

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: P366609

Luminaire Tested: **MSA-SA1A-727-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366609
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-25)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1A-727-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS
EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2465 lumens
Efficiency: N/A
Efficacy: 72.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B0 - U0 - G1

Input Watts (W): 34
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: 28.75 FT

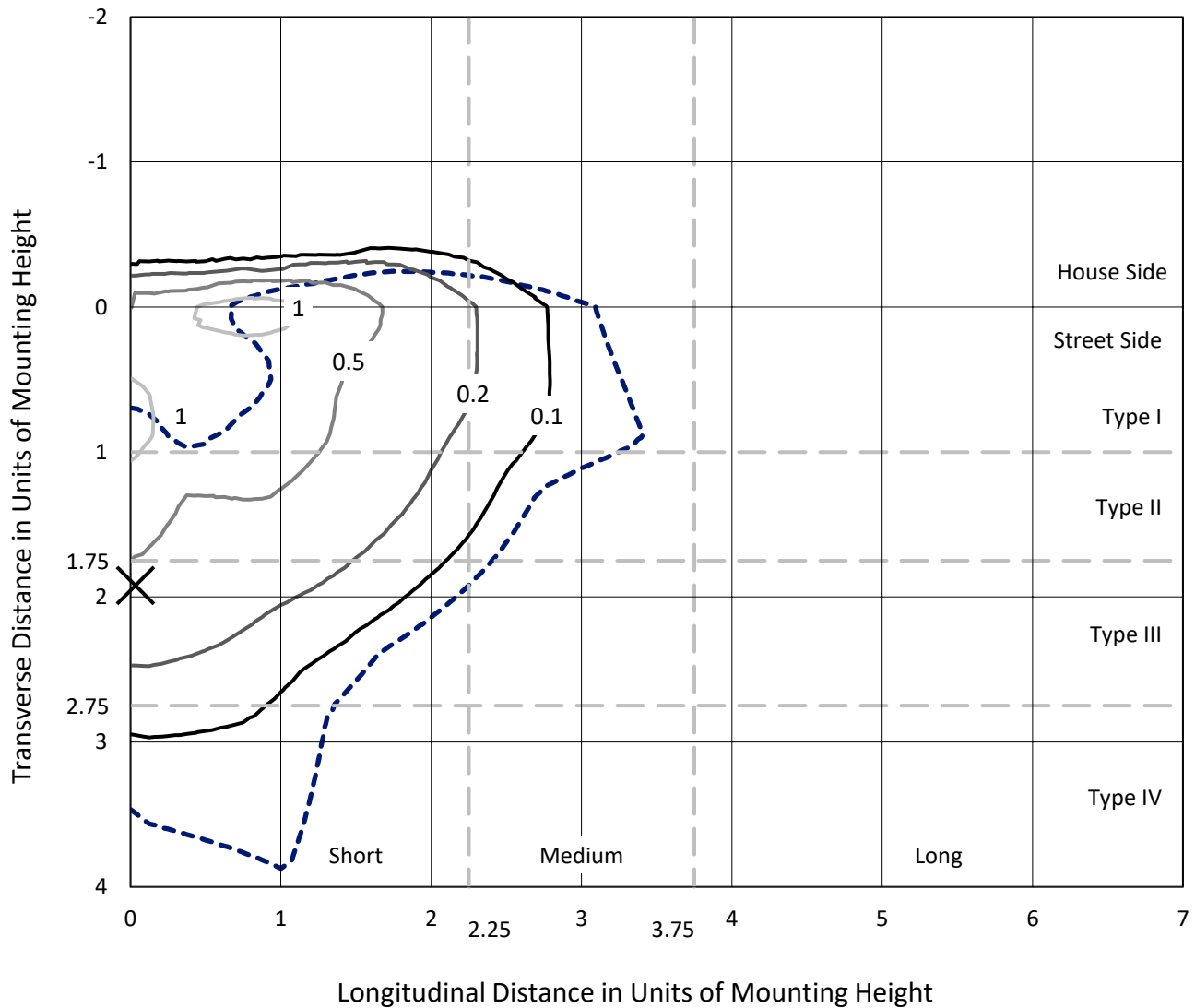


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Iso-Footcandle Lines of Horizontal Illumination

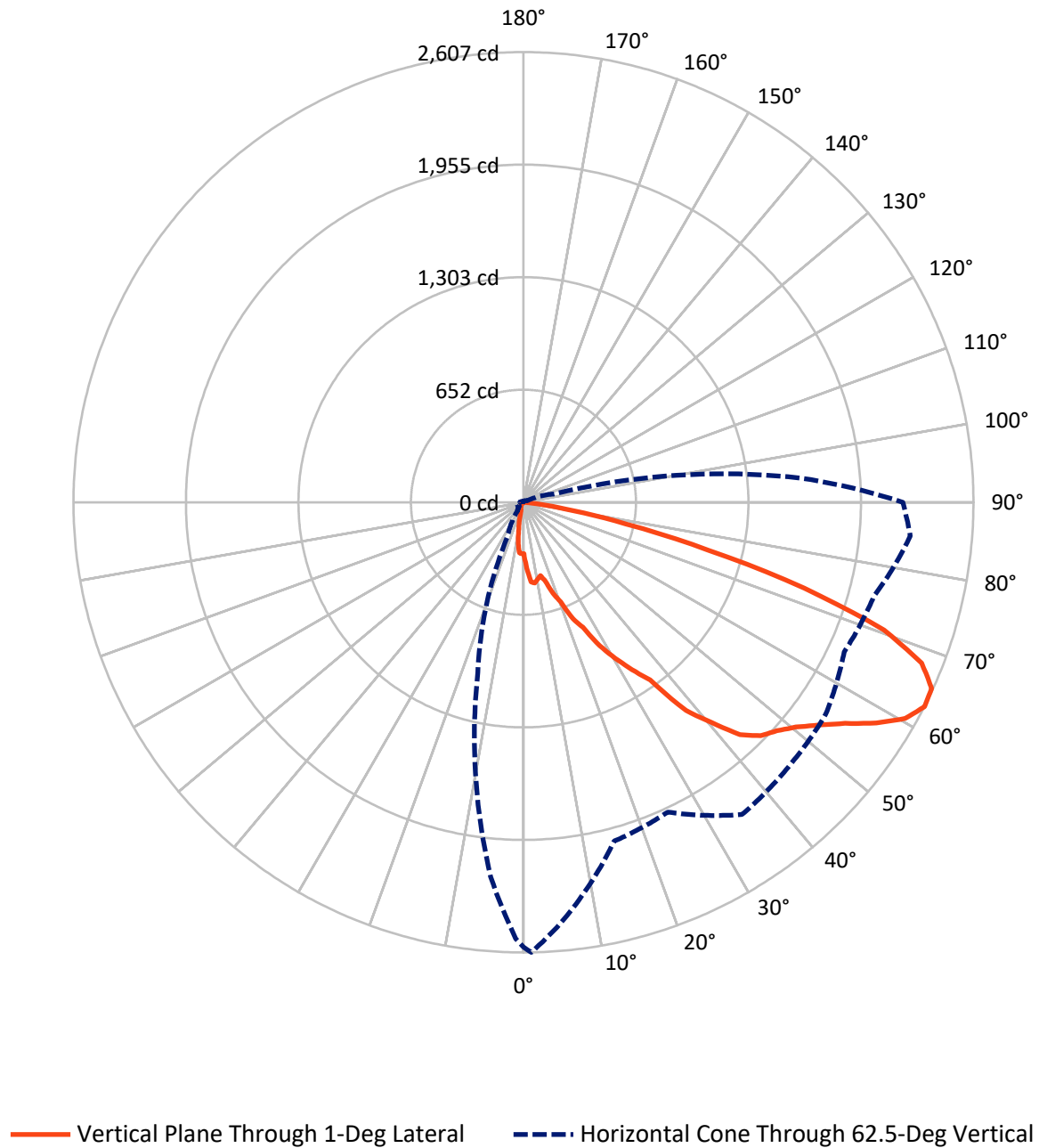
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.3 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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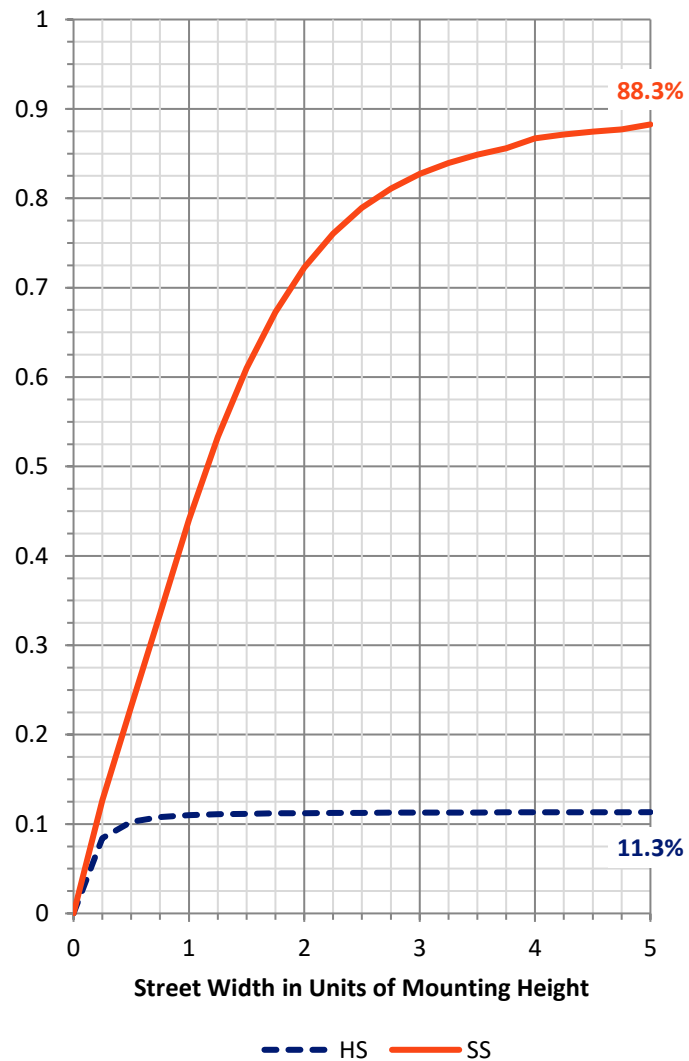
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	281.9	0.0	281.9
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	2183.1	0.0	2183.1
	% Fixture	88.6	0.0	88.6
Total	Lumens	2465.0	0.0	2465.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.2	1.3
10°-20°	86.7	3.5
20°-30°	140.1	5.7
30°-40°	234.7	9.5
40°-50°	383.7	15.6
50°-60°	568.0	23.0
60°-70°	652.1	26.5
70°-80°	322.4	13.1
80°-90°	44.3	1.8
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°	2465.0	100.0
