

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: P367379

Luminaire Tested: **MSA-SA2B-830-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367379
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-SA2B-830-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 5774 lumens
Efficiency: N/A
Efficacy: 67.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

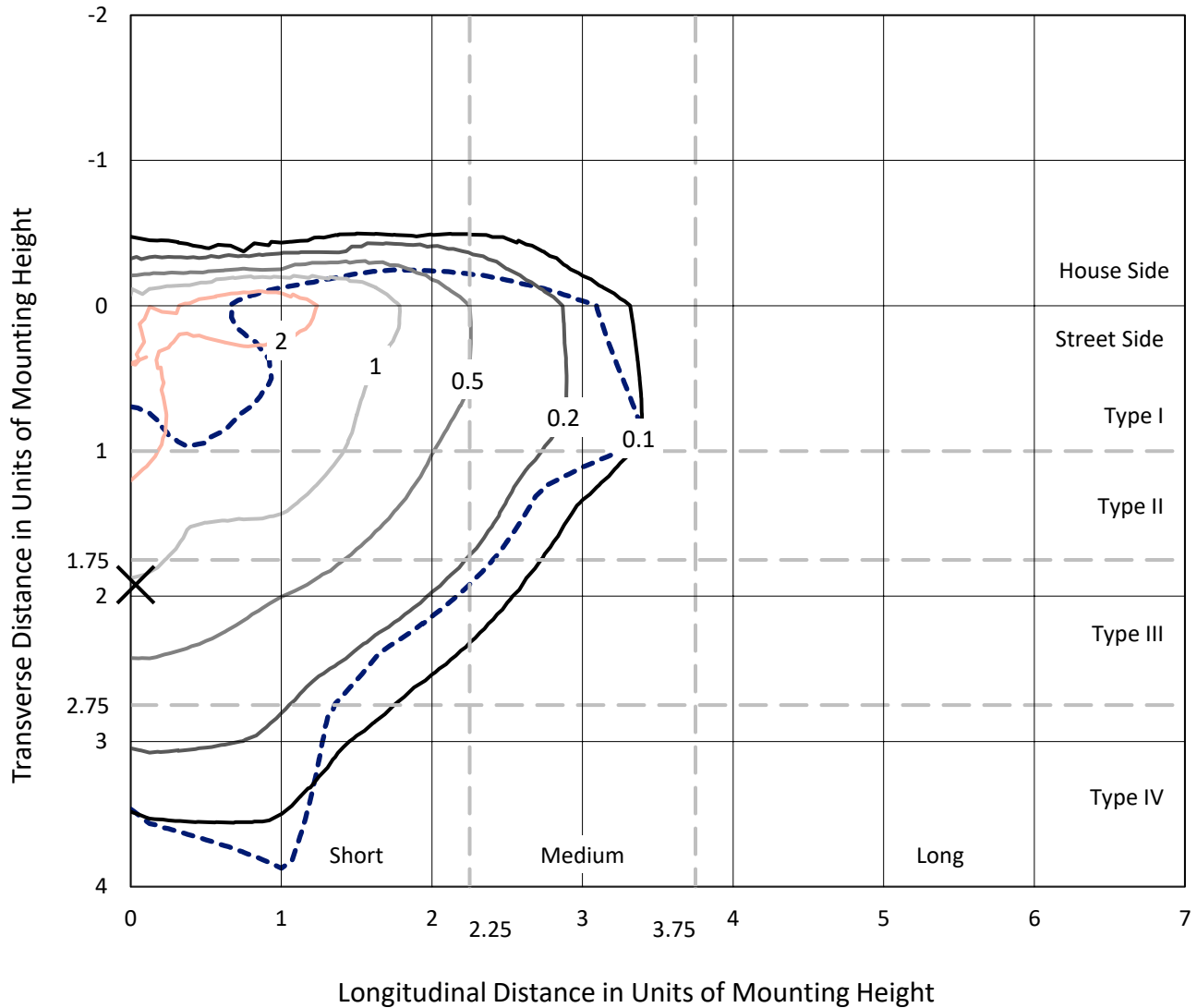
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

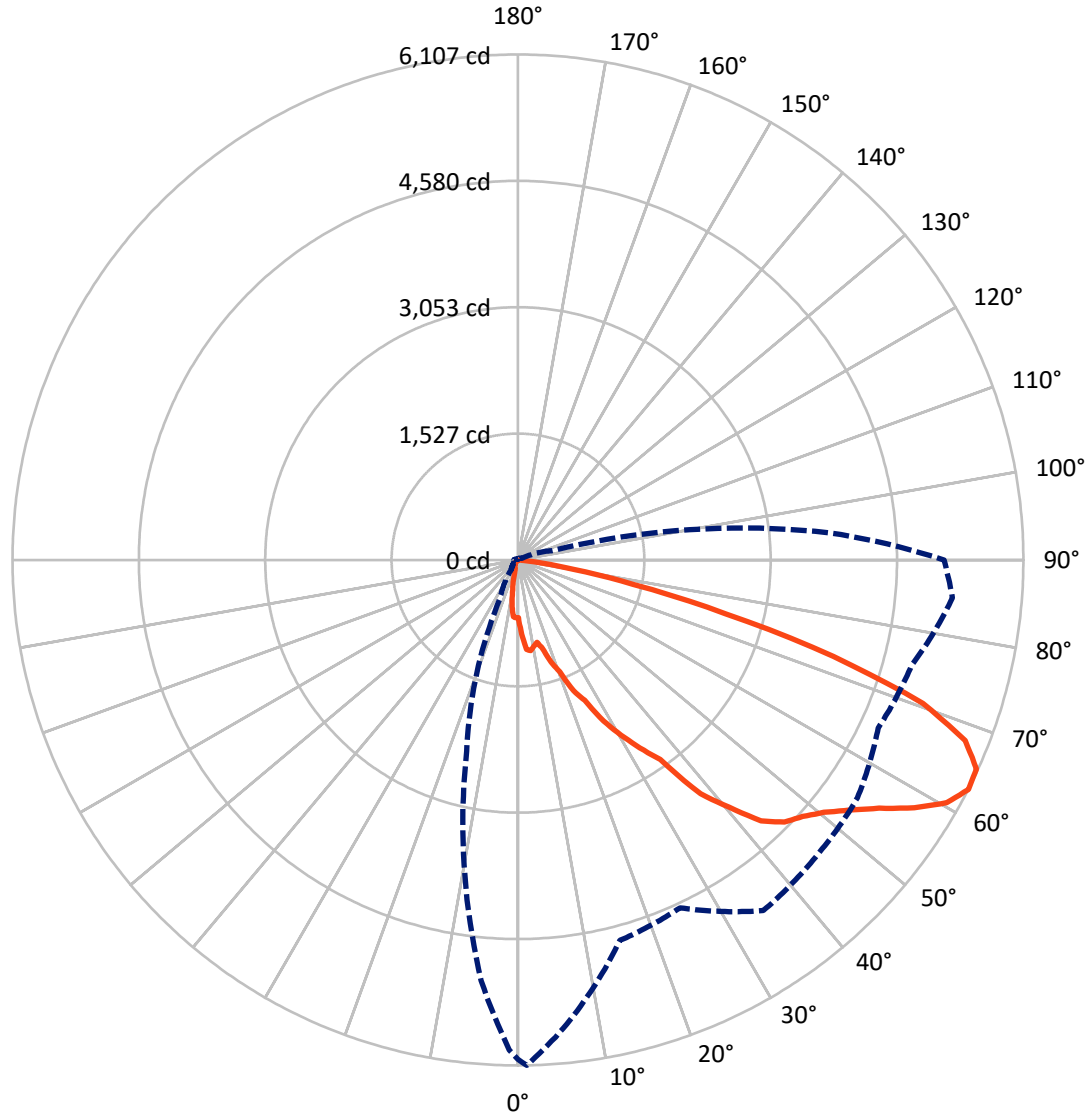
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 1-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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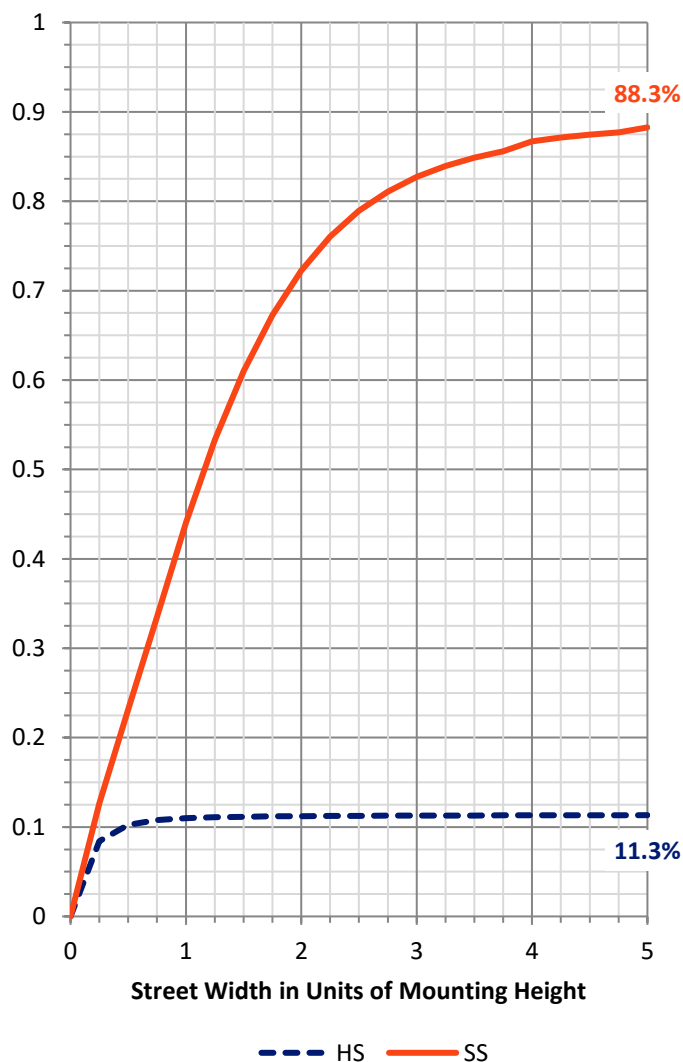
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	660.3	0.0	660.3
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	5113.7	0.0	5113.7
	% Fixture	88.6	0.0	88.6
Total	Lumens	5774.0	0.0	5774.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.7	1.3
10°-20°	203.0	3.5
20°-30°	328.1	5.7
30°-40°	549.6	9.5
40°-50°	898.7	15.6
50°-60°	1330.4	23.0
60°-70°	1527.4	26.5
70°-80°	755.3	13.1
80°-90°	103.7	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°	5774.0	100.0
0°-180°	5774.0	100.0

Coefficient of Utilization



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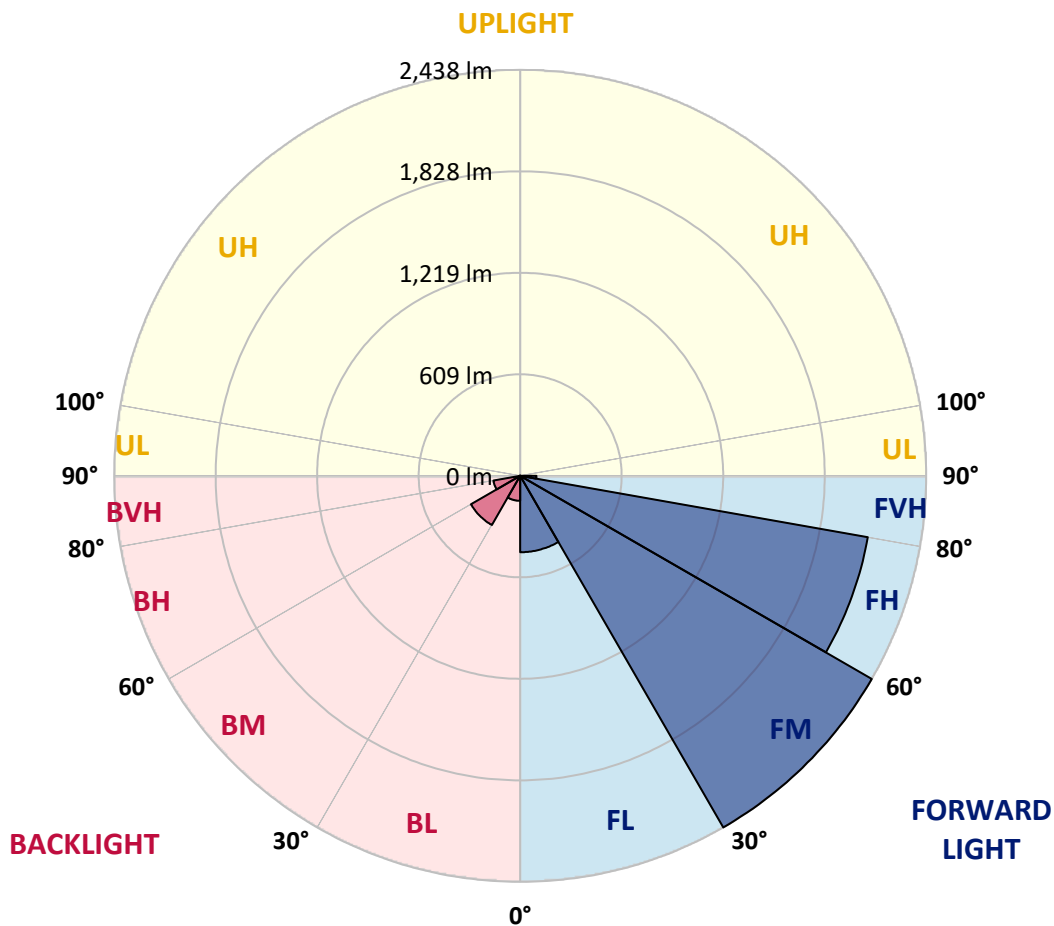
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	458.6	7.9			
FM (30°-60°)	2437.7	42.2			
FH (60°-80°)	2119.4	36.7			G2/5000
