% Fixture	78.6	21.4	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.0	2.0
10°-20°	330.5	4.0
20°-30°	435.2	5.2
30°-40°	600.5	7.2
40°-50°	910.3	11.0
50°-60°	1468.9	17.7
60°-70°	1744.9	21.0
70°-80°	822.5	9.9
80°-90°	49.1	0.6
90°-100°	8.4	0.1
100°-110°	58.7	0.7
110°-120°	169.9	2.0
120°-130°	279.4	3.4
130°-140°	344.6	4.2
140°-150°	352.5	4.2
150°-160°	297.0	3.6
160°-170°	195.5	2.4
170°-180°	67.8	0.8
0°-90°	6524.0	78.6
0°-180°	8297.9	100.0

Coefficient of Utilization

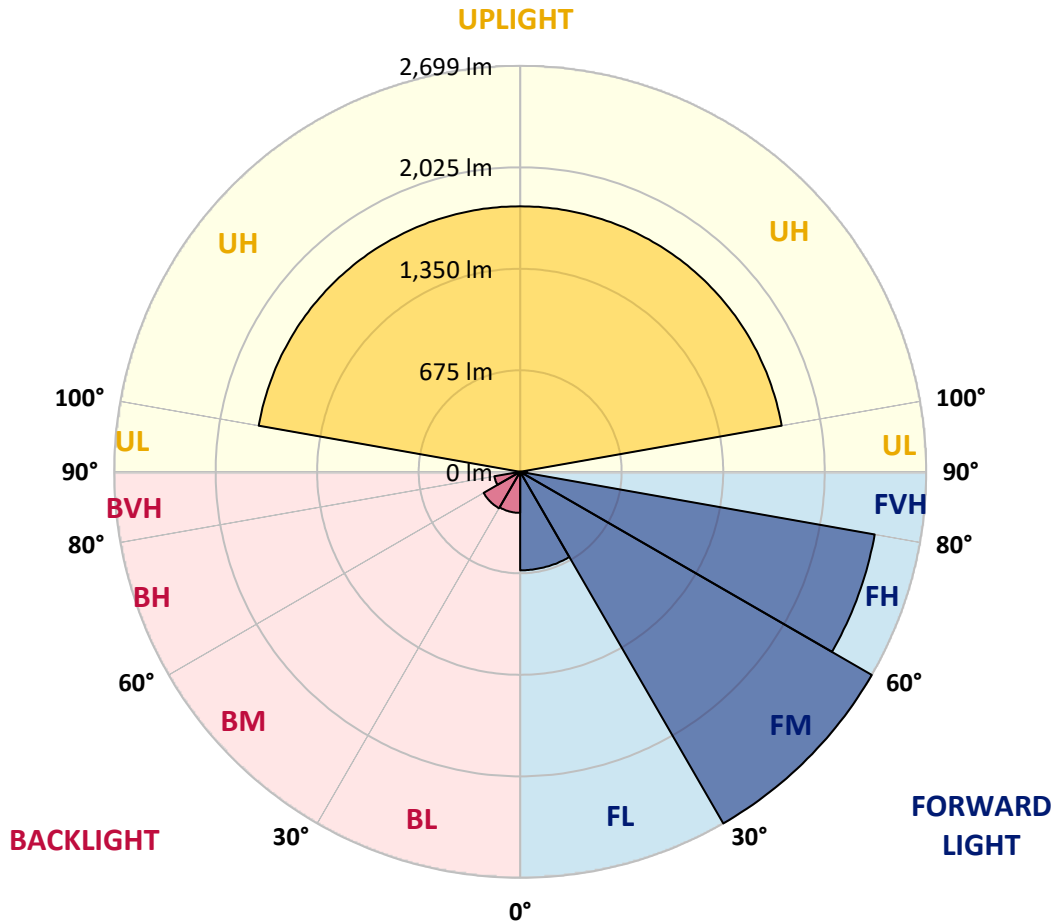


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	654.8	7.9			
FM (30°-60°)	2699.3	32.5			
FH (60°-80°)	2393.4	28.8			G2/5000
FVH (80°-90°)	47.0	0.6			G1/100
BL (0°-30°)	272.9	3.3	B1/500		
BM (30°-60°)	280.4	3.4	B1/1000		
BH (60°-80°)	174.0	2.1	B1/500		G1/500
BVH (80°-90°)	2.1	0.0			G0/10
UL (90°-100°)	8.4	0.1		U1/10	
UH (100°-180°)	1765.5	21.3		U5	

BUG Rating: B1-U5-G2
 Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	1996.9	1996.9	1996.9	1996.9	1996.9	1996.9	1996.9	1996.9	1996.9	1996.9	1996.9
2.5°	1979.2	1974.8	1987.0	1990.3	1993.6	2000.2	1999.1	2000.2	2001.4	1999.1	1985.9
5°	1844.2	1851.9	1863.0	1877.4	1891.8	1925.0	1938.3	1951.5	1960.4	1967.0	1954.9
7.5°	1711.3	1726.8	1735.7	1762.3	1784.4	1818.7	1847.5	1870.7	1892.9	1917.2	1905.0
10°	1605.1	1610.6	1618.3	1642.7	1675.9	1727.9	1765.6	1794.4	1820.9	1861.9	1851.9
12.5°	1501.0	1504.3	1519.8	1546.4	1580.7	1644.9	1694.7	1727.9	1757.8	1808.7	1809.9
15°	1424.6	1425.7	1435.7	1460.1	1499.9	1568.5	1632.7	1669.3	1711.3	1773.3	1776.6
17.5°	1374.8	1373.7	1375.9	1391.4	1429.1	1494.4	1571.9	1615.0	1664.8	1744.5	1747.9
20°	1359.3	1357.1	1352.7	1349.4	1372.6	1429.1	1516.5	1564.1	1622.8	1723.5	1724.6
22.5°	1372.6	1368.2	1358.2	1339.4	1346.0	1382.6	1455.6	1513.2	1585.1	1712.4	1704.7
25°	1404.7	1404.7	1391.4	1361.5	1346.0	1353.8	1412.5	1467.8	1547.5	1706.9	1690.3
27.5°	1457.8	1455.6	1437.9	1406.9	1378.1	1357.1	1385.9	1437.9	1519.8	1713.5	1683.7
30°	1522.0	1515.4	1496.6	1474.4	1439.0	1393.6	1391.4	1430.2	1506.5	1734.6	1688.1
32.5°	1582.9	1582.9	1575.2	1554.1	1519.8	1460.1	1425.7	1456.7	1523.2	1768.9	1702.5
35°	1658.2	1657.1	1659.3	1651.6	1621.7	1558.6	1503.2	1518.7	1574.1	1826.5	1736.8
37.5°	1718.0	1719.1	1737.9	1751.2	1737.9	1671.5	1613.9	1613.9	1660.4	1912.8	1795.5