0°-180°	2465.0	100.0

Coefficient of Utilization



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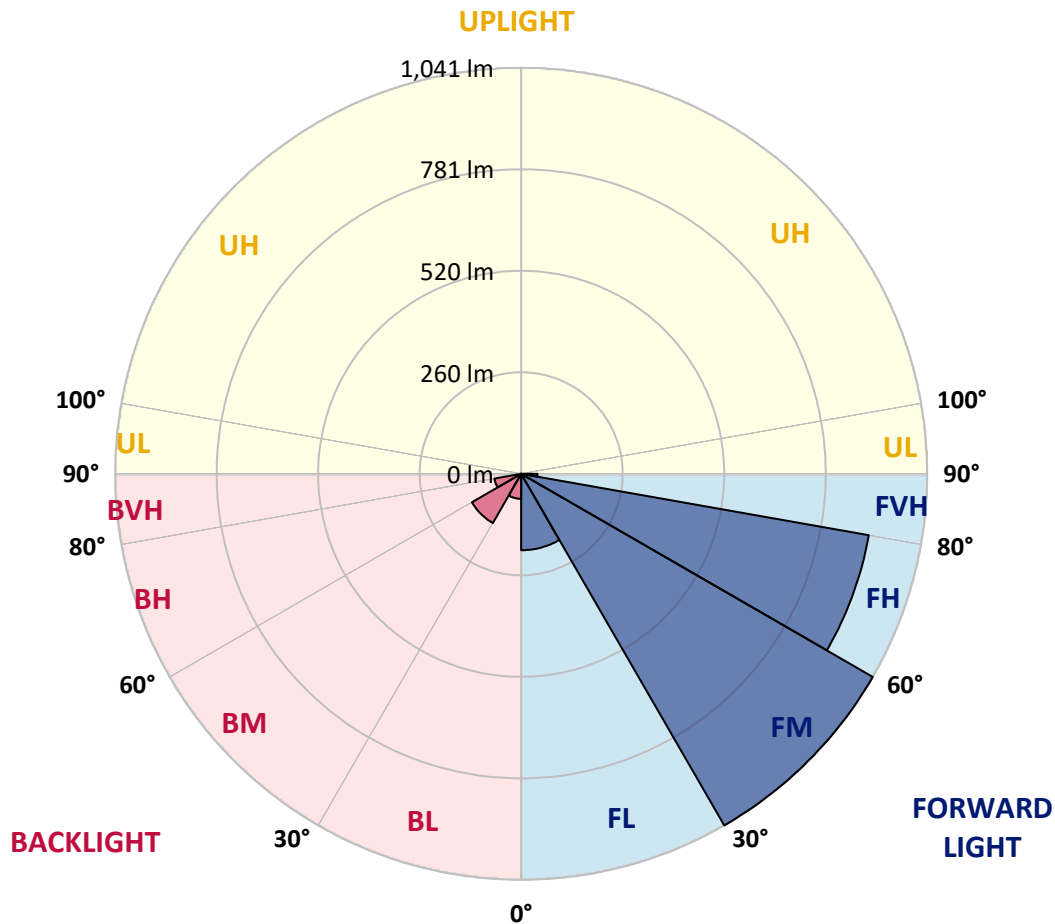
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	195.8	7.9			
FM	(30°-60°)	1040.7	42.2			
FH	(60°-80°)	904.8	36.7			G1/1800
FVH	(80°-90°)	41.8	1.7			G1/100
BL	(0°-30°)	64.1	2.6	B0/110		
BM	(30°-60°)	145.6	5.9	B0/220		
BH	(60°-80°)	69.7	2.8	B0/110		G0/110
BVH	(80°-90°)	2.5	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B0-U0-G1

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	296.9	296.9	296.9	296.9	296.9	296.9	296.9	296.9	296.9	296.9	296.9
2.5°	382.9	384.7	376.2	375.0	355.1	380.0	380.7	383.6	365.4	330.0	379.4
5°	458.2	463.3	456.7	486.0	494.4	512.6	479.3	509.1	496.4	499.9	507.1
7.5°	467.2	472.4	486.3	535.5	580.8	569.5	565.8	577.0	576.1	550.1	563.0
10°	448.5	452.9	476.0	565.5	585.3	636.5	649.0	623.1	612.6	555.7	530.8
12.5°	428.1	435.4	464.9	572.3	631.7	683.4	724.5	687.7	652.8	592.2	569.5
15°	467.2	471.3	517.6	586.3	638.3	674.0	707.7	695.5	690.1	646.6	569.5
17.5°	543.8	553.3	586.9	620.7	661.7	683.2	675.2	671.4	657.8	726.2	646.4
20°	598.3	616.1	660.1	674.7	642.1	662.2	657.2	653.9	643.2	770.5	734.9
22.5°	716.2	732.7	733.5	738.7	662.9	630.8	622.7	623.7	672.1	783.7	845.1
25°	796.6	802.2	846.6	809.5	719.6	640.4	609.3	623.3	693.1	878.6	948.6
27.5°	928.1	941.4	969.1	843.5	753.6	634.4	584.9	635.5	748.1	910.1	1063.6
30°	1035.2	1048.0	1092.6	890.0	783.1	664.3	595.4	660.1	782.4	974.8	1167.0