FVH (80°-90°)	97.9	1.7			G1/100
BL (0°-30°)	150.2	2.6	B1/500		
BM (30°-60°)	341.0	5.9	B1/1000		
BH (60°-80°)	163.3	2.8	B1/500		G1/500
BVH (80°-90°)	5.7	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°	695.6	695.6	695.6	695.6	695.6	695.6	695.6	695.6	695.6	695.6	695.6
2.5°	896.9	901.2	881.1	878.5	831.8	890.0	891.7	898.6	855.8	772.9	888.7
5°	1073.3	1085.1	1069.7	1138.4	1158.2	1200.6	1122.7	1192.4	1162.8	1171.0	1187.8
7.5°	1094.4	1106.5	1139.1	1254.3	1360.5	1333.9	1325.3	1351.7	1349.4	1288.5	1318.8
10°	1050.6	1060.8	1115.1	1324.7	1371.1	1490.8	1520.1	1459.6	1434.9	1301.6	1243.4
12.5°	1002.9	1020.0	1089.1	1340.5	1479.7	1600.7	1697.1	1610.9	1529.0	1387.2	1333.9
15°	1094.4	1103.9	1212.5	1373.4	1495.1	1578.7	1657.7	1629.0	1616.5	1514.5	1333.9
17.5°	1273.7	1296.1	1374.7	1454.0	1550.1	1600.4	1581.7	1572.8	1540.9	1701.1	1514.2
20°	1401.3	1443.1	1546.1	1580.3	1504.0	1551.1	1539.5	1531.6	1506.6	1804.7	1721.5
22.5°	1677.7	1716.2	1718.2	1730.4	1552.7	1477.7	1458.6	1460.9	1574.4	1835.7	1979.4
25°	1865.9	1879.1	1983.1	1896.2	1685.6	1500.1	1427.3	1459.9	1623.4	2058.1	2221.9
27.5°	2173.9	2205.2	2270.0	1975.8	1765.2	1485.9	1370.1	1488.5	1752.4	2131.8	2491.4
30°	2425.0	2454.9	2559.2	2084.7	1834.3	1556.0	1394.8	1546.1	1832.7	2283.5	2733.6
32.5°	2628.6	2705.9	2824.4	2252.9	1831.7	1636.6	1520.8	1527.0	1931.4	2479.9	2973.1
35°	2888.9	2960.9	3044.2	2368.7	1951.5	1662.6	1558.0	1714.6	2078.2	2685.2	3295.6
