

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: P367688

Luminaire Tested: **MSA-SA3A-730-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367688
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3A-730-U-SLL
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS
EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9151 lumens
Efficiency: N/A
Efficacy: 95.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

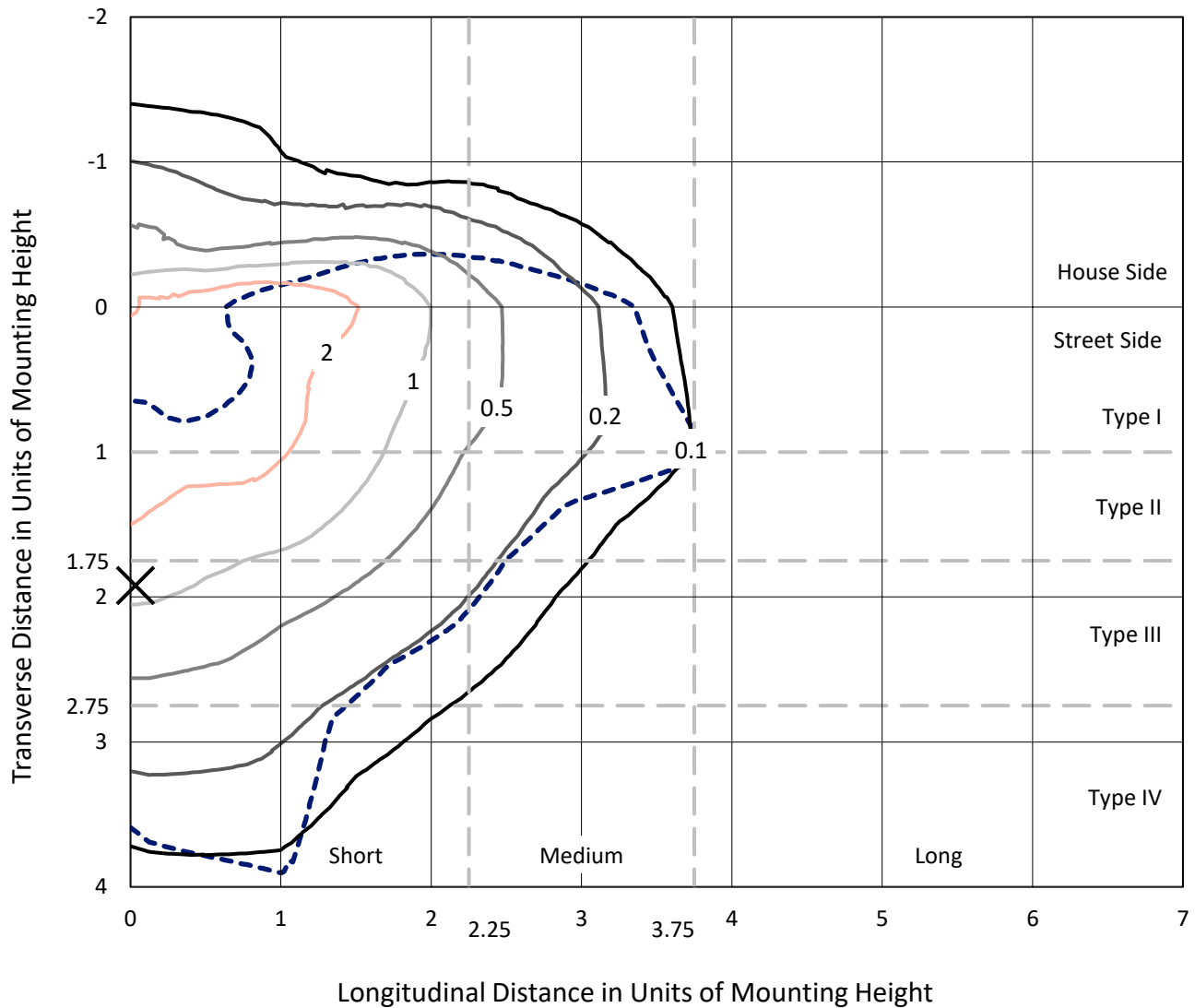
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

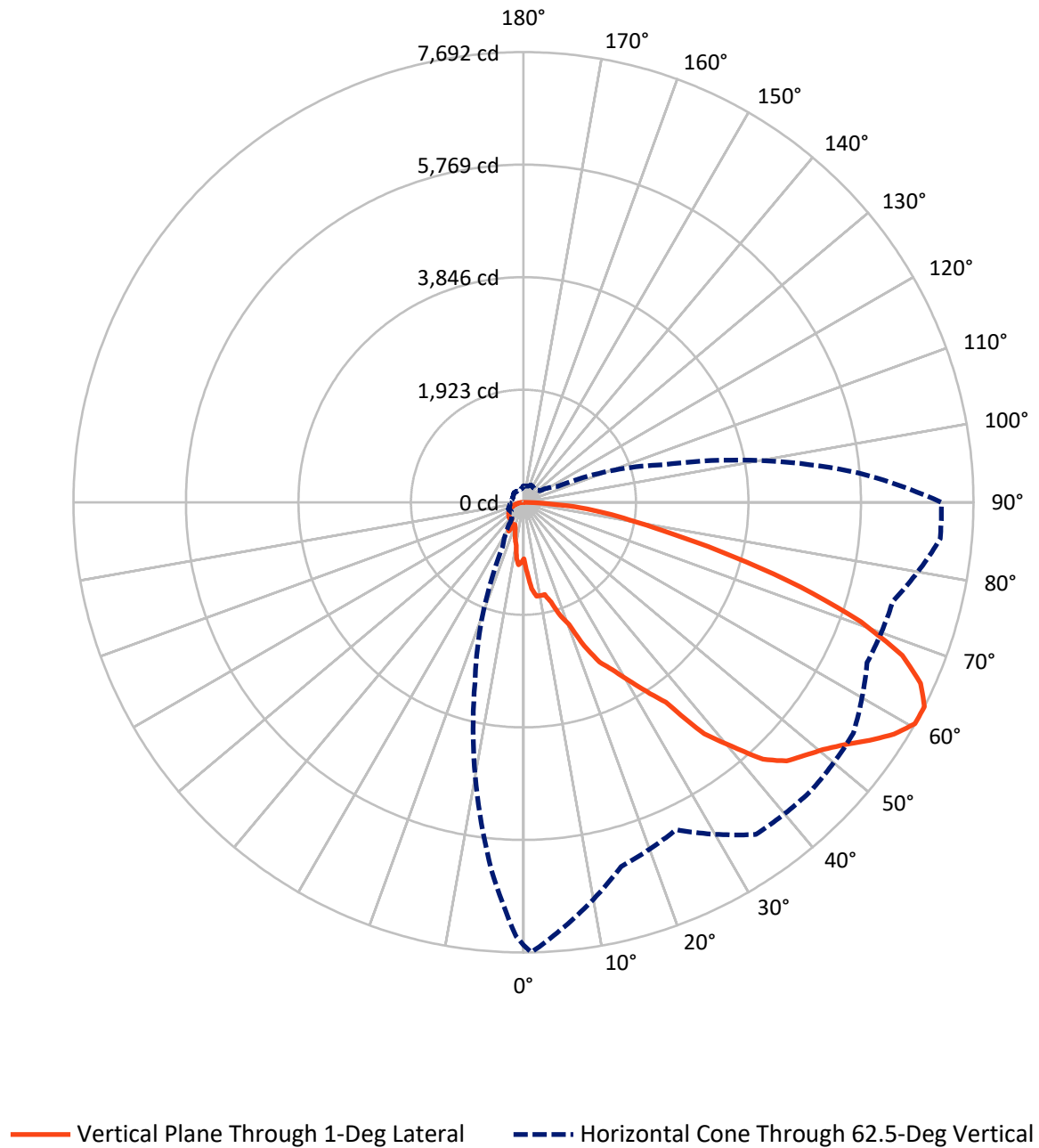


Based on 25 foot mounting height. Maximum calculated value = 3.9 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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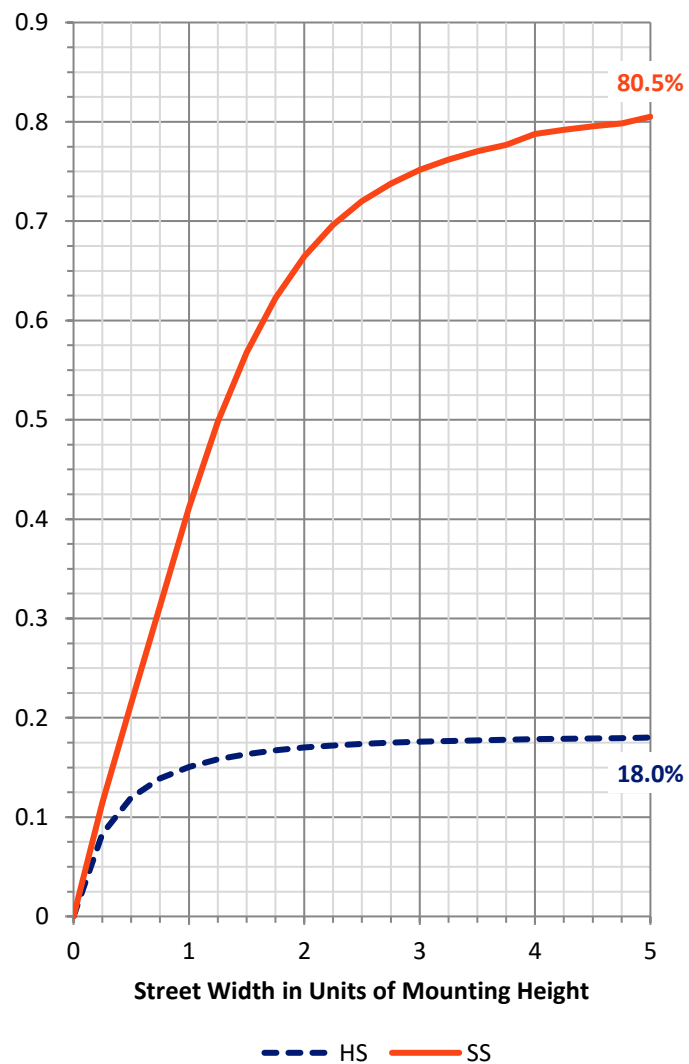
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1666.3	0.0	1666.3
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	7484.7	0.0	7484.7
	% Fixture	81.8	0.0	81.8
Total	Lumens	9151.0	0.0	9151.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.6	1.2
10°-20°	321.4	3.5
20°-30°	567.5	6.2
30°-40°	884.0	9.7
40°-50°	1455.6	15.9
50°-60°	2077.4	22.7
60°-70°	2202.9	24.1
70°-80°	1216.8	13.3
80°-90°	314.7	3.4
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°	9151.0	100.0
0°-180°	9151.0	100.0

Coefficient of Utilization



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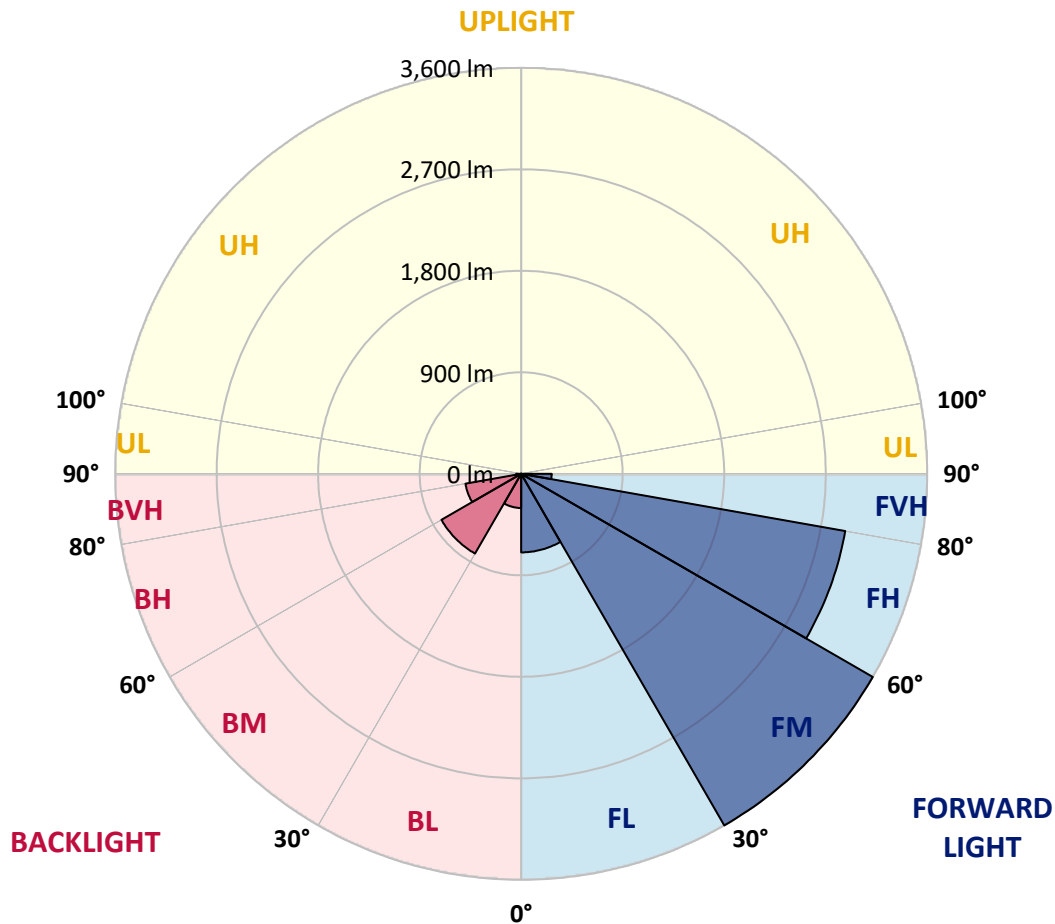
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	696.5	7.6			
FM	(30°-60°)	3600.1	39.3			
FH	(60°-80°)	2917.7	31.9			G2/5000
FVH	(80°-90°)	270.3	3.0			G3/500
