

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-ULG**

Issue Date: 3/30/2022

Test Information

Test Method: LM-79-08
Report Number:
REPORT IS A COMBINATION OF REPORTS P401852 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-ULG
Description: ENTRI LED LUMINAIRE WITH UPLIGHT
(1) 70 CRI, 4000K, 1200mA 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: 9411.9 lumens
Efficiency: N/A
Efficacy: 113.7 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

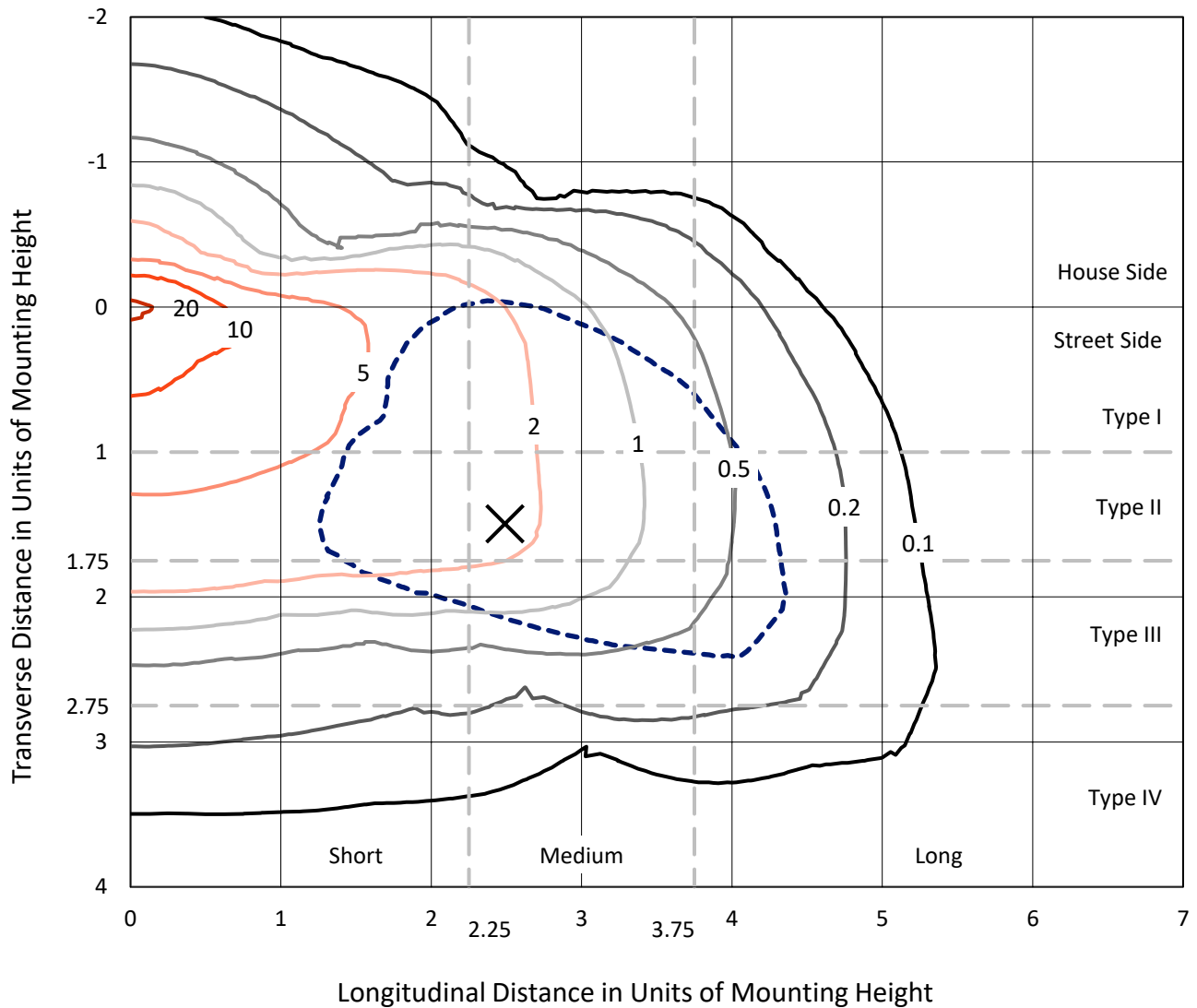
Input Watts (W): 82.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

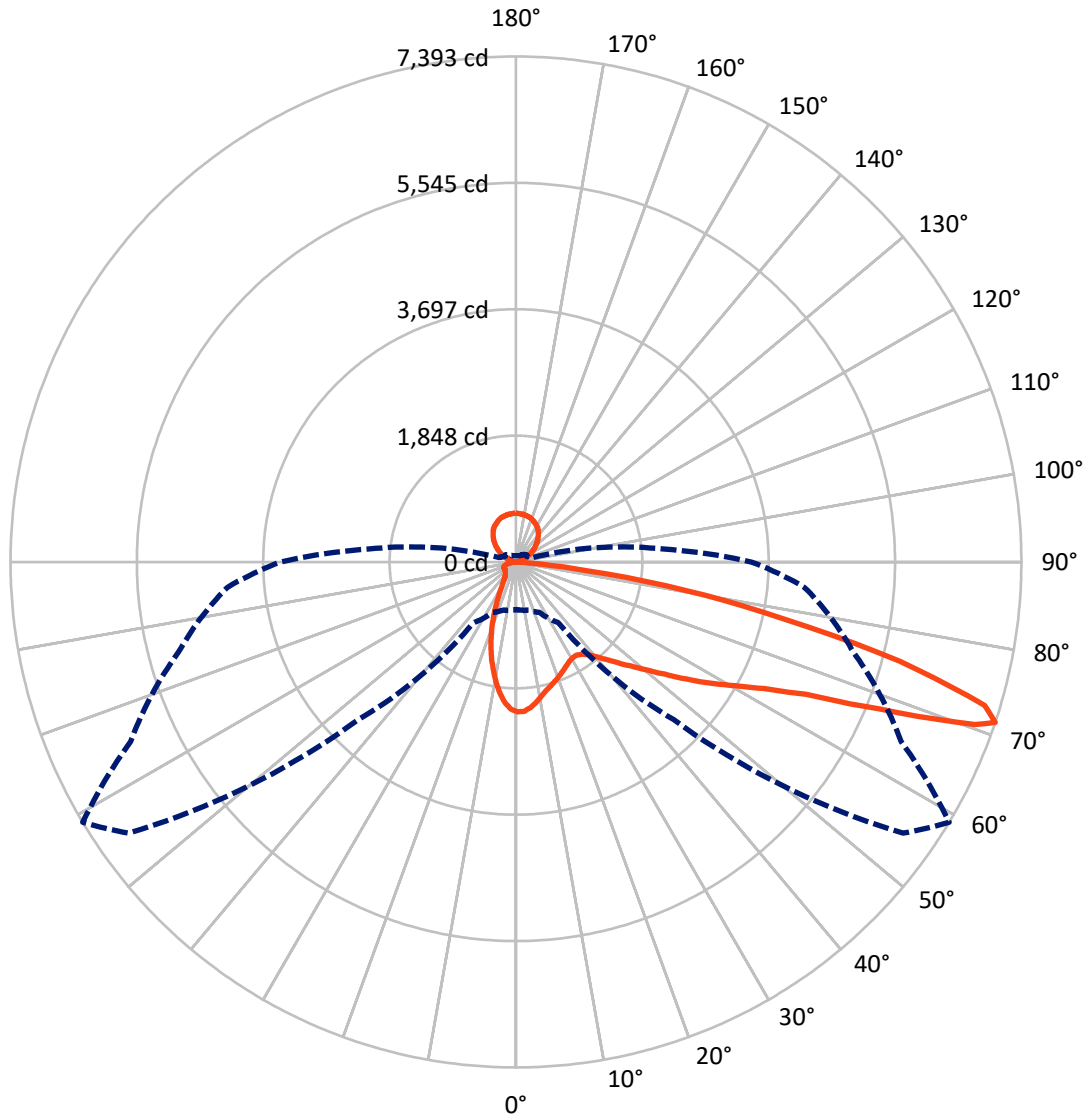
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 21.9 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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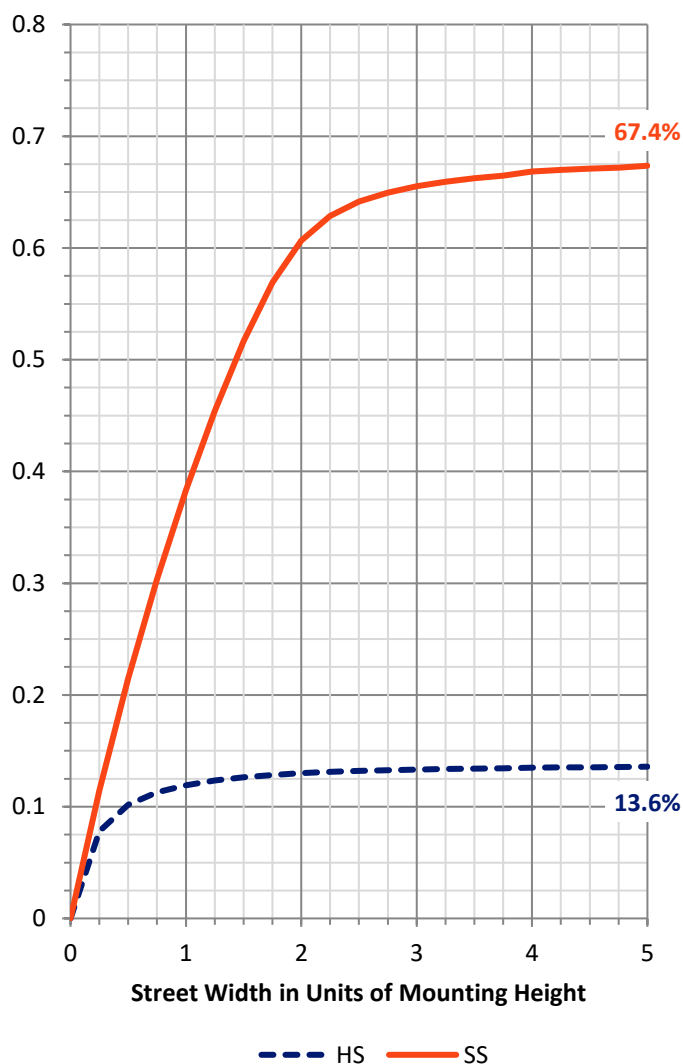
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1296.4	887.0	2183.3
	% Fixture	13.8	9.4	23.2
Street Side	Lumens	6341.6	887.0	7228.6
	% Fixture	67.4	9.4	76.8
Total	Lumens	7638.0	1773.9	9411.9
	% Fixture	81.2	18.8	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.3	2.0
10°-20°	425.4	4.5
20°-30°	540.6	5.7
30°-40°	691.1	7.3
40°-50°	959.1	10.2
50°-60°	1420.0	15.1
60°-70°	1919.3	20.4
70°-80°	1361.0	14.5
80°-90°	132.2	1.4