37.5°	3475.6	3584.5	3419.9	2660.5	2091.0	1897.5	1704.7	1830.1	2231.8	2894.8	3738.8
40°	3833.5	3925.3	3766.4	2809.6	2332.5	2016.0	1966.6	2030.8	2382.2	3003.1	4072.7
42.5°	4186.3	4307.3	4041.8	3034.0	2561.8	2350.3	2215.4	2267.0	2599.7	3264.3	4448.5
45°	4441.6	4516.6	4101.4	3151.5	2877.0	2731.3	2641.5	2564.5	2903.0	3432.1	4691.0
47.5°	4569.9	4629.8	4218.8	3188.6	3064.6	3134.3	3331.1	3170.2	3171.5	3553.5	4821.6
50°	4747.6	4789.4	4284.6	3233.1	3268.3	3762.5	3861.8	3519.3	3478.2	3675.3	4843.0
52.5°	4997.3	5017.7	4412.3	3350.2	3573.3	4254.4	4290.2	4151.7	3785.2	3901.6	4890.4
55°	5329.3	5293.4	4640.3	3596.3	3891.4	4614.7	4662.7	4541.9	4171.1	4127.7	5037.1
57.5°	5687.3	5646.2	4978.2	3943.1	4236.6	4890.1	4918.7	4928.2	4427.4	4327.7	5286.5
60°	5943.9	5951.5	5403.7	4340.9	4451.1	5153.6	5096.4	5009.5	4686.1	4620.9	5407.9
62.5°	6033.8	6106.5	5735.0	4757.8	4636.0	5170.1	5081.2	5007.8	4801.9	4923.3	5268.8
65°	5960.4	6087.4	5812.0	5124.0	4747.9	4963.8	4871.3	4824.2	4798.3	5046.7	4960.8
67.5°	5668.9	5827.8	5591.5	5127.3	4341.2	4226.4	4335.6	4484.7	4398.5	4944.3	4529.4
70°	5015.7	5189.8	5079.9	4826.6	3616.4	3325.2	3445.6	3671.0	3610.1	4397.5	3894.7
72.5°	3763.1	3986.9	4008.6	4166.8	2870.8	2502.6	2520.0	2513.8	2618.8	3546.0	3039.3
75°	2417.4	2591.4	2826.7	3362.4	2180.8	1827.1	1660.0	1619.2	1814.9	2770.8	2175.9
77.5°	1403.3	1424.0	1532.6	2536.8	1561.9	1316.5	1202.6	1260.8	1329.3	1933.7	1442.1
80°	671.2	681.8	726.5	1305.3	1085.1	1139.4	1051.6	1117.1	912.7	1111.5	818.3