BL	(0°-30°)	303.1	3.3	B1/500		
BM	(30°-60°)	816.9	8.9	B1/1000		
BH	(60°-80°)	502.0	5.5	B2/1000		G2/1000
BVH	(80°-90°)	44.4	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	965.0	965.0	965.0	965.0	965.0	965.0	965.0	965.0	965.0	965.0	965.0
2.5°	1186.6	1196.8	1175.9	1152.4	1055.1	1148.8	1120.8	1172.8	1155.9	1043.1	1249.6
5°	1466.3	1485.0	1464.5	1535.1	1539.6	1557.8	1389.5	1494.3	1457.9	1448.6	1552.9
7.5°	1601.3	1620.4	1672.4	1798.0	1896.2	1807.4	1709.2	1687.5	1659.0	1584.9	1647.9
10°	1609.8	1620.4	1690.1	1956.6	2004.1	2067.1	2003.6	1854.0	1792.3	1631.1	1583.1
12.5°	1584.4	1617.7	1707.9	2032.5	2173.7	2242.6	2258.1	2091.6	1940.1	1756.3	1731.9
15°	1754.5	1766.5	1895.7	2086.7	2183.9	2242.1	2292.7	2190.2	2142.6	1997.0	1801.1
17.5°	1998.3	2031.6	2137.3	2207.9	2273.6	2284.7	2243.0	2203.0	2127.5	2322.0	2113.8
20°	2163.5	2227.9	2357.6	2370.9	2232.8	2257.2	2251.4	2254.1	2211.0	2570.7	2456.2
22.5°	2600.5	2670.2	2688.0	2610.7	2350.5	2239.0	2261.2	2325.6	2495.2	2803.4	2933.1
25°	2996.1	3023.2	3185.3	2986.4	2571.6	2328.7	2292.3	2458.8	2735.5	3195.1	3287.4
27.5°	3202.6	3237.7	3345.6	2912.7	2599.1	2213.2	2128.0	2381.5	2663.5	3010.8	3416.2
30°	3466.9	3522.8	3669.8	2986.4	2682.2	2288.7	2100.0	2342.5	2654.2	3131.6	3688.9
32.5°	3739.1	3847.9	3957.1	3246.2	2670.6	2404.2	2279.0	2298.5	2738.6	3384.7	3971.3
35°	4099.7	4195.6	4289.7	3396.2	2903.3	2500.6	2376.2	2583.2	2955.3	3678.2	4365.2
37.5°	4870.6	5022.4	4774.2	3823.4	3156.4	2934.9	2710.6	2833.2	3184.4	3922.9	5008.7
40°	5361.7	5475.8	5236.0	4114.3	3602.3	3227.5	3190.6	3200.9	3500.2	4132.5	5441.6