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	3.7
150°-160°	297.0	3.2
160°-170°	195.5	2.1
170°-180°	67.8	0.7
0°-90°	7638.0	81.2
0°-180°	9411.9	100.0

Coefficient of Utilization



REPORT NUMBER:

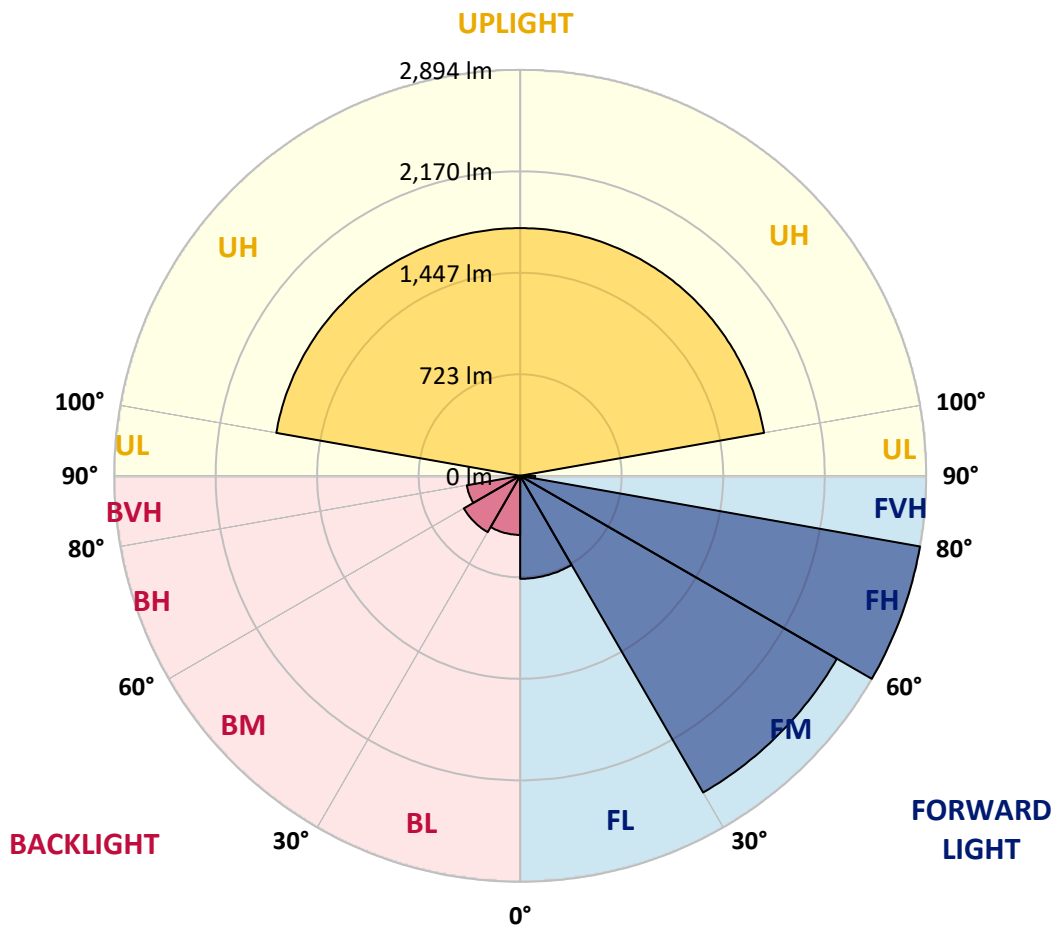
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	734.1	7.8			
FM (30°-60°)	2606.5	27.7			
FH (60°-80°)	2894.0	30.7			G2/5000
FVH (80°-90°)	107.0	1.1			G2/225
BL (0°-30°)	421.2	4.5	B1/500		
BM (30°-60°)	463.7	4.9	B1/1000		
BH (60°-80°)	386.3	4.1	B1/500		G1/500
BVH (80°-90°)	25.2	0.3			G1/100
UL (90°-100°)	8.4	0.1		U1/10	
UH (100°-180°)	1765.5	18.8		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°	2191.3	2191.3	2191.3	2191.3	2191.3	2191.3	2191.3	2191.3	2191.3	2191.3	2191.3
2.5°	2172.5	2180.3	2183.6	2189.1	2189.1	2191.3	2189.1	2188.0	2192.4	2188.0	2175.8
5°	2076.2	2079.5	2089.5	2100.6	2111.6	2134.9	2141.5	2145.9	2155.9	2158.1	2145.9
7.5°	1945.6	1957.8	1971.1	1985.5	2008.7	2040.8	2068.5	2079.5	2098.4	2109.4	2091.7
10°	1835.0	1841.6	1848.2	1873.7	1910.2	1954.5	1983.3	2004.3	2034.2	2048.6	2032.0
12.5°	1724.3	1729.8	1743.1	1777.4	1815.0	1868.2	1920.2	1936.8	1972.2	2001.0	1987.7
15°	1639.1	1639.1	1649.0	1686.7	1726.5	1797.3	1858.2	1883.7	1927.9	1968.9	1952.3
17.5°	1563.8	1567.1	1573.8	1598.1	1653.5	1727.6	1805.1	1837.2	1892.5	1945.6	1923.5