82.5°	212.9	215.2	222.8	641.3	673.9	754.8	483.7	648.5	564.3	671.9	544.9
85°	35.5	60.5	74.7	185.2	380.4	254.7	105.0	231.3	314.9	423.8	247.4
87.5°	0.0	0.0	0.0	3.3	30.9	14.5	2.3	13.2	48.4	94.4	11.2
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°	695.6	695.6	695.6	695.6	695.6	695.6	695.6	695.6	695.6	695.6	695.6
2.5°	922.3	945.0	859.4	782.8	802.2	786.7	763.4	723.5	631.4	699.2	694.6
5°	1186.8	1144.7	1028.9	974.9	909.1	808.8	796.6	719.6	685.7	691.3	686.4
7.5°	1278.9	1203.6	1101.3	938.7	784.4	639.6	595.2	544.9	534.7	556.4	570.5
10°	1206.6	1126.6	1037.1	835.1	716.3	611.7	502.1	431.7	393.5	388.9	392.9
12.5°	1239.8	1153.6	969.3	814.7	690.6	595.9	473.5	367.2	284.3	290.5	274.1
15°	1262.8	1163.8	953.2	771.9	637.7	511.0	363.6	257.3	189.5	169.8	157.9
17.5°	1398.1	1256.6	932.8	722.6	563.6	397.8	228.3	149.1	127.0	120.1	114.5
20°	1571.8	1370.7	932.5	670.6	454.4	248.7	142.5	107.9	102.7	106.6	102.3
22.5°	1773.8	1522.8	982.2	605.7	326.1	156.9	110.9	95.7	90.5	93.8	94.1
25°	1977.1	1750.8	1022.6	544.2	227.0	120.4	98.7	88.2	82.3	85.2	83.6
27.5°	2344.3	1939.6	1013.4	465.6	167.1	105.9	91.8	82.6	73.7	78.3	78.0
30°	2584.5	2272.9	1049.3	355.4	132.6	92.8	85.5	75.3	65.8	71.1	70.7
32.5°	2871.8	2416.1	1088.1	272.8	110.2	87.9	77.0	67.1	61.5	64.8	64.2
35°	3194.6	2699.0	1016.7	227.0	95.7	79.3	68.1	60.5	55.6	57.3	57.3
37.5°	3764.8	2935.6	973.9	184.9	89.2	71.7	63.8	54.6	51.7	51.7	53.3
40°	4088.5	3296.9	846.3	146.4	91.1	66.1	59.6	50.0	46.1	45.7	47.4