40°	1776.6	1778.9	1814.3	1853.0	1856.3	1803.2	1747.9	1746.8	1773.3	2019.1	1886.2
42.5°	1829.8	1838.6	1889.6	1956.0	1994.7	1959.3	1918.3	1905.0	1918.3	2179.6	2033.5
45°	1886.2	1903.9	1974.8	2071.1	2134.2	2135.3	2119.8	2104.3	2110.9	2360.0	2230.5
47.5°	1959.3	1979.2	2067.8	2186.2	2305.8	2336.8	2351.1	2345.6	2327.9	2588.0	2485.1
50°	2077.7	2096.5	2179.6	2312.4	2476.2	2588.0	2626.8	2633.4	2610.2	2840.4	2774.0
52.5°	2279.2	2290.3	2367.7	2472.9	2656.7	2865.9	2967.7	2968.8	2916.8	3136.0	3086.2
55°	2495.0	2523.8	2614.6	2736.4	2925.6	3160.3	3414.9	3442.6	3282.1	3395.0	3314.2
57.5°	2498.4	2526.0	2676.6	2910.2	3306.4	3617.5	3844.4	3864.3	3686.1	3603.1	3528.9
60°	2234.9	2249.3	2458.5	2800.6	3442.6	4234.1	4333.7	4303.8	3969.5	3817.8	3797.9
62.5°	1577.4	1584.0	1832.0	2282.5	3141.5	4528.5	5078.7	4918.1	4372.4	4134.4	4200.8
65°	992.9	989.6	1092.6	1452.3	2336.8	4238.5	5999.6	5882.3	5113.0	4530.7	4515.2
67.5°	732.8	715.1	742.8	854.6	1335.0	3327.5	6169.0	6698.1	5818.1	4695.6	4242.9
68°	702.9	687.4	716.2	802.5	1154.5	3012.0	6087.1	6756.8	5929.9	4669.1	4149.9
70°	596.6	582.3	606.6	671.9	803.6	1954.9	5370.9	6496.6	6031.7	4443.3	3657.3
72.5°	424.0	431.7	495.9	576.7	680.8	1002.9	3955.1	5335.5	5188.2	3951.8	2782.9
75°	251.3	265.7	349.8	464.9	625.4	662.0	2551.5	3878.7	3806.8	2736.4	1507.7
77.5°	88.6	94.1	173.8	309.9	515.8	524.7	1421.3	2438.6	2268.1	1118.0	445.0
80°	32.1	32.1	64.2	172.7	333.2	400.7	754.9	1301.8	895.5	290.0	122.9
82.5°	5.5	5.5	14.4	58.7	147.2	213.6	350.9	462.7	265.7	64.2	60.9
85°	0.0	0.0	0.0	0.0	2.2	2.2	102.9	104.1	48.7	8.9	26.6
87.5°	0.0	0.0	0.0	0.0	0.0	1.1	2.2	2.2	2.2	2.2	3.3
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	7.7	8.2	7.2	7.2
97.5°	7.2	7.2	8.2	8.2	9.2	9.2	12.3	11.3	10.2	9.2	8.2
100°	8.2	8.2	9.2	10.2	12.3	21.5	29.7	28.1	26.6	23.5	19.4
102.5°	11.3	11.3	13.3	18.4	27.6	40.9	51.1	49.6	48.1	43.0	39.9
105°	21.5	22.5	27.6	36.8	49.1	64.4	73.7	72.6	71.6	66.5	62.4
107.5°	41.9	43.0	50.1	59.3	74.7	90.0	97.2	96.7	96.2	92.1	89.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
110°	67.5	69.6	75.7	89.0	104.3	116.6	122.8	123.3	123.8	121.7	118.7
112.5°	101.3	101.3	108.4	123.8	137.1	146.3	151.4	152.4	153.4	152.4	150.4
115°	143.2	142.2	150.4	162.6	171.9	178.0	183.1	184.6	186.2	183.1	181.1