20°	1521.8	1519.5	1524.0	1536.1	1580.4	1659.0	1752.0	1789.6	1858.2	1931.2	1895.8
22.5°	1507.4	1505.2	1501.8	1500.7	1529.5	1595.9	1695.5	1742.0	1827.2	1923.5	1870.4
25°	1518.4	1518.4	1508.5	1489.7	1502.9	1548.3	1644.6	1694.4	1792.9	1918.0	1847.1
27.5°	1548.3	1548.3	1533.9	1509.6	1504.0	1524.0	1600.3	1653.5	1764.1	1921.3	1828.3
30°	1589.3	1588.2	1573.8	1552.7	1536.1	1529.5	1579.3	1628.0	1744.2	1935.7	1819.5
32.5°	1635.7	1633.5	1626.9	1612.5	1592.6	1563.8	1581.5	1624.7	1739.8	1961.1	1820.6
35°	1691.1	1687.8	1691.1	1683.3	1664.5	1633.5	1622.5	1656.8	1761.9	2008.7	1839.4
37.5°	1739.8	1737.6	1754.2	1758.6	1754.2	1713.2	1698.8	1721.0	1813.9	2084.0	1878.1
40°	1780.7	1782.9	1812.8	1844.9	1851.6	1816.1	1806.2	1825.0	1898.0	2175.8	1947.8
42.5°	1826.1	1832.7	1877.0	1934.6	1956.7	1933.5	1939.0	1952.3	2004.3	2300.9	2048.6
45°	1870.4	1884.8	1945.6	2019.8	2076.2	2076.2	2095.0	2108.3	2141.5	2458.0	2195.8
47.5°	1947.8	1957.8	2024.2	2113.9	2200.2	2227.8	2279.9	2275.4	2300.9	2630.7	2368.4
50°	2048.6	2065.2	2132.7	2225.6	2335.2	2413.8	2473.5	2482.4	2492.4	2807.8	2573.1
52.5°	2188.0	2207.9	2263.3	2349.6	2479.1	2607.5	2733.6	2728.1	2714.8	3000.3	2807.8
55°	2328.6	2349.6	2401.6	2471.3	2624.1	2821.1	3026.9	3019.2	2958.3	3197.3	3024.7
57.5°	2471.3	2489.0	2543.3	2604.1	2784.5	3073.4	3336.8	3342.3	3217.3	3416.5	3239.4