42.5°	4509.7	3505.2	766.3	118.5	82.6	64.5	54.6	45.4	40.8	40.5	42.1
45°	4759.4	3621.6	653.8	93.1	74.0	75.0	50.7	41.8	34.9	33.6	36.5
47.5°	4917.0	3776.0	590.0	74.0	64.5	74.7	49.4	36.2	29.3	27.6	30.3
50°	4997.0	3852.3	577.4	63.5	55.9	66.8	56.6	30.3	25.0	22.7	25.0
52.5°	5080.2	3976.3	582.1	58.6	49.4	53.6	53.6	26.0	22.0	19.4	21.1
55°	5248.4	4159.6	571.9	55.6	45.4	40.8	34.5	23.0	20.1	17.1	18.8
57.5°	5455.0	4291.2	571.9	53.0	42.1	34.9	27.6	21.4	18.4	14.8	16.1
60°	5415.8	4152.7	543.6	50.3	39.5	32.6	25.0	19.7	17.1	13.5	14.5
62.5°	5147.0	3776.0	440.2	46.4	37.2	30.9	22.7	18.8	16.1	11.8	12.8
65°	4831.2	3375.9	306.0	42.1	34.5	28.0	20.4	17.8	14.8	10.5	11.2
67.5°	4450.8	2899.1	169.8	37.8	31.9	24.3	18.8	17.4	14.1	9.5	10.2
70°	3790.8	2188.7	91.1	34.5	29.9	22.4	17.8	17.4	14.1	9.2	9.5
72.5°	2845.8	1378.3	53.3	31.6	27.3	20.7	16.8	17.8	13.8	8.9	8.9
75°	1936.3	836.7	38.2	27.0	24.3	17.4	16.1	17.1	14.1	8.9	8.2
77.5°	1316.5	588.0	31.3	24.3	22.0	15.5	16.5	17.1	14.1	7.2	5.6
80°	821.9	303.4	23.7	19.4	19.1	13.5	16.5	14.8	9.2	1.6	0.0
82.5°	574.8	112.9	13.8	14.8	14.8	9.5	12.8	10.5	5.3	0.0	0.0
85°	241.2	19.4	7.6	10.5	9.2	5.6	10.2	7.9	3.3	0.0	0.0
87.5°	4.3	0.0	3.0	6.3	6.6	3.3	5.3	3.3	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°	695.6	695.6	695.6	695.6	695.6	695.6	695.6	695.6	695.6	695.6	695.6
2.5°	716.3	685.0	619.2	650.8	647.5	662.0	663.3	629.8	702.2	746.9	753.5
5°	687.0	666.0	662.3	644.2	639.6	666.3	651.8	650.8	685.7	736.7	737.0