32.5°	1122.2	1155.2	1205.8	961.8	782.0	698.7	649.2	651.9	824.5	1058.7	1269.3
35°	1233.3	1264.1	1299.6	1011.2	833.1	709.8	665.1	732.0	887.2	1146.4	1406.9
37.5°	1483.8	1530.3	1460.0	1135.8	892.7	810.1	727.8	781.3	952.8	1235.8	1596.1
40°	1636.6	1675.8	1607.9	1199.5	995.8	860.6	839.6	867.0	1017.0	1282.0	1738.7
42.5°	1787.2	1838.9	1725.5	1295.3	1093.7	1003.4	945.8	967.8	1109.8	1393.6	1899.1
45°	1896.2	1928.2	1750.9	1345.4	1228.2	1166.0	1127.7	1094.8	1239.3	1465.2	2002.6
47.5°	1951.0	1976.5	1801.1	1361.3	1308.3	1338.1	1422.1	1353.4	1354.0	1517.1	2058.4
50°	2026.8	2044.6	1829.2	1380.2	1395.3	1606.2	1648.7	1502.4	1484.9	1569.0	2067.5
52.5°	2133.4	2142.1	1883.7	1430.2	1525.5	1816.2	1831.6	1772.4	1615.9	1665.7	2087.8
55°	2275.2	2259.8	1981.0	1535.3	1661.3	1970.1	1990.6	1939.0	1780.7	1762.2	2150.4
57.5°	2428.0	2410.4	2125.3	1683.4	1808.7	2087.6	2099.9	2103.9	1890.1	1847.6	2256.9
60°	2537.5	2540.8	2306.9	1853.2	1900.2	2200.1	2175.7	2138.6	2000.5	1972.7	2308.7
62.5°	2575.9	2606.9	2448.4	2031.2	1979.2	2207.2	2169.2	2137.9	2050.0	2101.8	2249.3
65°	2544.6	2598.8	2481.2	2187.5	2026.9	2119.1	2079.6	2059.5	2048.4	2154.5	2117.8
67.5°	2420.1	2488.0	2387.1	2188.9	1853.3	1804.3	1850.9	1914.6	1877.8	2110.8	1933.7
70°	2141.3	2215.6	2168.7	2060.5	1543.9	1419.6	1471.0	1567.2	1541.2	1877.4	1662.7
72.5°	1606.5	1702.0	1711.3	1778.9	1225.6	1068.4	1075.8	1073.2	1118.0	1513.8	1297.5
75°	1032.0	1106.3	1206.8	1435.4	931.0	780.0	708.7	691.2	774.8	1182.9	928.9