60°	2531.1	2557.7	2691.6	2808.9	3034.7	3353.4	3653.3	3667.7	3486.2	3637.8	3476.2
62.5°	2261.0	2293.1	2514.5	2831.0	3377.7	3893.5	4065.0	4073.9	3810.5	3882.4	3735.2
65°	1673.4	1672.3	1901.4	2375.0	3309.1	4618.4	4798.8	4659.3	4213.3	4206.7	4077.2
67.5°	958.4	987.2	1060.2	1416.6	2521.1	4752.3	6104.7	5740.6	4927.2	4711.3	4533.2
70°	772.5	765.9	788.0	883.2	1374.6	3907.9	6955.8	7121.8	5940.9	5123.1	4430.2
71°	696.1	706.1	728.2	814.6	1084.6	3260.4	6913.7	7393.0	6217.6	5112.0	4234.3
72.5°	598.7	601.0	651.9	753.7	890.9	2299.8	6392.5	7169.4	6507.6	4967.0	3946.6
75°	407.3	412.8	492.5	606.5	813.4	1092.3	4574.1	5799.3	5923.2	4641.6	3259.3
77.5°	233.5	237.9	295.5	443.8	692.8	770.3	2807.8	4007.5	4258.7	3394.3	1747.5
80°	120.6	126.2	163.8	280.0	529.0	623.1	1610.3	2520.0	2422.6	1173.1	405.1
82.5°	32.1	36.5	47.6	100.7	255.7	406.2	713.8	1042.5	744.8	243.5	147.2
85°	0.0	0.0	0.0	1.1	2.2	56.4	150.5	187.0	104.0	47.6	39.8
87.5°	0.0	0.0	0.0	0.0	1.1	2.2	2.2	2.2	2.2	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	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°	2191.3	2191.3	2191.3	2191.3	2191.3	2191.3	2191.3	2191.3	2191.3	2191.3	2191.3
2.5°	2173.6	2173.6	2167.0	2157.0	2145.9	2120.5	2124.9	2105.0	2107.2	2105.0	2105.0
