

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: P401797

Luminaire Tested: **ENT-SA1F-727-U-SLL-HSS**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401797
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-8)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1F-727-U-SLL-HSS
Description: ENTRI LED LUMINAIRE
(1) 70 CRI, 2700K, 1200mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT
ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4896 lumens
Efficiency: N/A
Efficacy: 74.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 66.1
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: 25 FT

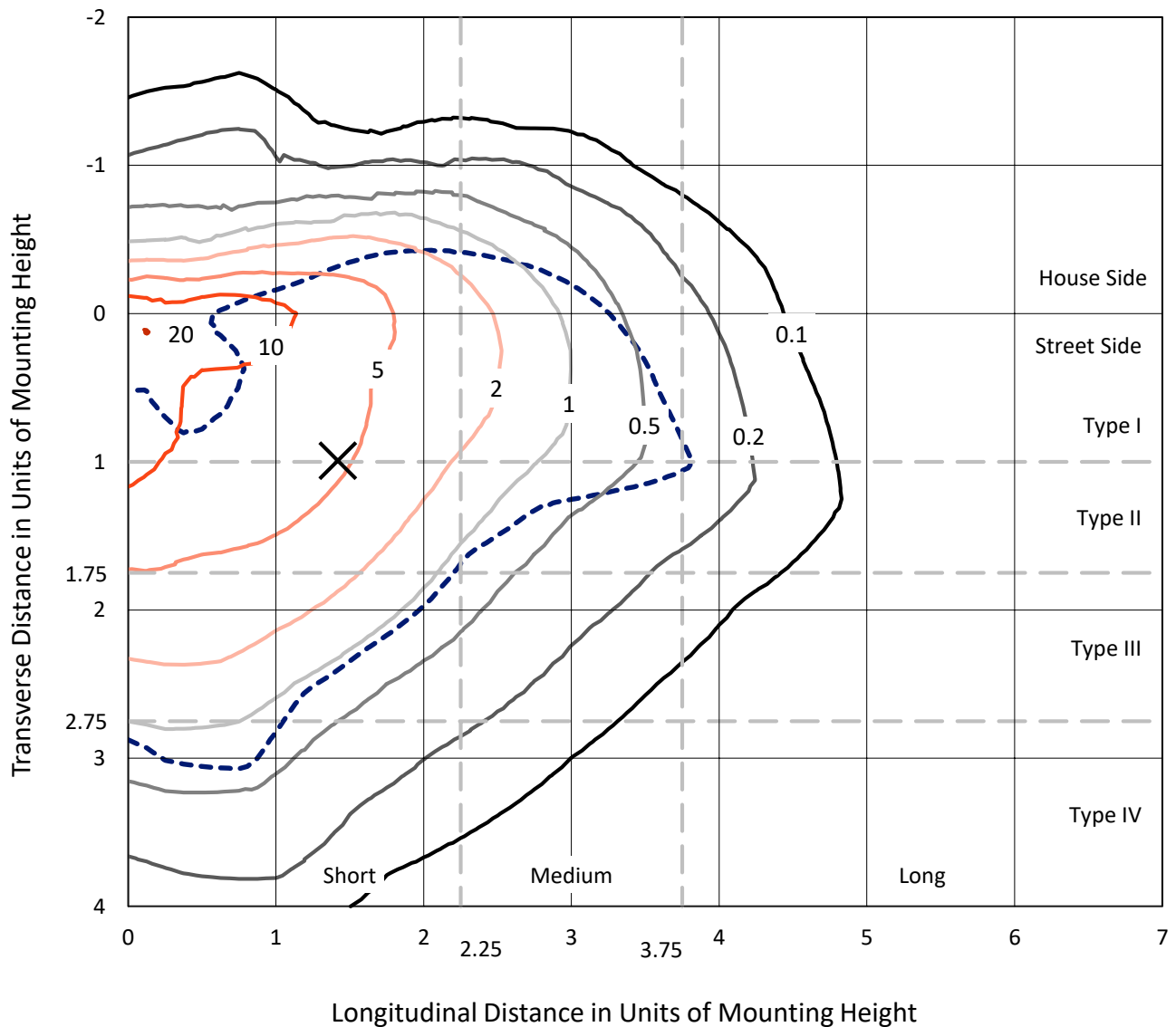


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

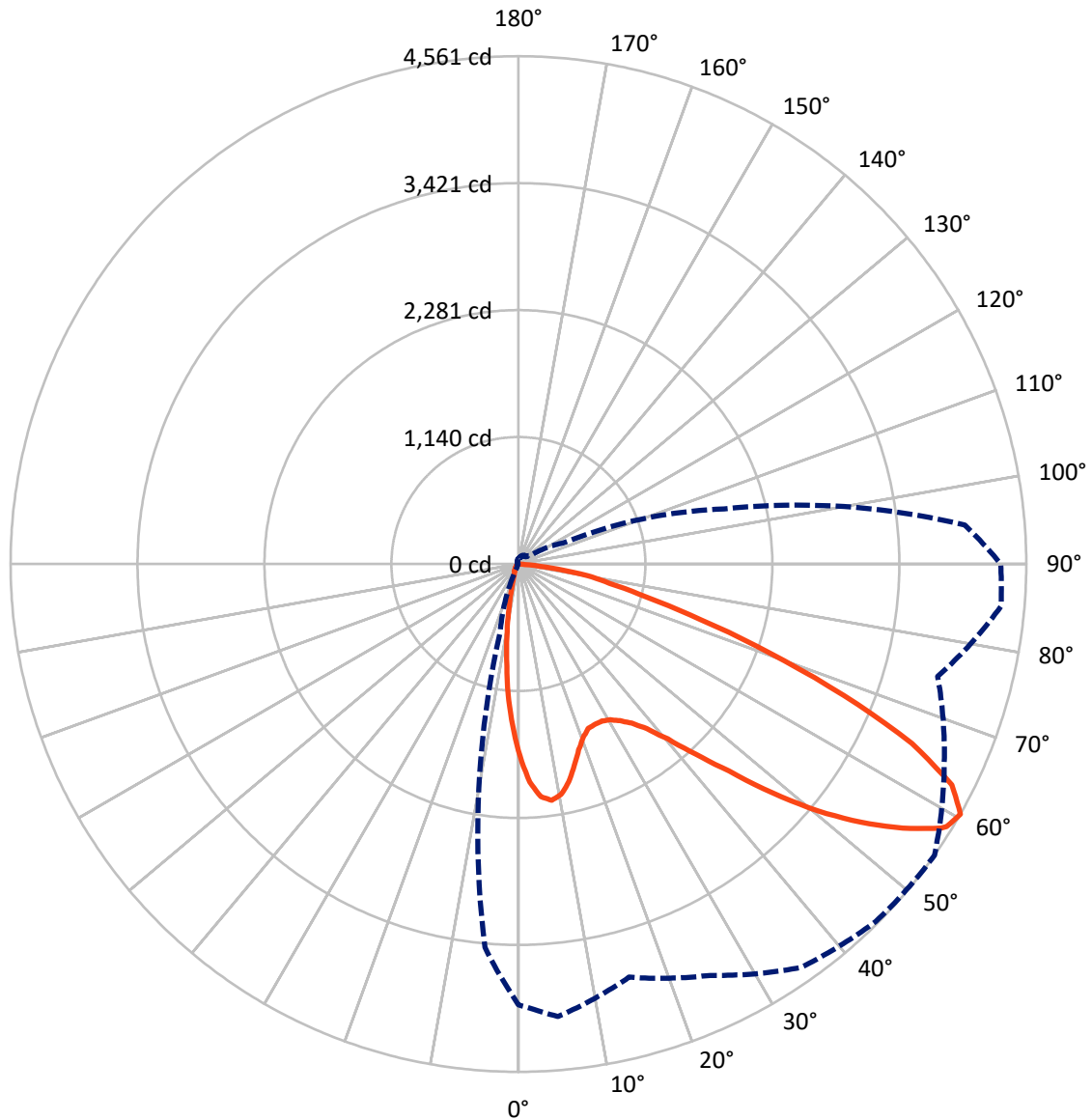


Based on 10 foot mounting height. Maximum calculated value = 20.4 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 55-Deg Lateral - - - Horizontal Cone Through 60-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	867.0	0.0	867.0
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	4029.0	0.0	4029.0
	% Fixture	82.3	0.0	82.3
Total	Lumens	4896.0	0.0	4896.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.1	2.7
10°-20°	247.5	5.1
20°-30°	353.0	7.2
30°-40°	517.8	10.6
40°-50°	763.4	15.6
50°-60°	1131.0	23.1
60°-70°	1205.3	24.6
70°-80°	499.9	10.2
80°-90°	48.0	1.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	4896.0	100.0
0°-180°	4896.0	100.0



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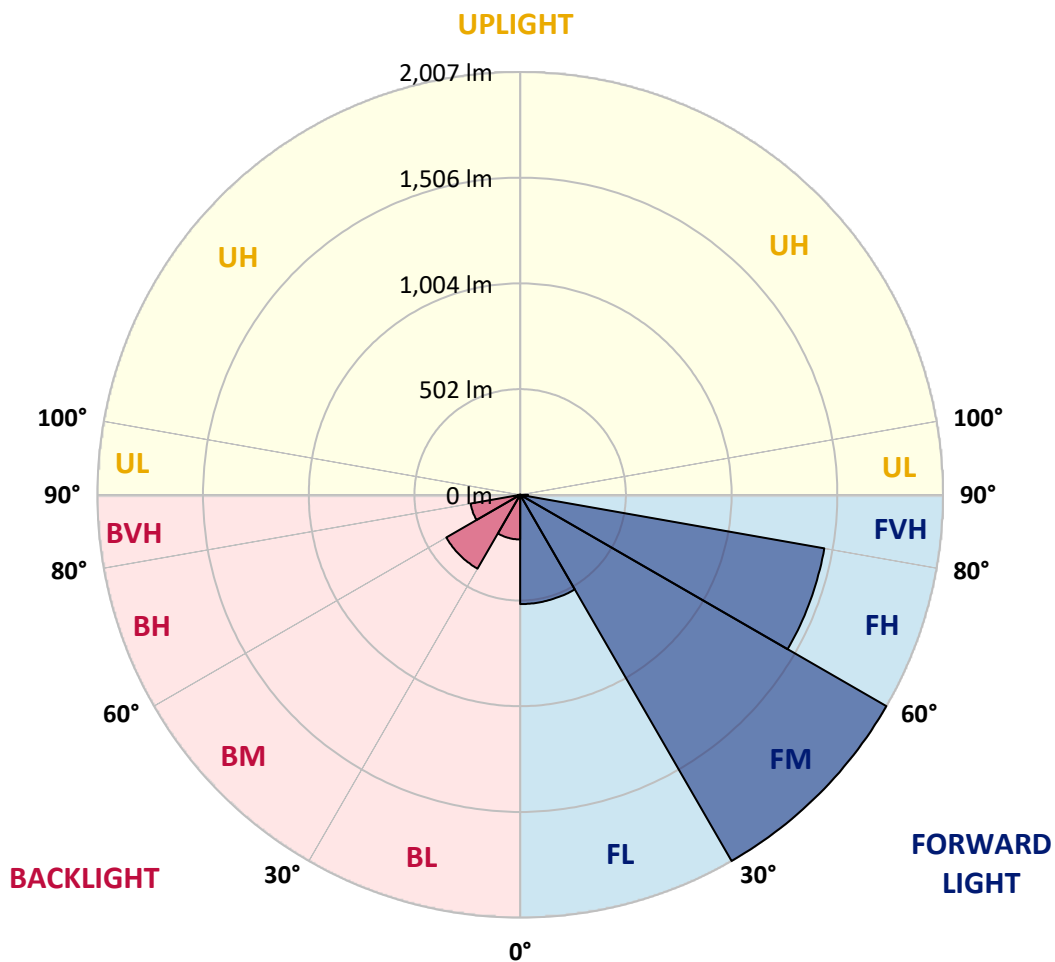