42.5°	5849.7	6004.3	5622.8	4513.5	4141.4	3831.9	3641.8	3628.9	3853.6	4509.1	5934.1
45°	6213.9	6304.9	5755.6	4850.1	4719.6	4490.0	4347.4	4121.4	4318.1	4769.8	6238.7
47.5°	6387.1	6461.2	5969.2	5046.0	5094.4	5106.4	5363.5	4978.0	4724.0	4946.0	6398.6
50°	6603.3	6638.4	6094.9	5218.3	5450.5	5977.2	6038.9	5385.7	5119.2	5138.3	6493.2
52.5°	6861.8	6876.4	6278.3	5417.2	5810.7	6550.0	6454.6	6076.7	5495.4	5489.6	6671.3
55°	7186.8	7177.9	6508.3	5685.0	6067.8	6890.6	6818.2	6542.9	5905.2	5780.5	6948.4
57.5°	7475.9	7470.6	6813.4	5931.4	6284.0	7065.6	7086.9	7014.1	6184.1	5988.7	7248.6
60°	7617.6	7685.5	7160.6	6201.0	6297.8	7144.6	7152.6	7036.7	6495.9	6256.1	7328.5
62.5°	7562.5	7691.7	7331.1	6443.5	6171.2	6928.8	6962.1	6882.2	6481.6	6536.7	7150.0
65°	7312.1	7461.3	7183.3	6572.7	6093.5	6567.3	6575.8	6373.7	6278.7	6722.8	6731.7
67.5°	6842.2	6982.1	6712.6	6366.6	5561.5	5593.1	5781.3	5797.8	5659.2	6582.4	6144.2
70°	6019.8	6118.4	5949.6	5857.7	4648.5	4463.8	4668.1	4755.5	4818.6	6075.8	5439.0
72.5°	4765.8	4956.3	4982.9	5042.9	3742.6	3434.9	3586.3	3456.6	3867.4	5171.2	4443.8
75°	3525.9	3686.7	3859.4	4193.8	2950.0	2571.6	2553.0	2486.8	2870.5	4158.7	3295.9
77.5°	2491.7	2594.3	2727.0	3350.1	2226.1	1980.6	1992.1	1925.0	2072.9	3143.1	2276.7
80°	1786.0	1839.8	1901.5	2207.0	1642.2	1708.8	1710.6	1647.1	1541.4	2134.6	1519.6
82.5°	1272.7	1314.4	1385.1	1455.7	1224.3	1400.6	1399.3	1395.3	1222.1	1442.8	950.8
85°	708.7	764.7	887.3	1140.4	884.1	1001.4	880.6	969.8	897.0	960.5	481.4
87.5°	49.7	44.4	198.5	660.8	412.5	301.5	158.1	313.1	401.4	501.8	67.1
