

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: LUMARK

Report Number: P270450

Luminaire Tested: **NAV-AF-03-D-UNV-SLL-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270450
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24264)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-SLL-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 615mA 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: 9158.2 lumens
Efficiency: N/A
Efficacy: 95.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

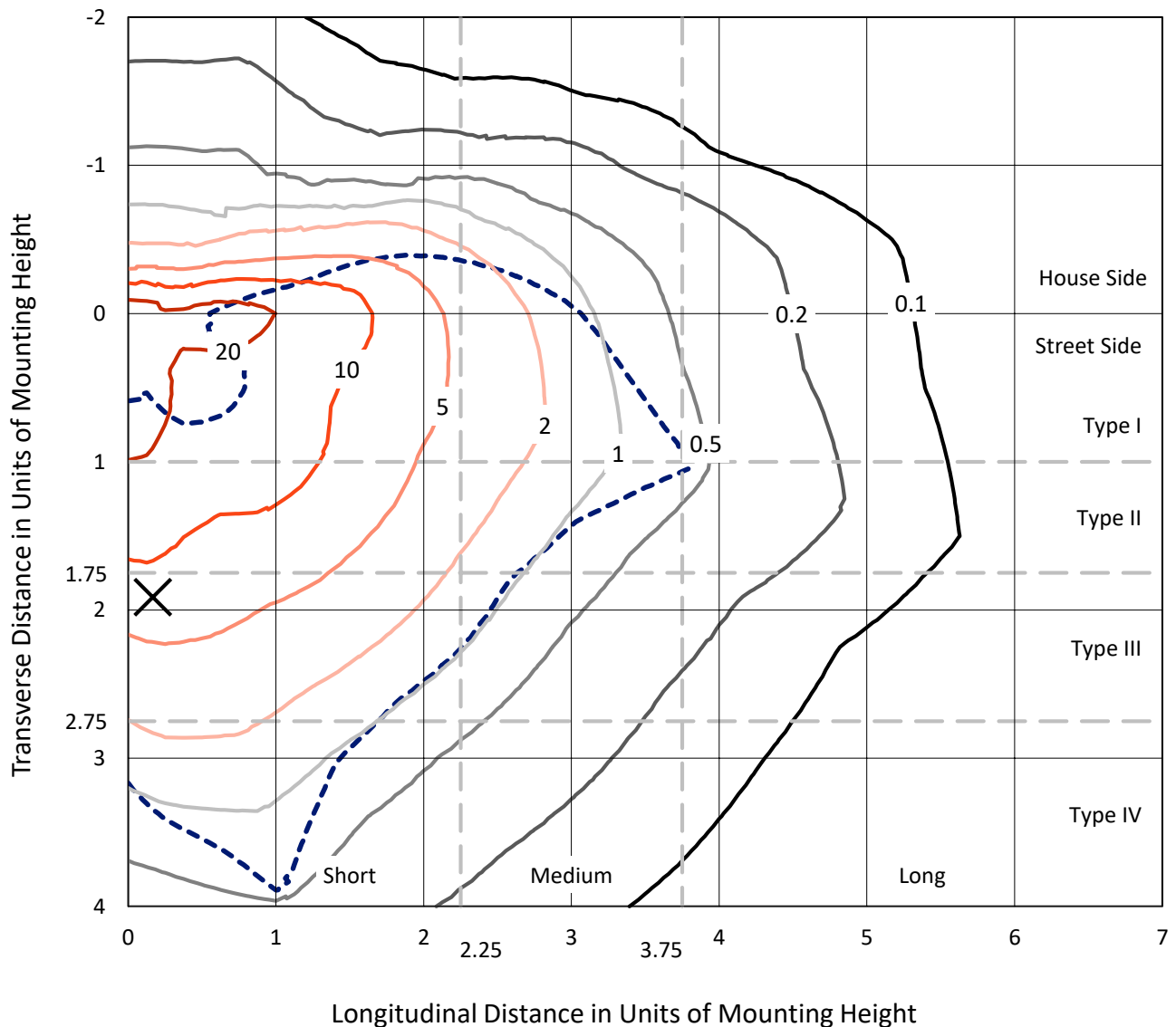
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