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	518.6	10.6			
FM	(30°-60°)	2007.4	41.0			
FH	(60°-80°)	1466.2	29.9			G1/1800
FVH	(80°-90°)	36.8	0.8			G1/100
BL	(0°-30°)	212.0	4.3	B1/500		
BM	(30°-60°)	404.8	8.3	B1/1000		
BH	(60°-80°)	239.0	4.9	B1/500		G1/500
BVH	(80°-90°)	11.2	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0
2.5°	1805.9	1803.1	1829.0	1882.7	1916.0	1936.4	1940.1	1961.4	1940.1	1929.0	1889.2
5°	1753.1	1752.2	1802.2	1919.7	2016.0	2088.2	2123.4	2099.3	2062.3	1989.1	1900.3
7.5°	1606.9	1606.9	1701.3	1858.6	2019.7	2144.6	2187.2	2142.8	2054.9	1907.7	1748.5
10°	1487.5	1498.6	1589.3	1777.2	1955.8	2092.8	2140.0	2105.8	1991.0	1800.3	1613.3
12.5°	1416.2	1422.7	1523.6	1712.4	1879.0	1990.1	2018.8	2008.6	1925.3	1717.9	1519.9
15°	1422.7	1431.9	1547.6	1702.2	1810.5	1854.9	1865.1	1878.1	1843.8	1684.6	1489.3
17.5°	1524.5	1531.0	1647.6	1747.6	1742.9	1729.0	1732.7	1754.0	1794.8	1712.4	1551.3
20°	1687.4	1704.1	1821.6	1823.5	1707.8	1643.0	1626.3	1661.5	1771.6	1785.5	1683.7
22.5°	1896.6	1903.1	2022.5	1951.2	1711.5	1583.7	1564.3	1604.1	1779.0	1904.0	1867.0
25°	2139.1	2162.2	2227.0	2116.9	1765.1	1575.4	1562.4	1595.8	1805.9	2029.9	2055.8
27.5°	2302.9	2321.4	2383.5	2229.8	1813.3	1580.0	1556.0	1596.7	1838.3	2148.3	2257.6
30°	2449.2	2462.1	2485.3	2289.0	1867.9	1603.2	1564.3	1622.6	1855.9	2173.3	2388.1
32.5°	2587.1	2602.8	2588.9	2360.3	1928.1	1646.7	1580.0	1677.2	1893.8	2223.3	2501.9
35°	2764.8	2765.7	2718.5	2431.6	1996.5	1698.5	1626.3	1755.0	1967.9	2301.1	2624.1
