

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: P367687

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

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367687
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-SA3A-730-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 7793 lumens
Efficiency: N/A
Efficacy: 81.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

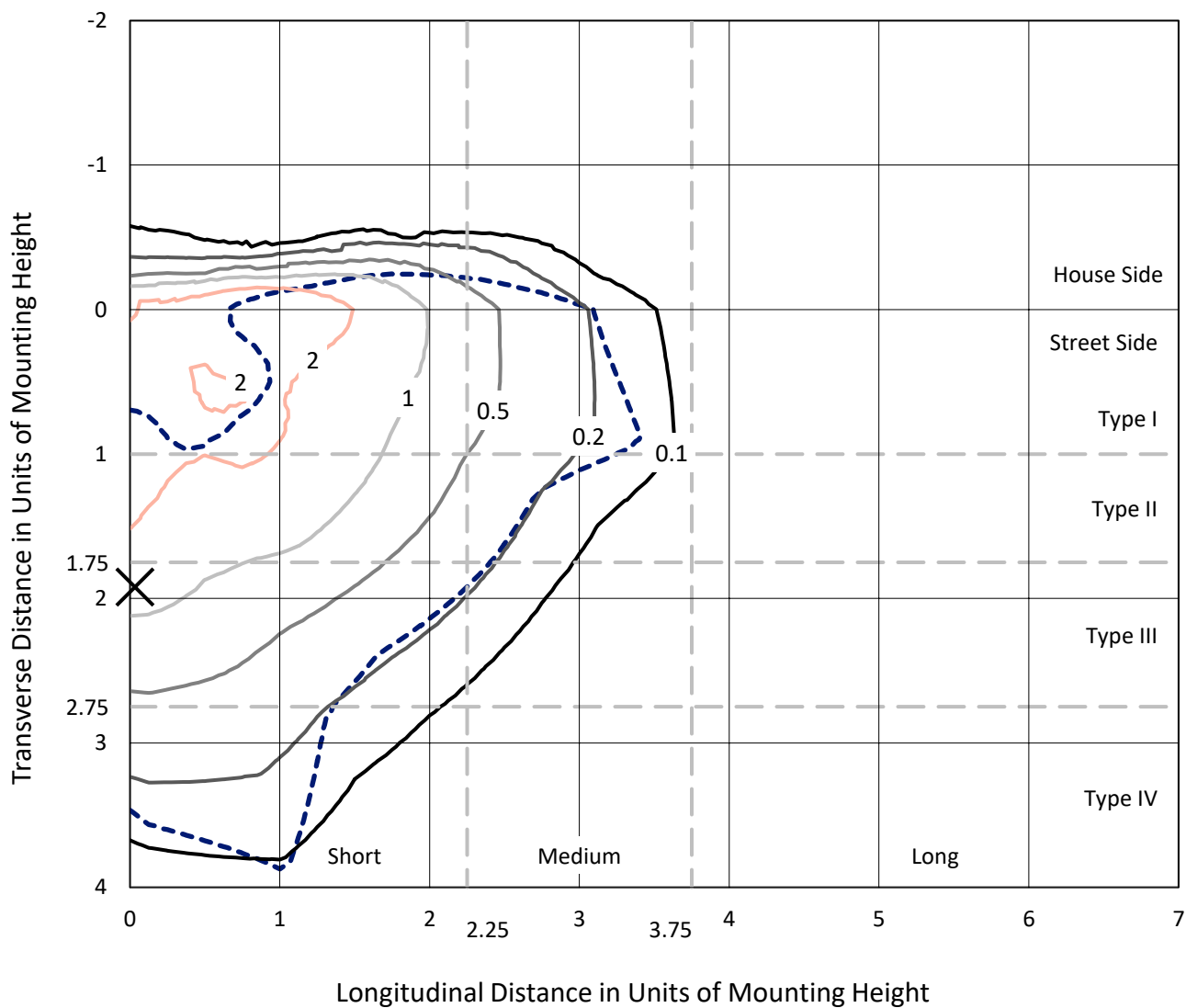
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

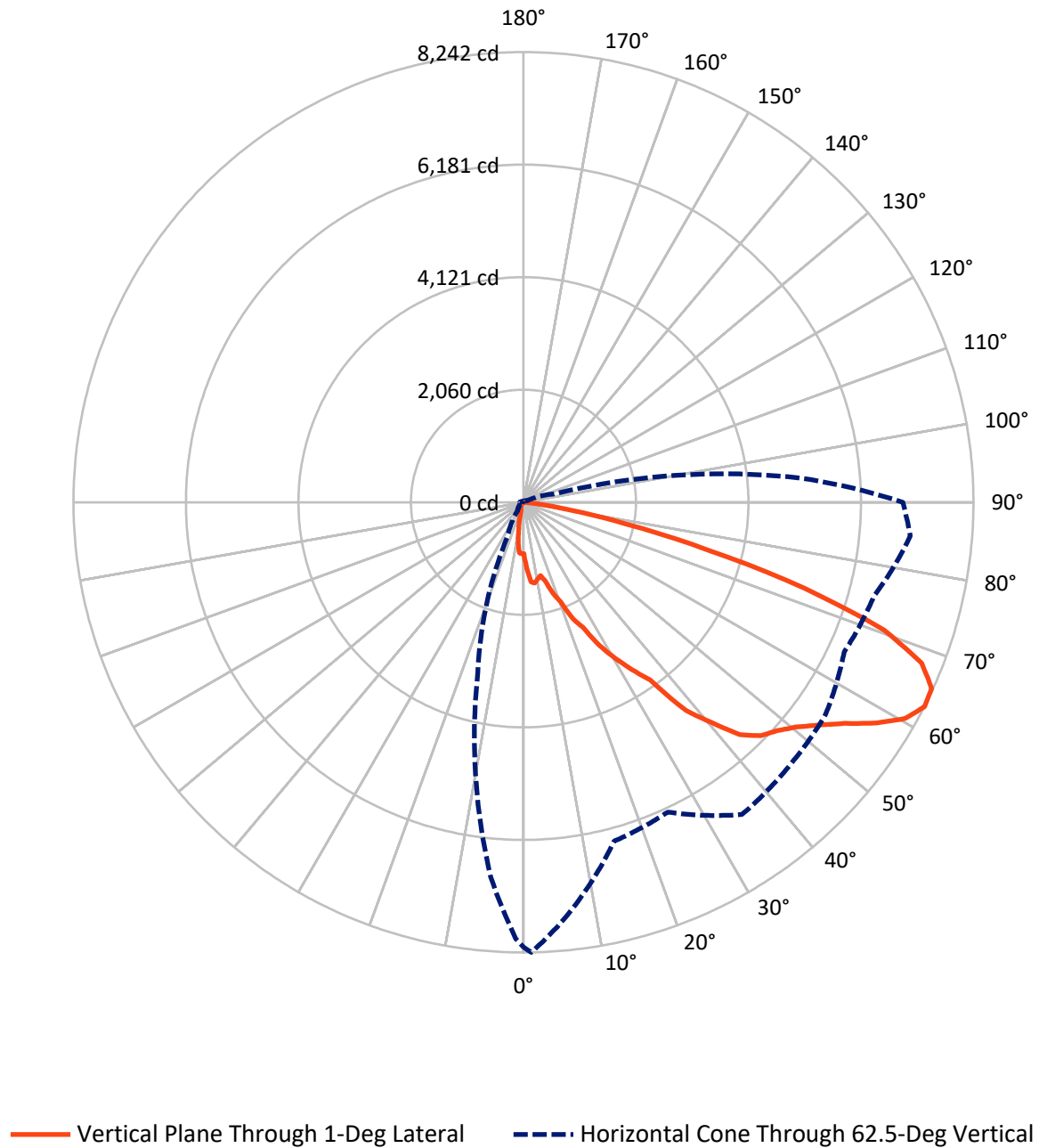
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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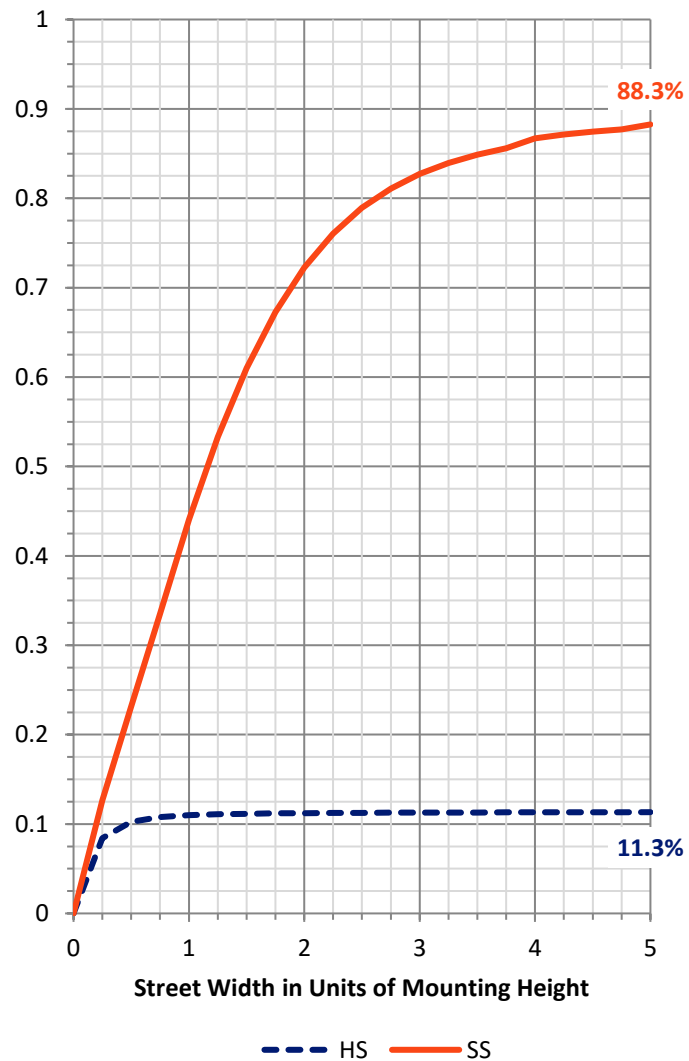
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	891.2	0.0	891.2
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	6901.8	0.0	6901.8
	% Fixture	88.6	0.0	88.6
Total	Lumens	7793.0	0.0	7793.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.9	1.3
10°-20°	274.0	3.5
20°-30°	442.9	5.7
30°-40°	741.8	9.5
40°-50°	1213.0	15.6
50°-60°	1795.6	23.0
60°-70°	2061.5	26.5
70°-80°	1019.4	13.1
80°-90°	139.9	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°	7793.0	100.0
0°-180°	7793.0	100.0

Coefficient of Utilization



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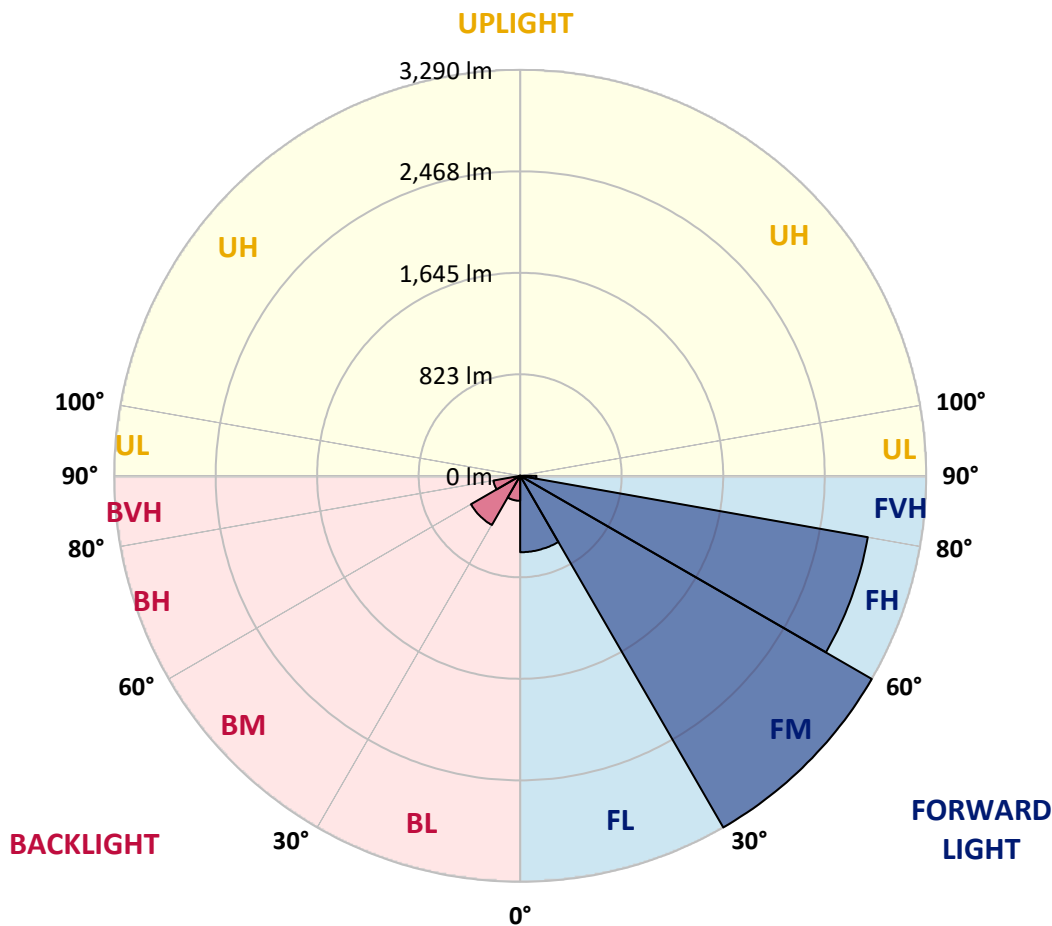
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	619.0	7.9			
FM	(30°-60°)	3290.1	42.2			
FH	(60°-80°)	2860.5	36.7			G2/5000
FVH	(80°-90°)	132.2	1.7			G2/225