5°	2136.0	2129.3	2112.7	2081.8	2047.4	2002.1	1995.4	1958.9	1937.9	1931.2	1939.0
7.5°	2084.0	2065.2	2023.1	1968.9	1903.6	1844.9	1790.7	1742.0	1705.5	1690.0	1683.3
10°	2015.4	1992.1	1923.5	1828.3	1738.7	1646.8	1561.6	1506.3	1433.2	1411.1	1404.4
12.5°	1958.9	1919.1	1816.1	1683.3	1543.9	1422.1	1307.0	1190.8	1121.1	1071.3	1063.6
15°	1910.2	1853.8	1706.6	1535.0	1361.3	1193.1	1037.0	881.0	782.5	740.4	710.5
17.5°	1867.1	1794.0	1597.0	1374.6	1159.9	937.4	747.0	597.6	535.7	503.6	504.7
20°	1822.8	1729.8	1483.0	1214.1	960.6	713.8	527.9	458.2	427.2	420.6	417.2
22.5°	1780.7	1656.8	1362.4	1055.8	757.0	524.6	425.0	390.7	382.9	382.9	382.9
25°	1733.1	1582.6	1240.6	894.2	573.3	413.9	365.2	353.0	355.3	359.7	360.8
27.5°	1694.4	1518.4	1120.0	707.2	444.9	351.9	326.5	324.3	333.1	343.1	343.1
30°	1660.1	1459.8	989.4	552.3	354.2	308.8	299.9	303.2	312.1	321.0	324.3
32.5°	1636.9	1406.7	872.1	429.4	302.1	278.9	276.7	281.1	290.0	294.4	297.7
35°	1626.9	1367.9	745.9	346.4	268.9	256.8	255.7	259.0	263.4	264.5	263.4
37.5°	1638.0	1341.4	616.4	293.3	247.9	241.3	240.2	240.2	240.2	241.3	240.2
40°	1670.1	1331.4	500.2	259.0	234.6	229.1	225.8	222.5	220.2	220.2	219.1
42.5°	1737.6	1346.9	401.7	239.1	224.7	218.0	211.4	207.0	203.6	202.5	202.5
45°	1846.0	1390.1	334.2	225.8	215.8	205.9	198.1	193.7	190.4	191.5	190.4