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°	965.0	965.0	965.0	965.0	965.0	965.0	965.0	965.0	965.0	965.0	965.0
2.5°	1292.2	1307.8	1246.9	1155.5	1180.3	1153.2	1119.1	1065.8	956.1	1024.0	1024.5
5°	1552.0	1493.0	1445.4	1400.6	1325.1	1211.0	1195.9	1104.4	1052.9	1080.0	1076.0
7.5°	1633.3	1549.4	1477.9	1317.6	1177.7	1000.5	947.2	893.0	870.4	936.1	962.3
10°	1544.0	1456.5	1386.4	1191.4	1096.4	985.8	839.3	764.2	719.8	737.2	747.4
12.5°	1616.0	1526.7	1306.0	1197.2	1040.5	973.0	844.6	734.5	668.8	684.8	665.7
15°	1685.2	1564.9	1344.2	1127.5	1000.5	902.8	798.9	685.2	607.9	580.4	565.7
17.5°	1938.4	1738.5	1339.8	1088.4	942.8	830.4	705.2	580.8	529.3	500.9	476.5
20°	2247.0	1968.6	1363.7	1048.0	881.5	739.8	603.5	488.0	452.1	433.4	426.8
22.5°	2614.2	2263.4	1501.0	1042.2	823.7	673.7	547.5	475.6	435.2	414.8	406.3
25°	2906.0	2568.5	1602.2	1081.3	820.6	619.0	513.8	528.4	509.8	516.0	466.7
27.5°	3189.3	2651.5	1545.4	1064.0	738.0	522.2	505.8	536.4	552.4	557.3	555.5
30°	3428.7	3002.4	1557.8	966.3	623.5	425.4	387.2	402.3	446.3	516.0	529.3
32.5°	3779.0	3170.2	1663.9	907.2	557.3	380.6	337.9	332.2	342.4	367.7	389.4
35°	4188.9	3556.6	1693.7	891.7	511.6	360.6	330.8	317.5	322.8	341.9	346.4
37.5°	4953.2	3838.1	1803.8	872.6	494.7	348.6	325.5	320.6	332.2	347.7	356.6
40°	5374.6	4344.3	1809.1	856.2	472.9	343.7	329.1	326.8	333.9	355.3	360.6
42.5°	5936.3	4633.0	1892.6	837.1	465.4	350.4	336.2	335.3	341.5	353.9	363.7
45°	6278.7	4826.2	1897.1	826.0	463.6	379.7	345.5	342.4	341.0	348.6	357.5
47.5°	6499.4	5104.6	1951.2	813.5	474.3	387.2	356.6	343.3	338.8	341.9	348.6
50°	6708.6	5327.1	2053.8	811.8	485.4	379.7	376.1	342.8	333.9	332.6	337.5