BL	(0°-30°)	202.8	2.6	B1/500		
BM	(30°-60°)	460.3	5.9	B1/1000		
BH	(60°-80°)	220.4	2.8	B1/500		G1/500
BVH	(80°-90°)	7.8	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	938.8	938.8	938.8	938.8	938.8	938.8	938.8	938.8	938.8	938.8	938.8
2.5°	1210.6	1216.3	1189.3	1185.7	1122.6	1201.2	1203.5	1212.8	1155.1	1043.2	1199.5
5°	1448.6	1464.6	1443.7	1536.5	1563.2	1620.5	1515.2	1609.4	1569.4	1580.5	1603.1
7.5°	1477.0	1493.5	1537.4	1692.8	1836.3	1800.3	1788.8	1824.3	1821.2	1739.0	1779.9
10°	1418.0	1431.7	1505.0	1787.9	1850.5	2012.1	2051.7	1970.0	1936.6	1756.8	1678.2
12.5°	1353.6	1376.7	1469.9	1809.2	1997.0	2160.5	2290.6	2174.2	2063.7	1872.3	1800.3
15°	1477.0	1489.9	1636.4	1853.6	2017.9	2130.7	2237.3	2198.7	2181.8	2044.1	1800.3
17.5°	1719.0	1749.2	1855.4	1962.4	2092.1	2160.0	2134.7	2122.7	2079.6	2295.9	2043.7
20°	1891.4	1947.7	2086.7	2132.9	2029.9	2093.4	2077.9	2067.2	2033.5	2435.8	2323.4
22.5°	2264.4	2316.3	2319.0	2335.4	2095.6	1994.4	1968.6	1971.7	2124.9	2477.5	2671.6
25°	2518.4	2536.2	2676.5	2559.3	2275.0	2024.6	1926.4	1970.4	2191.1	2777.7	2998.9
27.5°	2934.1	2976.2	3063.7	2666.7	2382.5	2005.5	1849.2	2009.0	2365.2	2877.2	3362.6
30°	3272.9	3313.3	3454.1	2813.7	2475.8	2100.1	1882.5	2086.7	2473.5	3081.9	3689.4
32.5°	3547.8	3652.1	3812.0	3040.6	2472.2	2208.9	2052.6	2061.0	2606.8	3347.1	4012.7
35°	3899.0	3996.3	4108.7	3197.0	2633.9	2244.0	2102.7	2314.1	2804.8	3624.2	4447.9
37.5°	4690.9	4837.8	4615.8	3590.9	2822.1	2561.0	2300.8	2470.0	3012.2	3907.0	5046.1