77.5°	599.1	607.9	654.3	1083.0	666.8	562.0	513.4	538.3	567.5	825.5	615.7
80°	286.6	291.0	310.2	557.2	463.3	486.4	448.9	476.9	389.7	474.5	349.3
82.5°	90.9	91.9	95.1	273.8	287.7	322.2	206.5	276.9	240.9	286.8	232.6
85°	15.2	25.8	31.9	79.1	162.4	108.7	44.8	98.7	134.4	180.9	105.6
87.5°	0.0	0.0	0.0	1.4	13.2	6.2	1.0	5.6	20.6	40.3	4.8
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	296.9	296.9	296.9	296.9	296.9	296.9	296.9	296.9	296.9	296.9	296.9
2.5°	393.7	403.4	366.9	334.2	342.5	335.9	325.9	308.9	269.6	298.5	296.5
5°	506.7	488.7	439.2	416.2	388.1	345.3	340.1	307.2	292.7	295.1	293.0
7.5°	546.0	513.8	470.1	400.8	334.9	273.1	254.1	232.6	228.3	237.5	243.6
10°	515.1	481.0	442.8	356.5	305.8	261.1	214.4	184.3	168.0	166.0	167.7
12.5°	529.3	492.5	413.8	347.8	294.8	254.4	202.1	156.8	121.4	124.0	117.0
15°	539.1	496.8	406.9	329.5	272.2	218.1	155.2	109.8	80.9	72.5	67.4
17.5°	596.8	536.4	398.2	308.5	240.6	169.8	97.5	63.6	54.2	51.3	48.9
20°	671.0	585.2	398.1	286.3	194.0	106.2	60.8	46.1	43.8	45.5	43.7
22.5°	757.3	650.1	419.3	258.6	139.2	67.0	47.3	40.9	38.6	40.0	40.2
25°	844.1	747.4	436.6	232.3	96.9	51.4	42.1	37.6	35.1	36.4	35.7
27.5°	1000.8	828.1	432.6	198.8	71.4	45.2	39.2	35.3	31.5	33.4	33.3
30°	1103.4	970.4	448.0	151.7	56.6	39.6	36.5	32.2	28.1	30.3	30.2
32.5°	1226.0	1031.5	464.5	116.4	47.1	37.5	32.9	28.7	26.3	27.7	27.4
35°	1363.8	1152.3	434.0	96.9	40.9	33.9	29.1	25.8	23.7	24.4	24.4