37.5°	2975.8	2977.7	2858.3	2504.7	2074.3	1785.5	1735.5	1875.3	2075.2	2390.9	2799.1
40°	3160.0	3167.4	3009.2	2588.9	2169.6	1954.9	1950.3	2066.0	2213.1	2510.3	2987.0
42.5°	3320.2	3341.5	3148.0	2659.3	2304.8	2215.0	2226.1	2331.6	2380.7	2610.2	3103.6
45°	3482.2	3481.2	3261.9	2729.6	2530.6	2550.1	2655.6	2651.0	2570.4	2663.9	3195.2
47.5°	3583.0	3578.4	3331.3	2844.4	2835.2	3021.2	3133.2	3072.1	2780.5	2721.3	3310.0
50°	3621.9	3620.1	3385.9	2990.7	3145.2	3447.9	3608.0	3485.9	3037.9	2817.6	3447.0
52.5°	3732.1	3722.8	3511.8	3157.3	3425.7	3858.9	3991.2	3855.2	3294.3	2990.7	3606.2
55°	3904.2	3907.0	3728.4	3352.6	3650.6	4148.6	4310.6	4189.3	3556.2	3228.5	3824.6
57.5°	4019.9	4028.3	3968.1	3570.1	3891.3	4351.3	4508.7	4474.4	3905.2	3512.7	4081.0
58°	4031.0	4037.5	4006.1	3611.7	3927.4	4374.4	4535.5	4511.4	3982.0	3603.4	4142.1
60°	3959.8	3979.2	4080.1	3841.3	4076.4	4423.5	4540.1	4561.4	4219.9	3897.8	4351.3
62.5°	3766.3	3772.8	3956.1	4098.6	4178.2	4302.2	4313.4	4368.9	4318.0	4243.0	4538.3
65°	3529.4	3529.4	3727.4	4110.6	3914.4	3894.1	3829.3	3884.8	4032.0	4459.6	4525.3
67.5°	3117.5	3120.2	3372.9	3661.7	3245.2	3174.9	3133.2	3153.6	3467.3	4279.1	4273.6
70°	2519.5	2517.7	2777.8	2964.7	2408.4	2348.3	2398.3	2391.8	2816.6	3802.4	3731.1
72.5°	1781.8	1797.5	2065.0	2290.0	1635.6	1409.7	1630.0	1715.2	2118.7	3205.4	2887.0
75°	1003.4	1024.7	1243.1	1591.1	1032.1	953.4	1066.3	1187.6	1531.9	2551.9	1939.2
77.5°	503.5	511.9	636.8	765.5	625.7	726.6	720.1	835.8	1050.6	1721.6	1108.9