40°	5174.0	5297.9	5083.4	3792.0	3148.1	2720.9	2654.3	2740.9	3215.2	4053.1	5496.9
42.5°	5650.1	5813.5	5455.1	4094.9	3457.6	3172.1	2990.0	3059.7	3508.7	4405.7	6004.0
45°	5994.7	6095.9	5535.5	4253.4	3883.1	3686.3	3565.1	3461.2	3918.1	4632.2	6331.3
47.5°	6167.9	6248.7	5694.0	4303.6	4136.2	4230.3	4495.9	4278.7	4280.5	4796.1	6507.6
50°	6407.7	6464.1	5782.9	4363.6	4411.1	5078.1	5212.2	4749.9	4694.4	4960.4	6536.5
52.5°	6744.7	6772.3	5955.2	4521.7	4822.7	5742.0	5790.4	5603.4	5108.7	5265.9	6600.4
55°	7192.8	7144.4	6262.9	4853.8	5252.2	6228.3	6293.1	6130.1	5629.6	5571.0	6798.5
57.5°	7676.0	7620.5	6719.0	5321.9	5718.0	6600.0	6638.6	6651.5	5975.6	5841.0	7135.1
60°	8022.4	8032.6	7293.2	5858.8	6007.6	6955.7	6878.4	6761.2	6324.6	6236.7	7299.0
62.5°	8143.6	8241.7	7740.4	6421.4	6257.1	6977.9	6858.0	6758.9	6480.9	6644.8	7111.1
65°	8044.6	8216.0	7844.3	6915.7	6408.1	6699.4	6574.7	6511.1	6476.1	6811.3	6695.4
67.5°	7651.1	7865.6	7546.7	6920.1	5859.2	5704.2	5851.7	6052.9	5936.5	6673.2	6113.2
70°	6769.6	7004.5	6856.2	6514.3	4880.9	4487.9	4650.4	4954.6	4872.5	5935.2	5256.6
72.5°	5079.0	5381.0	5410.3	5623.9	3874.6	3377.7	3401.2	3392.8	3534.5	4785.9	4102.0
75°	3262.7	3497.6	3815.1	4538.1	2943.4	2466.0	2240.4	2185.3	2449.6	3739.6	2936.7
77.5°	1894.0	1922.0	2068.5	3423.9	2108.1	1776.8	1623.1	1701.7	1794.1	2609.9	1946.4
80°	905.9	920.1	980.5	1761.7	1464.6	1537.9	1419.3	1507.7	1231.9	1500.1	1104.4
82.5°	287.3	290.4	300.6	865.5	909.5	1018.7	652.8	875.3	761.6	906.8	735.4