37.5°	1607.2	1253.3	415.8	78.9	38.1	30.6	27.3	23.3	22.1	22.1	22.8
40°	1745.5	1407.5	361.3	62.5	38.9	28.2	25.4	21.4	19.7	19.5	20.2
42.5°	1925.3	1496.4	327.1	50.6	35.3	27.5	23.3	19.4	17.4	17.3	18.0
45°	2031.9	1546.1	279.1	39.8	31.6	32.0	21.6	17.8	14.9	14.3	15.6
47.5°	2099.1	1612.0	251.9	31.6	27.5	31.9	21.1	15.5	12.5	11.8	12.9
50°	2133.3	1644.6	246.5	27.1	23.9	28.5	24.2	12.9	10.7	9.7	10.7
52.5°	2168.8	1697.6	248.5	25.0	21.1	22.9	22.9	11.1	9.4	8.3	9.0
55°	2240.6	1775.8	244.1	23.7	19.4	17.4	14.7	9.8	8.6	7.3	8.0
57.5°	2328.8	1832.0	244.1	22.6	18.0	14.9	11.8	9.1	7.9	6.3	6.9
60°	2312.1	1772.8	232.1	21.5	16.9	13.9	10.7	8.4	7.3	5.8	6.2
62.5°	2197.3	1612.0	187.9	19.8	15.9	13.2	9.7	8.0	6.9	5.1	5.5
65°	2062.5	1441.2	130.6	18.0	14.7	11.9	8.7	7.6	6.3	4.5	4.8
67.5°	1900.1	1237.7	72.5	16.2	13.6	10.4	8.0	7.4	6.0	4.1	4.4
70°	1618.3	934.4	38.9	14.7	12.8	9.6	7.6	7.4	6.0	3.9	4.1
72.5°	1214.9	588.4	22.8	13.5	11.7	8.8	7.2	7.6	5.9	3.8	3.8
75°	826.7	357.2	16.3	11.5	10.4	7.4	6.9	7.3	6.0	3.8	3.5
77.5°	562.0	251.0	13.3	10.4	9.4	6.6	7.0	7.3	6.0	3.1	2.4
80°	350.9	129.5	10.1	8.3	8.1	5.8	7.0	6.3	3.9	0.7	0.0
82.5°	245.4	48.2	5.9	6.3	6.3	4.1	5.5	4.5	2.2	0.0	0.0
85°	103.0	8.3	3.2	4.5	3.9	2.4	4.4	3.4	1.4	0.0	0.0
87.5°	1.8	0.0	1.3	2.7	2.8	1.4	2.2	1.4	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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	296.9	296.9	296.9	296.9	296.9	296.9	296.9	296.9	296.9	296.9	296.9
2.5°	305.8	292.5	264.4	277.8	276.4	282.6	283.2	268.9	299.8	318.9	321.7