80°	290.6	307.3	349.9	395.2	349.9	461.0	535.0	629.4	647.0	890.4	618.3
82.5°	116.6	130.5	163.8	186.0	145.3	137.0	93.5	294.3	389.7	430.4	237.0
85°	0.0	0.0	0.9	1.9	2.8	2.8	4.6	51.8	95.3	21.3	38.9
87.5°	0.0	0.0	0.9	0.9	1.9	2.8	3.7	6.5	8.3	10.2	35.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0
2.5°	1874.4	1864.2	1829.9	1778.1	1745.7	1695.7	1675.4	1628.2	1604.1	1564.3	1564.3
5°	1855.9	1814.2	1728.1	1616.1	1536.5	1453.2	1426.4	1370.8	1331.0	1283.8	1264.4
7.5°	1687.4	1629.1	1494.9	1364.4	1237.5	1153.3	1070.0	1013.5	959.9	921.0	926.5
10°	1532.8	1449.5	1302.3	1136.7	1005.2	917.3	842.3	776.6	721.1	666.4	658.1
12.5°	1431.9	1336.6	1160.7	983.0	884.9	820.1	750.7	678.5	610.0	549.8	525.7
15°	1389.3	1285.7	1089.4	921.9	832.1	748.8	668.3	579.4	500.8	428.6	409.1
17.5°	1435.6	1311.6	1083.0	881.2	756.2	651.6	539.6	442.4	349.9	298.0	282.3
20°	1561.5	1400.5	1104.3	840.5	672.0	536.9	399.9	289.7	237.9	206.4	196.2
22.5°	1743.9	1547.6	1140.4	800.7	586.8	399.9	275.8	209.2	178.6	162.0	157.4
25°	1941.9	1737.4	1207.0	767.3	501.7	297.1	204.6	171.2	152.7	140.7	136.1
27.5°	2165.0	1925.3	1288.5	742.3	423.0	237.9	175.9	150.9	136.1	127.7	124.0
30°	2304.8	2060.4	1350.5	697.9	369.3	216.6	167.5	142.5	126.8	120.3	117.6
32.5°	2433.4	2166.9	1409.7	647.0	328.6	191.6	162.9	149.9	131.4	118.5	112.9
35°	2575.1	2276.1	1438.4	616.5	301.7	166.6	134.2	116.6	106.4	104.6	101.8
37.5°	2786.1	2405.7	1456.9	599.8	285.1	151.8	125.0	105.5	93.5	82.4	77.8
40°	2986.0	2539.9	1466.2	584.1	276.8	142.5	119.4	100.0	87.0	76.8	72.2