85°	48.0	81.7	100.8	250.0	513.4	343.7	141.7	312.2	425.0	572.0	334.0
87.5°	0.0	0.0	0.0	4.4	41.7	19.5	3.1	17.8	65.3	127.5	15.1
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°	938.8	938.8	938.8	938.8	938.8	938.8	938.8	938.8	938.8	938.8	938.8
2.5°	1244.8	1275.4	1159.9	1056.5	1082.7	1061.8	1030.3	976.5	852.2	943.7	937.5
5°	1601.8	1545.0	1388.6	1315.8	1227.0	1091.6	1075.1	971.2	925.5	933.0	926.4
7.5°	1726.2	1624.5	1486.3	1267.0	1058.7	863.3	803.3	735.4	721.6	750.9	770.0
10°	1628.5	1520.5	1399.8	1127.1	966.8	825.6	677.7	582.6	531.1	524.9	530.2
12.5°	1673.3	1557.0	1308.3	1099.5	932.1	804.2	639.0	495.6	383.7	392.1	369.9
15°	1704.4	1570.7	1286.5	1041.8	860.6	689.7	490.7	347.3	255.8	229.1	213.2
17.5°	1886.9	1696.0	1259.0	975.2	760.7	536.9	308.2	201.2	171.4	162.1	154.5
20°	2121.4	1850.1	1258.5	905.0	613.3	335.7	192.3	145.7	138.6	143.9	138.1
22.5°	2394.1	2055.2	1325.6	817.6	440.1	211.8	149.7	129.2	122.1	126.6	127.0
25°	2668.5	2363.0	1380.2	734.5	306.4	162.5	133.2	119.0	111.0	115.0	112.8
27.5°	3164.1	2617.9	1367.8	628.4	225.6	143.0	123.9	111.5	99.5	105.7	105.2
30°	3488.3	3067.7	1416.2	479.6	179.0	125.2	115.5	101.7	88.8	95.9	95.5
32.5°	3876.0	3260.9	1468.6	368.1	148.8	118.6	103.9	90.6	83.0	87.5	86.6
35°	4311.6	3642.8	1372.2	306.4	129.2	107.0	91.9	81.7	75.1	77.3	77.3
37.5°	5081.2	3962.1	1314.5	249.6	120.3	96.8	86.2	73.7	69.7	69.7	71.9
40°	5518.2	4449.7	1142.2	197.6	123.0	89.3	80.4	67.5	62.2	61.7	63.9
42.5°	6086.6	4730.8	1034.3	159.9	111.5	87.0	73.7	61.3	55.1	54.6	56.8