52.5°	6965.2	5693.0	2180.4	828.6	482.7	368.6	390.8	341.0	325.1	322.0	326.8
55°	7338.7	6085.1	2314.9	814.4	455.2	347.3	376.6	339.7	315.7	310.0	314.4
57.5°	7580.7	6309.8	2465.5	802.4	413.4	331.3	363.7	340.6	316.6	303.7	306.4
60°	7500.3	6189.0	2524.5	729.2	373.9	318.8	333.1	333.5	308.6	296.6	298.9
62.5°	7145.1	5751.6	2469.5	643.9	344.6	301.1	301.5	320.2	285.5	277.1	280.7
65°	6648.6	5207.6	2246.5	588.4	330.8	282.4	275.3	281.1	254.5	248.2	255.3
67.5°	6039.3	4537.1	1914.8	529.8	325.9	257.1	248.7	246.5	229.6	222.5	229.6
70°	5275.1	3799.0	1530.7	488.5	307.3	229.6	222.9	220.7	206.5	201.2	207.4
72.5°	4240.0	2966.4	1181.2	456.9	286.9	204.3	198.5	195.8	183.8	176.3	183.8
75°	3015.7	2267.0	877.5	408.5	258.0	178.5	171.9	168.3	157.2	150.1	156.8
77.5°	2143.1	1701.7	612.8	337.9	212.7	151.0	147.0	141.2	131.4	123.0	129.7
80°	1584.4	1215.9	395.2	260.7	162.5	120.8	118.6	114.6	105.2	95.0	99.9
82.5°	1043.1	876.6	226.5	176.7	118.1	87.0	88.8	86.1	77.3	66.6	69.3
85°	467.2	519.1	120.3	97.3	76.8	52.4	57.3	55.5	48.8	38.6	39.5
87.5°	44.9	87.5	36.9	35.5	28.4	16.4	20.4	17.3	14.7	9.3	7.1
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°	965.0	965.0	965.0	965.0	965.0	965.0	965.0	965.0	965.0	965.0	965.0
2.5°	1040.0	977.4	914.8	953.0	953.9	964.1	965.4	927.7	957.9	981.0	1004.9
5°	1056.4	1015.6	1017.8	981.0	961.0	986.7	981.4	971.2	989.4	1014.7	1045.3
7.5°	937.4	910.8	906.3	870.8	784.7	765.6	781.6	788.2	812.6	851.7	884.6
10°	731.8	784.7	725.2	711.4	688.8	644.3	618.6	615.5	667.4	699.0	726.5
12.5°	659.4	646.1	639.0	601.3	601.3	554.2	539.1	552.9	632.8	655.4	691.0