42.5°	3142.5	2662.1	1471.7	573.0	261.9	137.0	114.8	96.3	82.4	72.2	67.6
45°	3270.2	2803.7	1467.1	569.3	249.9	140.7	112.9	93.5	78.7	68.5	63.9
47.5°	3395.1	2957.3	1484.7	564.6	237.9	135.1	113.9	92.6	75.9	65.7	61.1
50°	3559.0	3143.4	1548.6	551.7	229.6	126.8	123.1	93.5	75.0	63.9	60.2
52.5°	3770.9	3400.7	1664.3	537.8	219.4	119.4	128.7	93.5	73.1	62.0	57.4
55°	4028.3	3689.5	1792.0	517.4	201.8	110.1	123.1	93.5	71.3	61.1	55.5
57.5°	4238.4	3946.8	1892.9	493.4	169.4	99.0	112.9	89.8	66.6	57.4	52.8
58°	4256.9	3976.4	1906.8	486.9	165.7	97.2	110.1	88.9	64.8	56.5	51.8
60°	4331.9	4024.6	1912.3	451.7	137.9	92.6	95.3	86.1	61.1	52.8	49.1
62.5°	4306.0	3865.4	1794.8	389.7	123.1	84.2	79.6	87.9	56.5	48.1	44.4
65°	4177.3	3552.5	1572.6	349.0	124.0	75.0	68.5	76.8	51.8	43.5	39.8
67.5°	3870.9	3077.7	1277.3	326.7	129.6	66.6	59.2	57.4	46.3	38.9	36.1
70°	3301.7	2522.3	968.2	307.3	137.0	59.2	54.6	50.9	42.6	36.1	32.4
72.5°	2431.6	1867.9	704.4	287.9	133.3	52.8	50.9	46.3	38.9	32.4	30.5
75°	1517.1	1084.8	482.2	235.1	119.4	46.3	47.2	43.5	35.2	30.5	27.8
77.5°	885.8	761.8	237.9	174.9	82.4	40.7	41.7	39.8	36.1	28.7	26.8
80°	530.4	473.9	101.8	75.0	45.4	36.1	35.2	37.0	34.2	26.8	25.0
82.5°	229.6	205.5	49.1	41.7	37.0	31.5	30.5	31.5	29.6	22.2	21.3
85°	13.0	34.2	23.1	30.5	27.8	23.1	23.1	24.1	21.3	17.6	17.6
87.5°	12.0	25.9	14.8	18.5	20.4	17.6	18.5	18.5	17.6	15.7	14.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0
2.5°	1543.0	1532.8	1502.3	1491.2	1443.0	1455.1	1458.8	1454.1	1456.0	1459.7	1473.6