45°	6423.7	4888.0	882.4	125.7	99.9	101.3	68.4	56.4	47.1	45.3	49.3
47.5°	6636.4	5096.3	796.2	99.9	87.0	100.8	66.6	48.8	39.5	37.3	40.9
50°	6744.3	5199.3	779.4	85.7	75.5	90.1	76.4	40.9	33.8	30.6	33.8
52.5°	6856.6	5366.7	785.6	79.0	66.6	72.4	72.4	35.1	29.8	26.2	28.4
55°	7083.6	5614.1	771.8	75.1	61.3	55.1	46.6	31.1	27.1	23.1	25.3
57.5°	7362.5	5791.7	771.8	71.5	56.8	47.1	37.3	28.9	24.9	20.0	21.8
60°	7309.6	5604.8	733.6	67.9	53.3	44.0	33.8	26.6	23.1	18.2	19.5
62.5°	6946.8	5096.3	594.2	62.6	50.2	41.7	30.6	25.3	21.8	16.0	17.3
65°	6520.5	4556.3	413.0	56.8	46.6	37.7	27.5	24.0	20.0	14.2	15.1
67.5°	6007.1	3912.8	229.1	51.1	43.1	32.9	25.3	23.5	19.1	12.9	13.8
70°	5116.3	2954.0	123.0	46.6	40.4	30.2	24.0	23.5	19.1	12.4	12.9
72.5°	3840.9	1860.3	71.9	42.6	36.9	28.0	22.6	24.0	18.7	12.0	12.0
75°	2613.4	1129.3	51.5	36.4	32.9	23.5	21.8	23.1	19.1	12.0	11.1
77.5°	1776.8	793.6	42.2	32.9	29.8	20.9	22.2	23.1	19.1	9.8	7.5
80°	1109.3	409.4	32.0	26.2	25.8	18.2	22.2	20.0	12.4	2.2	0.0
82.5°	775.8	152.3	18.7	20.0	20.0	12.9	17.3	14.2	7.1	0.0	0.0
85°	325.5	26.2	10.2	14.2	12.4	7.5	13.8	10.7	4.4	0.0	0.0
87.5°	5.8	0.0	4.0	8.4	8.9	4.4	7.1	4.4	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°	938.8	938.8	938.8	938.8	938.8	938.8	938.8	938.8	938.8	938.8	938.8
2.5°	966.8	924.6	835.8	878.4	874.0	893.5	895.3	850.0	947.7	1008.1	1017.0
5°	927.2	898.8	893.9	869.5	863.3	899.3	879.7	878.4	925.5	994.3	994.7
7.5°	770.5	748.7	758.9	730.5	657.2	661.7	668.3	696.3	736.7	782.0	798.5