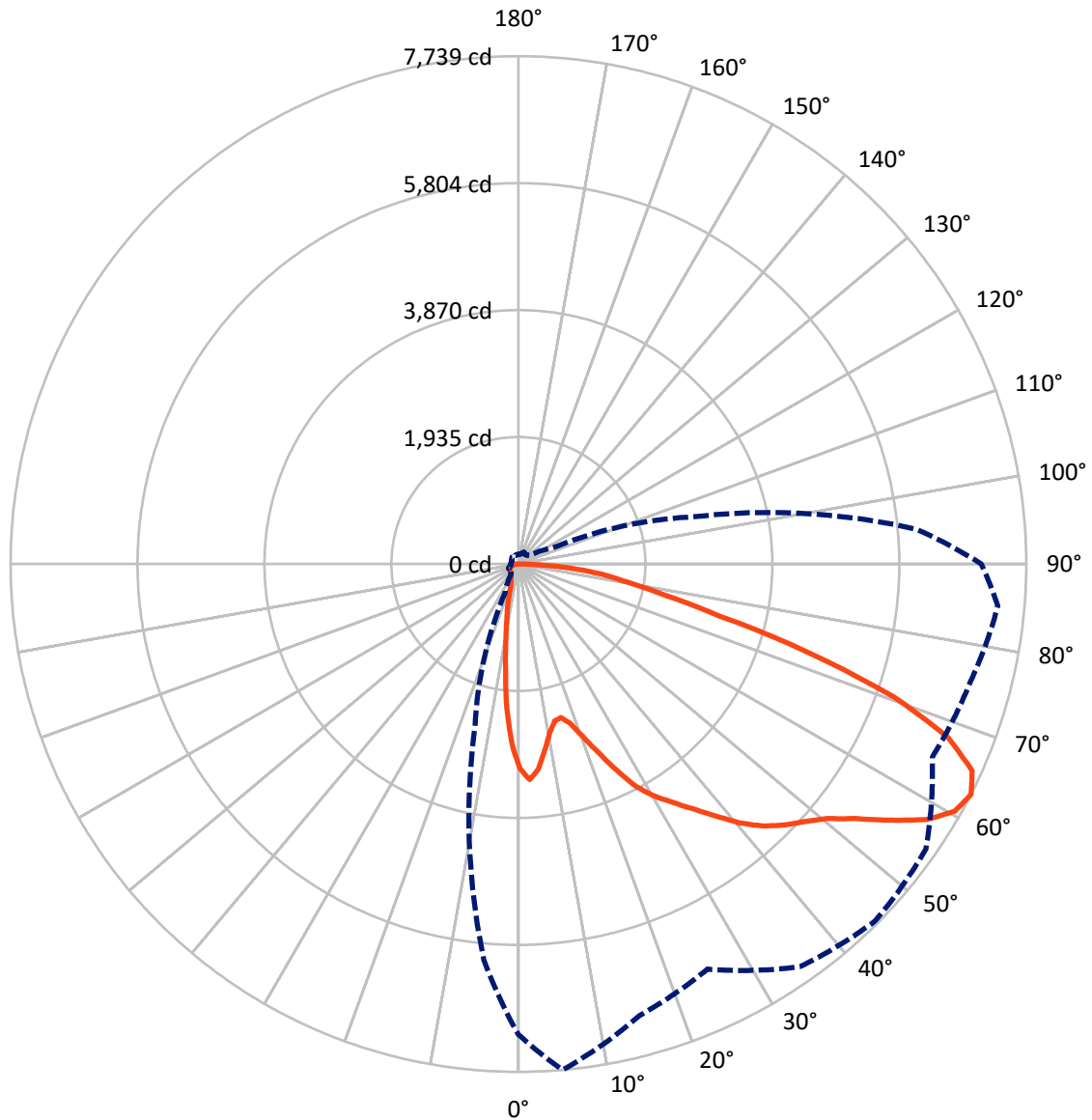
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 35.8 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1622.4	0.0	1622.4
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	7535.8	0.0	7535.8
	% Fixture	82.3	0.0	82.3
Total	Lumens	9158.2	0.0	9158.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	227.1	2.5
10°-20°	414.7	4.5
20°-30°	596.5	6.5
30°-40°	913.6	10.0
40°-50°	1335.7	14.6
50°-60°	1943.4	21.2
60°-70°	2251.7	24.6
70°-80°	1173.8	12.8
80°-90°	301.7	3.3
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°	9158.2	100.0
0°-180°	9158.2	100.0