117.5°	188.2	188.2	193.3	201.5	206.6	209.7	215.8	217.9	219.9	214.8	212.8
120°	230.2	228.1	231.2	238.3	242.4	248.6	251.6	253.7	255.7	250.6	248.6
122.5°	269.0	266.0	267.0	273.1	277.2	283.4	285.4	287.4	289.5	284.4	282.3
125°	304.8	300.7	302.8	305.9	312.0	317.1	320.2	321.2	322.2	317.1	317.1
127.5°	337.6	336.6	336.6	340.6	346.8	347.8	352.9	353.4	353.9	353.9	352.9
130°	371.3	369.3	370.3	374.4	378.5	380.5	385.7	387.7	389.7	389.7	387.7
132.5°	405.1	403.0	402.0	410.2	413.3	414.3	420.4	423.0	425.5	423.5	423.5
135°	438.8	435.8	435.8	441.9	445.0	447.0	453.2	455.7	458.3	457.3	460.3
137.5°	470.6	467.5	469.5	470.6	474.6	478.7	483.9	484.9	485.9	486.9	492.0
140°	499.2	496.1	498.2	500.2	502.3	508.4	511.5	512.5	513.5	515.6	520.7
142.5°	529.9	526.8	528.9	529.9	533.0	537.0	539.1	542.2	545.2	545.2	546.3
145°	562.6	558.5	556.5	559.6	562.6	563.6	568.8	571.8	574.9	573.9	570.8
147.5°	588.2	585.1	584.1	587.2	587.2	588.2	593.3	595.9	598.4	599.4	596.4
150°	608.7	605.6	606.6	606.6	606.6	606.6	610.7	612.2	613.8	616.8	619.9
152.5°	625.0	622.0	622.0	623.0	624.0	624.0	625.0	626.6	628.1	632.2	637.3
155°	643.4	639.3	639.3	641.4	644.5	642.4	640.4	642.9	645.5	650.6	652.6
157.5°	660.8	657.8	657.8	658.8	660.8	659.8	658.8	660.8	662.9	664.9	664.9
160°	678.2	675.1	674.1	671.1	670.0	670.0	673.1	676.2	679.2	676.2	675.1
162.5°	688.4	684.4	684.4	680.3	676.2	678.2	682.3	684.4	686.4	685.4	683.3
165°	696.6	693.6	691.5	691.5	688.4	688.4	687.4	690.0	692.5	695.6	693.6
167.5°	705.8	702.8	699.7	701.7	703.8	700.7	693.6	696.6	699.7	703.8	703.8
170°	714.0	711.0	707.9	707.9	708.9	706.9	701.7	703.3	704.8	709.9	712.0
172.5°	715.0	713.0	711.0	708.9	705.8	705.8	704.8	706.3	707.9	709.9	712.0
175°	716.1	714.0	713.0	711.0	706.9	705.8	705.8	708.4	711.0	712.0	709.9
177.5°	723.2	721.2	716.1	715.0	713.0	711.0	709.9	712.5	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°	1996.9	1996.9	1996.9	1996.9	1996.9	1996.9	1996.9	1996.9	1996.9	1996.9	1996.9
2.5°	1980.3	1978.1	1965.9	1943.8	1925.0	1894.0	1888.4	1858.6	1847.5	1838.6	1847.5
5°	1946.0	1933.8	1892.9	1843.1	1775.5	1695.8	1649.3	1585.1	1571.9	1536.4	1557.5
7.5°	1889.6	1861.9	1785.5	1678.1	1554.1	1432.4	1339.4	1249.7	1173.4	1146.8	1139.0
10°	1829.8	1791.0	1662.6	1496.6	1317.3	1130.2	991.8	862.3	790.4	722.8	720.6