47.5°	1995.4	1462.0	295.5	216.9	207.0	193.7	185.9	181.5	180.4	183.7	184.8
50°	2164.8	1563.8	272.3	210.3	200.3	183.7	174.9	171.5	172.6	179.3	180.4
52.5°	2364.0	1695.5	262.3	205.9	194.8	174.9	167.1	163.8	166.0	173.8	174.9
55°	2578.7	1846.0	276.7	208.1	189.3	169.3	160.5	156.0	159.4	166.0	167.1
57.5°	2796.7	2032.0	325.4	209.2	182.6	164.9	153.8	147.2	149.4	154.9	156.0
60°	3016.9	2216.8	409.5	210.3	180.4	160.5	148.3	138.3	139.4	142.8	143.9
62.5°	3275.9	2451.4	520.2	214.7	182.6	157.2	138.3	127.3	127.3	129.5	129.5
65°	3668.8	2801.1	593.2	212.5	188.1	153.8	128.4	117.3	116.2	117.3	117.3
67.5°	3951.0	2847.6	413.9	200.3	191.5	154.9	122.8	108.5	106.2	105.1	105.1
70°	3652.2	2396.1	273.4	189.3	185.9	157.2	118.4	102.9	98.5	95.2	94.1
71°	3445.2	2159.2	253.4	184.8	181.5	154.9	116.2	99.6	95.2	93.0	91.9
72.5°	3138.7	1926.8	233.5	178.2	171.5	150.5	112.9	96.3	90.8	87.4	86.3
75°	2480.2	1477.5	204.7	163.8	148.3	124.0	104.0	89.6	84.1	79.7	78.6
77.5°	1121.1	587.7	157.2	141.7	120.6	98.5	90.8	83.0	76.4	73.0	71.9
80°	313.2	223.6	115.1	111.8	90.8	76.4	73.0	70.8	68.6	64.2	64.2
82.5°	145.0	130.6	81.9	78.6	62.0	54.2	57.5	58.7	58.7	54.2	53.1
85°	39.8	43.2	37.6	42.1	39.8	36.5	42.1	45.4	47.6	43.2	39.8
87.5°	3.3	7.7	10.0	16.6	19.9	21.0	26.6	32.1	33.2	26.6	27.7
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)