7.5°	570.9	554.7	562.3	541.3	487.0	490.3	495.2	515.9	545.9	579.4	591.6
10°	391.9	433.7	403.1	400.4	394.8	377.4	363.6	374.4	413.3	444.2	455.7
12.5°	279.7	286.3	305.0	298.1	307.6	292.8	287.2	321.1	359.0	390.6	413.3
15°	163.5	174.7	185.9	209.6	219.1	216.2	233.3	261.6	292.2	306.7	334.6
17.5°	115.2	116.1	118.5	144.1	160.9	167.5	177.7	199.1	211.6	218.1	229.7
20°	100.7	97.7	93.8	108.3	124.0	132.3	129.3	146.1	156.3	162.9	171.1
22.5°	91.1	86.2	83.9	88.8	101.0	108.3	109.6	119.4	134.9	139.5	142.1
25°	82.3	79.0	77.3	80.0	86.5	93.4	94.8	107.6	121.4	123.4	128.7
27.5°	76.3	70.1	70.7	72.7	75.7	84.2	86.9	94.1	114.2	116.5	118.1
30°	70.1	63.5	65.5	67.5	66.1	76.7	80.6	88.8	108.3	111.9	113.8
32.5°	63.8	58.9	58.6	60.5	62.8	68.4	77.0	86.5	104.3	109.2	114.2
35°	56.9	53.0	53.6	54.0	56.9	64.2	70.4	75.3	87.5	90.2	91.8
37.5°	52.0	48.7	48.0	51.3	54.3	59.9	62.2	64.5	80.6	86.5	86.9
40°	46.1	44.1	44.1	46.4	53.0	52.3	55.3	62.5	78.0	84.2	84.9
42.5°	41.8	39.2	39.8	42.1	46.7	43.4	49.4	59.9	77.0	83.2	82.9
45°	35.2	34.5	35.9	37.8	39.8	36.9	46.1	57.3	73.7	81.9	79.6
47.5°	29.3	29.3	30.9	32.9	31.9	32.9	41.8	53.6	71.7	79.3	77.7
50°	24.0	24.3	26.0	29.3	26.3	29.0	37.5	50.0	68.4	76.7	75.3
52.5°	20.4	20.7	21.7	24.0	22.7	26.3	34.5	46.4	65.1	72.1	71.4
55°	17.8	18.4	18.4	19.7	20.4	24.7	31.3	42.8	60.2	67.8	66.5
57.5°	15.8	16.5	16.1	17.1	17.8	21.7	28.0	38.8	55.3	61.5	59.6
60°	14.1	14.8	14.5	15.8	15.5	18.8	24.3	34.5	50.0	54.9	53.3
62.5°	12.5	13.2	13.2	13.8	14.1	15.8	21.1	30.6	44.7	48.7	47.4