5°	293.3	284.3	282.8	275.0	273.1	284.4	278.3	277.8	292.7	314.5	314.6
7.5°	243.7	236.8	240.1	231.1	207.9	209.3	211.4	220.3	233.0	247.4	252.6
10°	167.3	185.1	172.1	170.9	168.6	161.1	155.2	159.9	176.4	189.6	194.5
12.5°	119.4	122.2	130.2	127.3	131.3	125.0	122.6	137.1	153.3	166.7	176.4
15°	69.8	74.6	79.4	89.5	93.6	92.3	99.6	111.7	124.7	130.9	142.9
17.5°	49.2	49.6	50.6	61.5	68.7	71.5	75.9	85.0	90.3	93.1	98.0
20°	43.0	41.7	40.0	46.2	53.0	56.5	55.2	62.4	66.7	69.5	73.0
22.5°	38.9	36.8	35.8	37.9	43.1	46.2	46.8	51.0	57.6	59.6	60.7
25°	35.1	33.7	33.0	34.1	36.9	39.9	40.5	45.9	51.8	52.7	54.9
27.5°	32.6	29.9	30.2	31.0	32.3	36.0	37.1	40.2	48.7	49.7	50.4
30°	29.9	27.1	28.0	28.8	28.2	32.7	34.4	37.9	46.2	47.8	48.6
32.5°	27.3	25.1	25.0	25.8	26.8	29.2	32.9	36.9	44.5	46.6	48.7
35°	24.3	22.6	22.9	23.0	24.3	27.4	30.1	32.2	37.4	38.5	39.2
37.5°	22.2	20.8	20.5	21.9	23.2	25.6	26.5	27.5	34.4	36.9	37.1
40°	19.7	18.8	18.8	19.8	22.6	22.3	23.6	26.7	33.3	36.0	36.2
42.5°	17.8	16.7	17.0	18.0	19.9	18.5	21.1	25.6	32.9	35.5	35.4
45°	15.0	14.7	15.3	16.2	17.0	15.7	19.7	24.4	31.5	35.0	34.0
47.5°	12.5	12.5	13.2	14.0	13.6	14.0	17.8	22.9	30.6	33.9	33.2
50°	10.3	10.4	11.1	12.5	11.2	12.4	16.0	21.4	29.2	32.7	32.2
52.5°	8.7	8.8	9.3	10.3	9.7	11.2	14.7	19.8	27.8	30.8	30.5
55°	7.6	7.9	7.9	8.4	8.7	10.5	13.3	18.3	25.7	28.9	28.4
57.5°	6.7	7.0	6.9	7.3	7.6	9.3	11.9	16.6	23.6	26.3	25.4
60°	6.0	6.3	6.2	6.7	6.6	8.0	10.4	14.7	21.4	23.5	22.8