15°	561.7	552.0	519.1	500.5	491.6	472.5	488.5	501.8	576.4	578.2	615.5
17.5°	466.3	460.5	429.4	425.9	417.0	408.5	423.2	455.2	495.6	488.5	505.8
20°	417.0	397.0	368.6	378.8	369.5	362.8	356.6	401.9	430.3	439.6	449.8
22.5°	404.5	368.1	351.3	341.9	342.4	331.7	333.1	370.8	413.9	419.6	413.4
25°	462.3	397.4	342.8	315.7	305.5	302.0	312.2	345.5	397.4	409.9	414.8
27.5°	540.9	431.6	353.0	306.9	286.4	288.2	302.9	325.9	387.2	409.4	415.2
30°	519.1	405.9	353.5	300.2	274.9	284.2	289.5	311.7	379.2	412.5	441.4
32.5°	400.6	365.0	355.7	305.5	295.3	280.7	288.2	309.5	355.7	376.6	377.9
35°	339.3	312.2	306.0	293.5	279.3	273.1	281.5	300.2	330.4	343.3	341.5
37.5°	336.6	306.9	282.4	277.1	271.3	269.6	274.4	291.8	322.4	345.0	340.2
40°	341.0	304.2	279.3	270.0	272.2	264.2	269.1	290.4	323.7	345.0	340.6
42.5°	335.7	301.1	275.3	268.2	270.4	259.3	265.1	287.3	320.2	345.5	337.0
45°	325.1	294.0	273.1	261.1	271.3	254.9	262.0	279.3	309.5	337.0	327.3
47.5°	314.4	285.5	263.8	256.2	266.4	250.5	253.6	268.7	298.9	325.9	317.5
50°	302.9	274.9	256.2	254.0	261.1	249.6	244.7	257.1	286.0	313.1	306.0
52.5°	290.4	266.0	250.9	250.0	256.7	243.8	236.7	246.5	272.2	299.3	293.5
55°	278.4	256.2	244.2	246.5	254.0	238.9	230.0	236.2	257.6	284.2	276.2
57.5°	266.4	245.1	235.4	241.6	247.3	232.7	221.6	225.1	242.5	268.7	259.3
60°	255.8	235.4	225.6	233.1	238.5	223.4	210.5	212.7	228.3	251.8	243.4
62.5°	242.0	224.7	211.8	221.6	225.6	210.9	197.2	199.8	212.3	234.5	228.3
65°	222.5	211.4	199.4	206.0	211.4	196.3	183.4	186.5	195.8	216.7	212.3
67.5°	205.6	194.9	187.0	192.3	193.2	181.6	170.1	171.9	179.4	198.9	194.1