12.5°	1773.3	1714.7	1528.7	1297.3	1047.2	824.7	645.3	509.2	424.0	377.5	389.6
15°	1727.9	1649.3	1393.6	1098.1	781.5	531.3	365.3	277.8	248.0	233.6	235.8
17.5°	1683.7	1579.6	1263.0	890.0	556.8	327.7	236.9	207.0	198.1	194.8	192.6
20°	1643.8	1512.1	1125.8	701.8	367.5	226.9	194.8	184.9	181.5	179.3	179.3
22.5°	1604.0	1441.2	988.5	520.3	251.3	186.0	174.9	170.5	168.3	164.9	164.9
25°	1567.4	1372.6	851.2	364.2	192.6	166.0	158.3	153.9	149.4	146.1	146.1
27.5°	1539.8	1320.6	723.9	257.9	161.6	149.4	141.7	133.9	128.4	124.0	124.0
30°	1522.0	1269.7	601.1	194.8	143.9	132.8	122.9	112.9	104.1	98.5	97.4
32.5°	1512.1	1227.6	487.1	159.4	128.4	116.2	104.1	93.0	83.0	76.4	76.4
35°	1516.5	1194.4	373.0	135.0	116.2	101.8	88.6	75.3	66.4	60.9	59.8
37.5°	1545.3	1175.6	277.8	119.5	104.1	88.6	75.3	62.0	53.1	48.7	47.6
40°	1599.5	1180.0	211.4	108.5	95.2	77.5	62.0	50.9	43.2	38.7	38.7
42.5°	1709.1	1212.1	167.1	99.6	85.2	66.4	52.0	42.1	35.4	32.1	31.0
45°	1854.1	1273.0	137.3	91.9	75.3	56.5	44.3	35.4	28.8	25.5	25.5
47.5°	2073.3	1370.4	118.4	84.1	65.3	47.6	36.5	28.8	22.1	19.9	18.8
50°	2326.8	1506.5	104.1	75.3	57.6	39.8	31.0	22.1	17.7	14.4	14.4
52.5°	2585.8	1658.2	94.1	67.5	49.8	34.3	24.4	16.6	12.2	10.0	10.0
55°	2823.8	1785.5	84.1	60.9	42.1	28.8	19.9	13.3	8.9	6.6	6.6
57.5°	3054.1	1901.7	73.1	53.1	34.3	23.2	15.5	10.0	6.6	4.4	4.4
60°	3343.0	2052.3	63.1	45.4	27.7	18.8	12.2	7.7	4.4	3.3	2.2
62.5°	3691.7	2161.9	53.1	36.5	22.1	14.4	8.9	5.5	3.3	1.1	1.1
65°	3820.1	2016.8	44.3	29.9	17.7	11.1	6.6	4.4	2.2	1.1	1.1
67.5°	3461.4	1625.0	35.4	23.2	13.3	7.7	5.5	3.3	2.2	1.1	1.1
68°	3361.8	1545.3	34.3	22.1	12.2	7.7	4.4	3.3	1.1	1.1	0.0
70°	2838.2	1240.9	27.7	16.6	10.0	6.6	4.4	2.2	1.1	1.1	0.0
72.5°	2104.3	855.7	19.9	11.1	6.6	4.4	3.3	2.2	1.1	1.1	0.0
75°	1110.3	333.2	15.5	8.9	5.5	4.4	3.3	3.3	2.2	1.1	1.1
77.5°	318.8	105.2	12.2	6.6	5.5	5.5	5.5	4.4	4.4	3.3	2.2
80°	93.0	34.3	7.7	4.4	5.5	5.5	6.6	5.5	5.5	4.4	4.4
82.5°	49.8	13.3	4.4	3.3	3.3	4.4	5.5	4.4	3.3	2.2	1.1
85°	21.0	4.4	3.3	2.2	2.2	2.2	2.2	2.2	2.2	1.1	1.1
87.5°	1.1	2.2	2.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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



REPORT NUMBER:

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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)