10°	528.9	585.3	544.0	540.4	532.9	509.4	490.7	505.4	557.8	599.5	615.1
12.5°	377.5	386.4	411.7	402.3	415.2	395.2	387.7	433.4	484.5	527.1	557.8
15°	220.7	235.8	250.9	282.9	295.8	291.8	314.9	353.0	394.3	413.9	451.6
17.5°	155.4	156.8	159.9	194.5	217.2	226.0	239.8	268.7	285.5	294.4	310.0
20°	135.9	131.9	126.6	146.1	167.4	178.5	174.5	197.2	210.9	219.8	230.9
22.5°	123.0	116.3	113.2	119.9	136.3	146.1	147.9	161.2	182.1	188.3	191.8
25°	111.0	106.6	104.4	107.9	116.8	126.1	127.9	145.2	163.9	166.5	173.6
27.5°	103.0	94.6	95.5	98.1	102.1	113.7	117.2	127.0	154.1	157.2	159.4
30°	94.6	85.7	88.4	91.0	89.3	103.5	108.8	119.9	146.1	151.0	153.7
32.5°	86.2	79.5	79.0	81.7	84.8	92.4	103.9	116.8	140.8	147.4	154.1
35°	76.8	71.5	72.4	72.8	76.8	86.6	95.0	101.7	118.1	121.7	123.9
37.5°	70.2	65.7	64.8	69.3	73.3	80.8	83.9	87.0	108.8	116.8	117.2
40°	62.2	59.5	59.5	62.6	71.5	70.6	74.6	84.4	105.2	113.7	114.6
42.5°	56.4	52.8	53.7	56.8	63.1	58.6	66.6	80.8	103.9	112.4	111.9
45°	47.5	46.6	48.4	51.1	53.7	49.7	62.2	77.3	99.5	110.6	107.5
47.5°	39.5	39.5	41.7	44.4	43.1	44.4	56.4	72.4	96.8	107.0	104.8
50°	32.4	32.9	35.1	39.5	35.5	39.1	50.6	67.5	92.4	103.5	101.7
52.5°	27.5	28.0	29.3	32.4	30.6	35.5	46.6	62.6	87.9	97.3	96.4
55°	24.0	24.9	24.9	26.6	27.5	33.3	42.2	57.7	81.3	91.5	89.7
57.5°	21.3	22.2	21.8	23.1	24.0	29.3	37.7	52.4	74.6	83.0	80.4
60°	19.1	20.0	19.5	21.3	20.9	25.3	32.9	46.6	67.5	74.2	71.9
62.5°	16.9	17.8	17.8	18.7	19.1	21.3	28.4	41.3	60.4	65.7	63.9
65°	15.1	16.0	16.4	16.0	16.9	18.2	24.0	37.3	52.4	57.7	55.1