5°	1278.3	1261.6	1221.8	1195.9	1182.0	1172.8	1129.2	1130.2	1136.7	1111.7	1144.1
7.5°	908.0	926.5	930.2	906.2	891.4	859.9	820.1	797.9	759.9	781.2	785.8
10°	649.8	640.5	658.1	649.8	626.6	614.6	572.0	568.3	564.6	561.8	588.7
12.5°	495.2	467.4	447.1	451.7	434.1	404.5	397.1	398.0	401.7	401.7	409.1
15°	392.5	349.9	317.5	298.0	300.8	271.2	262.9	235.1	231.4	223.1	224.9
17.5°	274.9	257.3	237.9	215.7	206.4	179.6	147.2	132.4	121.3	123.1	128.7
20°	189.8	182.3	176.8	165.7	156.4	125.0	104.6	98.1	97.2	99.0	100.9
22.5°	152.7	145.3	139.8	136.1	124.0	100.9	89.8	85.2	85.2	85.2	86.1
25°	131.4	124.0	116.6	116.6	105.5	87.9	79.6	75.9	75.0	74.0	75.9
27.5°	122.2	112.0	104.6	100.0	91.6	77.8	70.3	66.6	65.7	65.7	66.6
30°	112.9	102.7	95.3	88.9	79.6	69.4	62.0	59.2	57.4	57.4	58.3
32.5°	107.4	97.2	87.9	79.6	69.4	61.1	54.6	50.9	49.1	50.0	50.9
35°	95.3	87.0	78.7	70.3	61.1	53.7	47.2	43.5	42.6	42.6	43.5
37.5°	75.0	68.5	66.6	62.0	53.7	46.3	39.8	36.1	35.2	35.2	36.1
40°	67.6	59.2	55.5	53.7	49.1	39.8	32.4	28.7	28.7	27.8	29.6
42.5°	62.0	53.7	47.2	45.4	42.6	34.2	25.9	23.1	22.2	22.2	23.1
45°	58.3	49.1	40.7	36.1	36.1	27.8	21.3	17.6	16.7	16.7	17.6
47.5°	56.5	46.3	36.1	29.6	28.7	23.1	16.7	13.0	12.0	12.0	12.0
50°	54.6	42.6	32.4	25.0	22.2	19.4	13.0	10.2	9.3	9.3	9.3
52.5°	51.8	40.7	29.6	22.2	17.6	14.8	10.2	7.4	6.5	5.6	6.5
55°	50.0	38.0	28.7	20.4	14.8	11.1	7.4	5.6	4.6	4.6	4.6
57.5°	47.2	35.2	25.9	19.4	13.9	8.3	5.6	3.7	2.8	2.8	3.7
58°	46.3	35.2	25.0	18.5	13.0	8.3	5.6	3.7	2.8	2.8	3.7
60°	43.5	32.4	24.1	16.7	12.0	7.4	4.6	2.8	1.9	1.9	2.8