62.5°	5.3	5.6	5.6	5.9	6.0	6.7	9.0	13.1	19.1	20.8	20.2
65°	4.8	5.1	5.2	5.1	5.3	5.8	7.6	11.8	16.6	18.3	17.4
67.5°	4.4	4.6	4.9	4.4	4.6	4.8	6.5	10.5	14.6	16.0	15.3
70°	4.2	4.4	4.4	3.8	3.7	3.8	5.6	9.0	12.8	14.2	13.2
72.5°	3.9	4.1	3.9	3.1	2.7	2.9	4.8	7.6	10.8	11.9	11.1
75°	3.7	3.8	3.7	2.5	1.7	2.1	3.9	6.6	9.3	9.8	9.4
77.5°	3.1	3.4	3.4	1.8	0.6	1.3	2.9	5.3	7.7	7.7	7.9
80°	0.3	0.8	1.4	1.0	0.0	0.1	1.0	2.8	4.9	4.8	5.2
82.5°	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.7	1.3	1.4
85°	0.0	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	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°	296.9	296.9	296.9	296.9	296.9	296.9	296.9	296.9	296.9	296.9
2.5°	315.1	310.7	316.2	332.9	326.2	327.4	322.9	350.6	381.9	382.9
5°	314.9	311.0	319.1	318.4	337.7	358.6	378.8	411.6	457.9	458.2
7.5°	250.2	273.5	279.5	277.7	302.4	331.2	362.4	425.1	463.1	467.2
10°	225.6	235.7	248.1	252.6	262.8	290.2	325.5	396.4	439.1	448.5
12.5°	195.5	227.8	244.3	276.2	282.1	286.0	341.6	403.3	429.3	428.1
15°	162.0	190.1	216.0	254.9	271.0	312.3	356.1	436.9	452.3	467.2
17.5°	114.6	135.8	175.7	216.6	265.5	310.4	396.0	496.8	526.1	543.8
20°	76.7	86.9	123.0	177.1	239.1	283.7	412.3	551.1	582.9	598.3
22.5°	62.2	67.1	85.8	129.8	204.2	282.5	418.9	610.2	695.9	716.2
25°	54.8	58.2	68.1	96.1	169.5	276.9	455.4	676.8	780.2	796.6
27.5°	47.9	53.0	60.4	79.2	145.4	272.9	473.9	788.6	911.9	928.1
30°	45.8	52.0	59.1	72.2	128.5	257.8	503.4	889.4	1006.5	1035.2