67.5°	13.8	14.7	15.5	13.8	14.7	15.1	20.4	33.3	46.2	50.6	48.4
70°	13.3	13.8	13.8	12.0	11.5	12.0	17.8	28.4	40.4	44.9	41.7
72.5°	12.4	12.9	12.4	9.8	8.4	9.3	15.1	24.0	34.2	37.7	35.1
75°	11.5	12.0	11.5	8.0	5.3	6.7	12.4	20.9	29.3	31.1	29.8
77.5°	9.8	10.7	10.7	5.8	1.8	4.0	9.3	16.9	24.4	24.4	24.9
80°	0.9	2.7	4.4	3.1	0.0	0.4	3.1	8.9	15.5	15.1	16.4
82.5°	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	5.3	4.0	4.4
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°	938.8	938.8	938.8	938.8	938.8	938.8	938.8	938.8	938.8	938.8
2.5°	996.1	982.3	999.6	1052.5	1031.2	1035.2	1020.9	1108.4	1207.5	1210.6
5°	995.6	983.2	1009.0	1006.7	1067.6	1133.7	1197.7	1301.2	1447.7	1448.6
7.5°	790.9	864.6	883.7	878.0	956.1	1047.1	1145.7	1343.8	1464.1	1477.0
10°	713.2	745.2	784.3	798.5	830.9	917.5	1028.9	1253.2	1388.2	1418.0
12.5°	618.2	720.3	772.3	873.1	891.7	904.2	1080.0	1275.0	1357.1	1353.6
15°	512.0	600.8	683.0	806.0	856.6	987.2	1125.8	1381.1	1429.9	1477.0
17.5°	362.4	429.4	555.5	684.8	839.3	981.4	1251.9	1570.7	1663.1	1719.0
20°	242.5	274.9	389.0	560.0	755.8	897.0	1303.4	1742.1	1842.9	1891.4
22.5°	196.7	212.3	271.3	410.3	645.7	893.1	1324.3	1929.1	2200.0	2264.4
25°	173.2	183.9	215.4	303.8	536.0	875.3	1439.7	2139.6	2466.4	2518.4
27.5°	151.4	167.4	191.0	250.5	459.6	862.9	1498.3	2493.1	2883.0	2934.1
30°	144.8	164.3	187.0	228.3	406.3	814.9	1591.6	2811.9	3181.9	3272.9
32.5°	156.3	163.0	174.1	209.2	365.0	764.3	1755.5	3193.0	3429.2	3547.8