62.5°	40.7	29.6	21.3	14.8	10.2	6.5	3.7	1.9	0.9	0.9	0.9
65°	36.1	26.8	18.5	13.9	8.3	4.6	2.8	0.9	0.0	0.0	0.0
67.5°	32.4	25.0	16.7	12.0	7.4	3.7	1.9	0.0	0.0	0.0	0.0
70°	29.6	23.1	14.8	10.2	6.5	2.8	0.9	0.0	0.0	0.0	0.0
72.5°	27.8	21.3	13.9	9.3	4.6	2.8	0.9	0.0	0.0	0.0	0.0
75°	26.8	20.4	13.9	8.3	4.6	2.8	1.9	0.9	0.0	0.0	0.9
77.5°	25.9	20.4	13.9	8.3	5.6	2.8	2.8	1.9	1.9	0.9	2.8
80°	24.1	18.5	12.0	7.4	4.6	3.7	2.8	1.9	0.0	0.0	0.0
82.5°	20.4	14.8	10.2	7.4	4.6	2.8	0.9	0.0	0.0	0.0	0.0
85°	16.7	12.0	8.3	4.6	2.8	0.9	0.0	0.0	0.0	0.0	0.0
87.5°	14.8	9.3	6.5	3.7	1.9	0.9	0.0	0.0	0.0	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



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CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0	1729.0
2.5°	1485.6	1528.2	1545.8	1605.0	1630.9	1684.6	1730.9	1770.7	1790.1	1805.9
5°	1152.4	1193.1	1236.6	1324.6	1400.5	1481.9	1583.7	1689.2	1719.8	1753.1
7.5°	804.4	864.5	937.6	1016.3	1124.6	1247.7	1394.0	1524.5	1590.2	1606.9
10°	624.8	696.1	773.8	851.6	941.3	1072.8	1220.0	1388.4	1458.8	1487.5
12.5°	469.3	564.6	657.2	748.8	826.6	940.4	1100.6	1301.4	1379.2	1416.2
15°	282.3	389.7	503.5	626.6	734.9	868.2	1048.7	1282.9	1381.0	1422.7
17.5°	140.7	192.5	297.1	482.2	642.4	808.1	1047.8	1349.5	1470.8	1524.5
20°	104.6	118.5	158.3	300.8	534.1	758.1	1058.9	1463.4	1642.0	1687.4
22.5°	89.8	100.0	113.9	175.9	399.9	711.8	1097.8	1614.3	1836.4	1896.6
25°	78.7	87.0	98.1	121.3	274.0	657.2	1170.9	1827.2	2056.7	2139.1
27.5°	69.4	76.8	86.1	101.8	183.3	554.4	1212.6	2005.8	2234.4	2302.9