70°	187.0	176.7	170.5	174.5	174.1	164.3	155.4	155.9	162.1	179.8	173.2
72.5°	166.5	156.8	153.6	155.9	154.1	145.2	136.8	139.9	143.9	157.2	151.9
75°	144.8	135.9	134.1	136.3	133.7	125.2	117.7	120.8	124.3	135.4	128.8
77.5°	122.1	114.1	114.6	115.0	111.5	105.7	98.1	101.2	103.5	111.0	104.4
80°	97.3	91.0	92.8	92.8	88.8	84.8	77.7	78.6	79.9	82.6	77.7
82.5°	71.1	71.1	71.1	71.5	63.1	64.4	58.2	57.7	56.4	56.0	52.8
85°	42.2	44.0	44.9	46.2	34.2	40.0	34.6	33.3	30.6	28.0	27.1
87.5°	9.3	12.0	12.0	11.5	0.0	4.4	2.2	3.6	0.9	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°	965.0	965.0	965.0	965.0	965.0	965.0	965.0	965.0	965.0	965.0
2.5°	977.4	950.8	1000.5	1044.9	1037.8	1063.5	1003.6	1092.4	1186.6	1186.6
5°	1037.3	1014.7	1027.6	1053.3	1072.9	1162.6	1237.2	1311.3	1464.5	1466.3
7.5°	874.8	923.7	935.2	927.7	1011.6	1127.0	1250.1	1461.4	1591.1	1601.3
10°	818.0	840.2	875.3	894.8	929.0	1042.7	1195.4	1446.3	1584.0	1609.8
12.5°	741.2	823.3	876.6	985.8	1012.9	1035.6	1278.5	1495.6	1590.7	1584.4
15°	657.2	719.4	796.2	917.0	985.8	1159.0	1327.8	1653.7	1707.4	1754.5
17.5°	524.0	569.7	671.9	809.5	980.1	1139.5	1449.4	1849.1	1949.5	1998.3
20°	431.2	431.6	533.8	716.3	901.9	1057.8	1495.6	2011.2	2138.6	2163.5
22.5°	407.7	387.2	441.0	589.3	815.8	1106.2	1588.9	2271.9	2537.9	2600.5
25°	394.8	369.9	403.7	520.0	754.0	1131.5	1776.7	2630.2	2971.7	2996.1
27.5°	400.1	411.7	422.3	463.6	675.9	1084.0	1733.2	2790.5	3156.4	3202.6
30°	436.1	454.7	430.3	444.5	611.5	1015.1	1810.9	3050.8	3389.1	3466.9
32.5°	362.8	355.7	353.5	384.6	547.1	953.0	1973.9	3417.1	3641.4	3739.1