32.5°	49.4	51.6	55.1	66.2	115.5	241.7	555.3	1010.0	1084.7	1122.2
35°	39.2	43.0	49.2	60.7	110.0	240.9	584.6	1087.5	1210.1	1233.3
37.5°	38.3	41.9	49.9	59.1	116.6	247.4	628.2	1246.4	1436.3	1483.8
40°	37.2	41.7	49.3	58.4	116.6	253.7	656.0	1373.5	1588.4	1636.6
42.5°	36.8	42.6	49.2	61.4	112.9	257.2	698.0	1500.3	1749.1	1787.2
45°	36.5	43.4	49.6	64.9	112.1	268.7	721.7	1562.0	1852.5	1896.2
47.5°	35.8	43.4	55.3	62.8	107.5	267.6	752.5	1653.4	1914.2	1951.0
50°	35.3	43.7	62.6	58.9	108.2	260.7	794.2	1739.3	2000.5	2026.8
52.5°	34.0	44.7	61.5	53.4	106.1	260.0	856.4	1861.3	2114.2	2133.4
55°	31.2	43.4	55.6	46.6	98.6	252.0	938.9	2020.1	2271.8	2275.2
57.5°	28.7	40.3	46.5	42.8	82.6	253.0	1010.0	2166.2	2412.3	2428.0
60°	26.1	41.9	36.1	39.9	68.4	235.0	1044.4	2222.1	2514.5	2537.5
62.5°	23.7	38.6	30.8	36.7	61.0	218.3	1020.5	2177.1	2527.6	2575.9
65°	21.1	26.8	26.0	32.9	61.7	194.8	940.7	2045.5	2478.0	2544.6
67.5°	18.1	21.1	22.9	28.4	66.0	174.7	803.9	1834.2	2344.7	2420.1
70°	15.9	19.0	19.9	24.9	68.7	161.5	634.4	1541.1	2071.6	2141.3
72.5°	13.2	17.6	17.8	21.8	66.2	148.5	452.0	1106.3	1573.1	1606.5
75°	11.4	14.6	16.2	18.3	55.6	110.8	249.0	684.8	994.7	1032.0
77.5°	10.3	11.1	12.2	12.6	23.6	57.7	85.7	422.2	557.0	599.1
80°	7.9	8.7	8.4	8.7	12.9	19.9	32.6	197.9	263.1	286.6
82.5°	2.5	4.2	4.6	3.9	8.4	9.8	9.4	68.4	85.5	90.9
85°	0.6	1.5	0.7	0.0	2.8	5.1	0.7	10.4	20.5	15.2
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

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