30°	61.1	66.6	75.9	87.0	135.1	428.6	1251.4	2163.2	2395.5	2449.2
32.5°	53.7	58.3	65.7	74.0	102.7	324.9	1253.3	2298.3	2536.2	2587.1
35°	45.4	50.9	56.5	63.9	81.5	253.6	1215.3	2432.5	2702.8	2764.8
37.5°	38.0	42.6	49.1	55.5	74.0	196.2	1136.7	2589.9	2905.5	2975.8
40°	32.4	37.0	42.6	50.0	65.7	142.5	1010.8	2732.4	3095.3	3160.0
42.5°	25.9	30.5	37.0	49.1	54.6	102.7	884.0	2869.4	3260.0	3320.2
45°	20.4	25.9	34.2	47.2	45.4	72.2	774.7	2990.7	3401.6	3482.2
47.5°	14.8	21.3	34.2	42.6	37.0	51.8	719.2	3107.3	3528.4	3583.0
50°	11.1	17.6	37.0	36.1	31.5	44.4	727.5	3236.9	3586.8	3621.9
52.5°	8.3	14.8	28.7	25.9	26.8	38.9	759.9	3408.1	3707.1	3732.1
55°	7.4	11.1	17.6	19.4	24.1	37.0	751.6	3570.1	3860.7	3904.2
57.5°	6.5	9.3	13.9	15.7	21.3	35.2	704.4	3641.4	3959.8	4019.9
58°	5.6	9.3	13.0	15.7	21.3	34.2	692.4	3621.9	3955.1	4031.0
60°	4.6	8.3	12.0	13.9	18.5	30.5	634.0	3457.2	3853.3	3959.8
62.5°	3.7	5.6	9.3	10.2	14.8	25.0	522.0	3190.6	3634.9	3766.3
65°	1.9	3.7	5.6	7.4	10.2	18.5	371.2	2875.0	3400.7	3529.4
67.5°	0.0	1.9	3.7	4.6	6.5	13.9	213.8	2439.9	3015.6	3117.5
70°	0.0	0.9	1.9	2.8	3.7	9.3	112.9	1791.1	2336.2	2519.5
72.5°	0.9	0.9	0.9	0.0	1.9	7.4	50.0	1062.6	1593.0	1781.8
75°	0.9	0.9	0.0	0.0	0.0	3.7	21.3	560.0	913.6	1003.4
77.5°	3.7	1.9	0.0	0.0	0.0	0.9	10.2	301.7	473.9	503.5
80°	0.9	0.0	0.0	0.0	0.0	0.0	3.7	100.9	284.2	290.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	122.2	116.6
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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

(END OF REPORT)