35°	327.3	316.2	320.6	356.1	515.6	944.1	2065.4	3720.4	4039.7	4099.7
37.5°	325.9	313.1	318.8	345.5	526.7	960.1	2211.9	4207.1	4742.2	4870.6
40°	322.8	315.7	318.8	338.8	515.1	969.0	2296.3	4616.1	5231.6	5361.7
42.5°	322.4	318.8	322.0	344.2	503.1	973.0	2413.1	4985.6	5747.2	5849.7
45°	321.1	324.6	324.6	348.6	497.8	999.6	2481.9	5166.8	6087.3	6213.9
47.5°	314.8	325.5	342.8	347.3	476.0	987.2	2579.2	5441.6	6268.0	6387.1
50°	306.9	324.2	365.9	338.4	472.5	957.0	2692.8	5659.7	6499.9	6603.3
52.5°	296.2	322.0	360.6	321.1	466.3	951.6	2852.3	5943.0	6770.3	6861.8
55°	281.1	314.0	344.2	303.7	451.2	934.8	3096.1	6294.2	7124.2	7186.8
57.5°	267.3	302.0	320.2	294.0	415.2	938.3	3265.7	6580.7	7421.3	7475.9
60°	254.9	300.6	286.0	283.8	378.3	890.8	3320.8	6577.6	7531.9	7617.6
62.5°	241.6	283.8	262.0	270.0	345.9	842.0	3204.0	6295.6	7412.4	7562.5
65°	224.3	243.4	242.0	260.2	346.8	762.5	2936.2	5798.2	7114.4	7312.1
67.5°	203.8	215.4	222.9	244.2	357.9	700.7	2505.4	5200.1	6607.3	6842.2
70°	183.0	194.5	202.9	223.4	368.1	672.3	1994.3	4359.9	5781.3	6019.8
72.5°	161.6	173.6	180.3	198.1	354.4	611.5	1476.1	3392.2	4640.5	4765.8
75°	139.4	151.0	156.3	172.7	307.7	505.8	1019.1	2569.4	3398.9	3525.9
77.5°	116.8	129.2	131.0	144.3	234.9	386.8	653.2	1970.8	2406.9	2491.7
80°	93.3	105.7	105.7	112.8	165.2	266.0	391.2	1486.7	1752.7	1786.0
82.5°	67.1	80.4	79.5	79.9	114.1	164.7	226.5	1114.2	1266.5	1272.7
85°	39.5	48.8	48.4	44.4	67.5	88.8	122.6	691.9	707.0	708.7
87.5°	7.5	11.5	10.2	4.4	18.7	26.2	35.5	128.3	51.1	49.7
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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