65°	11.2	11.8	12.2	11.8	12.5	13.5	17.8	27.6	38.8	42.8	40.8
67.5°	10.2	10.9	11.5	10.2	10.9	11.2	15.1	24.7	34.2	37.5	35.9
70°	9.9	10.2	10.2	8.9	8.6	8.9	13.2	21.1	29.9	33.2	30.9
72.5°	9.2	9.5	9.2	7.2	6.3	6.9	11.2	17.8	25.3	28.0	26.0
75°	8.6	8.9	8.6	5.9	3.9	4.9	9.2	15.5	21.7	23.0	22.0
77.5°	7.2	7.9	7.9	4.3	1.3	3.0	6.9	12.5	18.1	18.1	18.4
80°	0.7	2.0	3.3	2.3	0.0	0.3	2.3	6.6	11.5	11.2	12.2
82.5°	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	3.9	3.0	3.3
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°	695.6	695.6	695.6	695.6	695.6	695.6	695.6	695.6	695.6	695.6
2.5°	738.0	727.8	740.6	779.8	764.0	767.0	756.4	821.3	894.6	896.9
5°	737.7	728.5	747.6	745.9	791.0	840.0	887.4	964.1	1072.6	1073.3
7.5°	586.0	640.6	654.8	650.5	708.4	775.9	848.9	995.6	1084.8	1094.4
10°	528.4	552.1	581.1	591.6	615.6	679.8	762.4	928.5	1028.5	1050.6
12.5°	458.0	533.7	572.2	646.9	660.7	669.9	800.2	944.6	1005.5	1002.9
15°	379.4	445.2	506.0	597.2	634.7	731.4	834.1	1023.3	1059.5	1094.4
17.5°	268.5	318.2	411.6	507.4	621.9	727.2	927.5	1163.8	1232.2	1273.7
20°	179.7	203.7	288.2	414.9	560.0	664.6	965.7	1290.8	1365.5	1401.3
22.5°	145.8	157.3	201.0	304.0	478.4	661.7	981.2	1429.3	1630.0	1677.7
25°	128.3	136.2	159.6	225.1	397.1	648.5	1066.7	1585.3	1827.4	1865.9
27.5°	112.2	124.0	141.5	185.6	340.5	639.3	1110.1	1847.2	2136.1	2173.9
30°	107.3	121.7	138.5	169.1	301.1	603.8	1179.2	2083.4	2357.5	2425.0
32.5°	115.8	120.8	129.0	155.0	270.5	566.3	1300.7	2365.7	2540.8	2628.6