35°	123.9	135.9	155.4	191.8	347.7	761.6	1848.3	3438.1	3825.8	3899.0
37.5°	121.2	132.3	157.6	187.0	368.6	782.0	1985.9	3940.3	4540.8	4690.9
40°	117.7	131.9	155.9	184.7	368.6	802.0	2073.9	4342.2	5021.7	5174.0
42.5°	116.3	134.6	155.4	194.1	357.0	813.1	2206.6	4743.3	5529.7	5650.1
45°	115.5	137.2	156.8	205.2	354.4	849.5	2281.7	4938.2	5856.6	5994.7
47.5°	113.2	137.2	175.0	198.5	339.7	846.0	2379.0	5227.3	6051.5	6167.9
50°	111.5	138.1	198.1	186.1	341.9	824.2	2510.8	5498.6	6324.6	6407.7
52.5°	107.5	141.2	194.5	168.8	335.3	822.0	2707.6	5884.5	6683.9	6744.7
55°	98.6	137.2	175.9	147.4	311.7	796.7	2968.3	6386.4	7182.2	7192.8
57.5°	90.6	127.5	147.0	135.4	261.1	799.8	3193.0	6848.2	7626.2	7676.0
60°	82.6	132.3	114.1	126.1	216.3	743.0	3301.8	7025.0	7949.5	8022.4
62.5°	75.1	122.1	97.3	115.9	192.7	690.1	3226.3	6882.8	7990.8	8143.6
65°	66.6	84.8	82.2	103.9	195.0	615.9	2974.0	6466.7	7834.1	8044.6
67.5°	57.3	66.6	72.4	89.7	208.7	552.4	2541.5	5798.8	7412.6	7651.1
70°	50.2	60.0	63.1	78.6	217.2	510.7	2005.5	4872.0	6549.3	6769.6
72.5°	41.7	55.5	56.4	68.8	209.2	469.4	1429.1	3497.6	4973.3	5079.0
75°	36.0	46.2	51.1	57.7	175.9	350.4	787.4	2164.9	3144.6	3262.7
77.5°	32.4	35.1	38.6	40.0	74.6	182.5	270.9	1334.9	1760.8	1894.0
80°	24.9	27.5	26.6	27.5	40.9	63.1	103.0	625.7	831.8	905.9
82.5°	8.0	13.3	14.7	12.4	26.6	31.1	29.8	216.3	270.4	287.3
85°	1.8	4.9	2.2	0.0	8.9	16.0	2.2	32.9	64.8	48.0
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

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