35°	91.8	100.7	115.2	142.1	257.6	564.3	1369.4	2547.4	2834.6	2888.9
37.5°	89.8	98.1	116.8	138.5	273.1	579.4	1471.4	2919.5	3364.3	3475.6
40°	87.2	97.7	115.5	136.9	273.1	594.2	1536.6	3217.3	3720.7	3833.5
42.5°	86.2	99.7	115.2	143.8	264.5	602.5	1635.0	3514.4	4097.1	4186.3
45°	85.5	101.7	116.1	152.0	262.6	629.4	1690.6	3658.8	4339.3	4441.6
47.5°	83.9	101.7	129.6	147.1	251.7	626.8	1762.6	3873.0	4483.7	4569.9
50°	82.6	102.3	146.7	137.9	253.4	610.7	1860.3	4074.1	4686.1	4747.6
52.5°	79.6	104.6	144.1	125.0	248.4	609.0	2006.1	4360.0	4952.2	4997.3
55°	73.0	101.7	130.3	109.2	231.0	590.3	2199.2	4731.8	5321.4	5329.3
57.5°	67.1	94.4	108.9	100.4	193.5	592.6	2365.7	5074.0	5650.4	5687.3
60°	61.2	98.1	84.6	93.4	160.2	550.5	2446.3	5204.9	5890.0	5943.9
62.5°	55.6	90.5	72.1	85.9	142.8	511.3	2390.4	5099.6	5920.6	6033.8
65°	49.4	62.8	60.9	77.0	144.4	456.4	2203.5	4791.3	5804.4	5960.4
67.5°	42.4	49.4	53.6	66.5	154.6	409.3	1883.0	4296.5	5492.2	5668.9
70°	37.2	44.4	46.7	58.2	160.9	378.4	1485.9	3609.8	4852.5	5015.7
72.5°	30.9	41.1	41.8	51.0	155.0	347.8	1058.8	2591.4	3684.8	3763.1
75°	26.7	34.2	37.8	42.8	130.3	259.6	583.4	1604.0	2329.9	2417.4
77.5°	24.0	26.0	28.6	29.6	55.3	135.2	200.7	989.1	1304.6	1403.3
80°	18.4	20.4	19.7	20.4	30.3	46.7	76.3	463.6	616.3	671.2
82.5°	5.9	9.9	10.9	9.2	19.7	23.0	22.0	160.2	200.4	212.9
85°	1.3	3.6	1.6	0.0	6.6	11.8	1.6	24.3	48.0	35.5
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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