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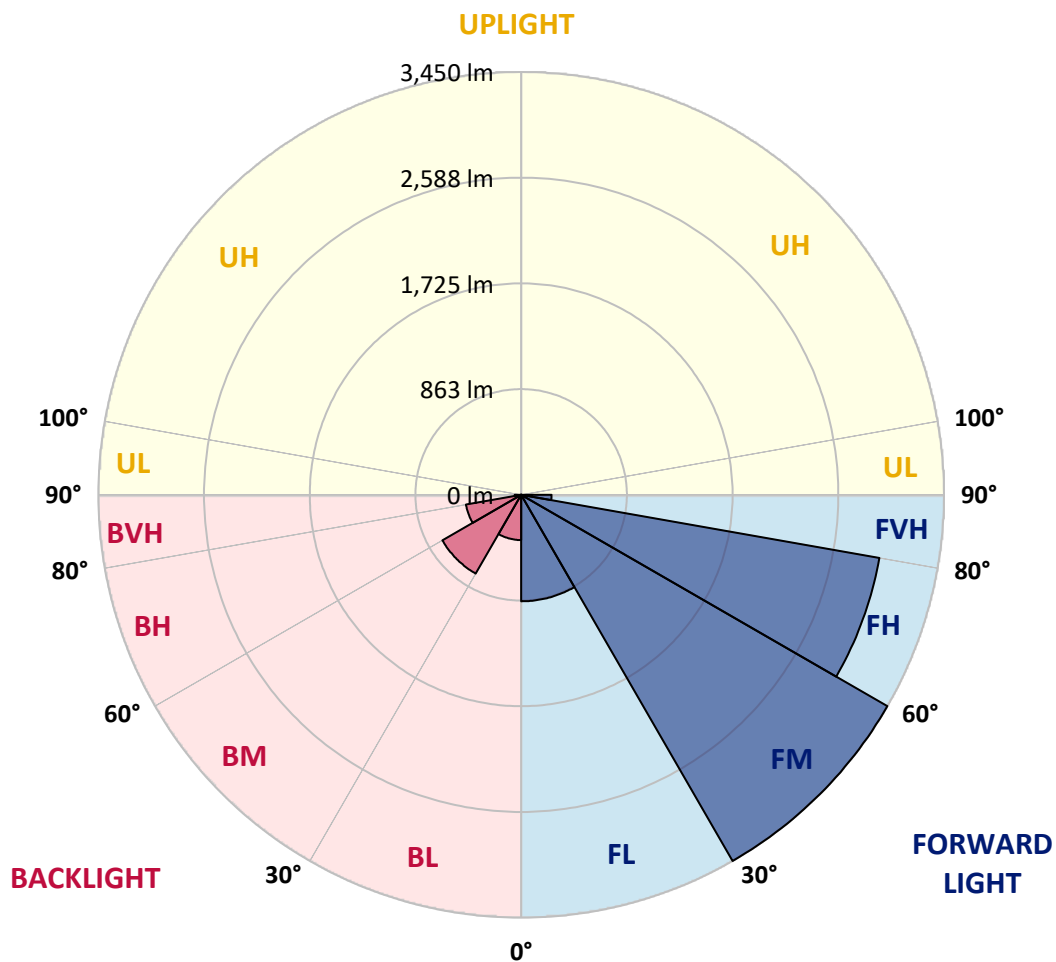
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	869.2	9.5			
FM	(30°-60°)	3450.4	37.7			
FH	(60°-80°)	2968.0	32.4			G2/5000
FVH	(80°-90°)	248.2	2.7			G3/500
BL	(0°-30°)	369.1	4.0	B1/500		
BM	(30°-60°)	742.3	8.1	B1/1000		
BH	(60°-80°)	457.5	5.0	B1/500		G1/500
BVH	(80°-90°)	53.5	0.6			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1
2.5°	3223.2	3291.5	3369.9	3472.2	3541.8	3569.8	3593.0	3553.9	3516.0	3444.9	3419.7
5°	3010.7	3142.1	3358.0	3563.1	3743.7	3847.4	3879.2	3806.7	3678.0	3492.2	3393.7
7.5°	2695.3	2868.6	3172.1	3474.1	3733.0	3905.7	3918.3	3774.9	3521.3	3216.6	3057.1
10°	2419.7	2615.5	2966.8	3304.9	3579.0	3755.6	3721.1	3520.0	3213.9	2867.2	2687.3
12.5°	2259.6	2455.5	2813.4	3156.7	3415.0	3482.1	3411.8	3242.4	2952.2	2604.9	2423.6
15°	2225.8	2427.7	2759.1	3048.5	3208.6	3165.4	3095.6	3010.0	2803.5	2519.2	2343.9
17.5°	2328.0	2553.8	2831.4	2990.1	2983.5	2879.8	2821.3	2838.0	2802.8	2612.2	2428.9
20°	2538.5	2805.4	3015.3	2974.2	2804.1	2658.8	2624.8	2755.0	2917.7	2845.3	2644.2
22.5°	2815.5	3119.5	3266.2	3019.9	2710.5	2553.8	2547.1	2750.4	3126.9	3198.0	2952.9
25°	3128.2	3482.8	3519.3	3100.9	2700.6	2544.4	2538.5	2822.0	3378.5	3547.1	3298.8
27.5°	3510.7	3849.2	3730.4	3209.3	2744.4	2571.8	2575.7	2944.3	3640.8	3892.4	3688.6
30°	3798.8	4109.6	3860.6	3315.5	2814.7	2619.5	2629.5	3076.3	3782.3	4132.3	4000.1
32.5°	4068.5	4332.0	3985.4	3420.3	2917.7	2690.7	2725.1	3241.1	3952.3	4338.1	4294.2
35°	4366.7	4581.0	4124.2	3532.6	3065.0	2815.5	2865.2	3397.7	4121.0	4543.8	4585.7
37.5°	4704.6	4865.8	4274.9	3691.2	3277.6	3046.5	3074.4	3557.7	4238.5	4771.6	4898.5
40°	5056.5	5185.3	4439.7	3903.0	3586.4	3358.7	3371.9	3763.0	4330.6	5007.3	5201.9
42.5°	5358.6	5458.9	4605.0	4166.1	3941.0	3676.7	3687.9	3984.2	4419.0	5210.6	5444.9
45°	5600.4	5674.1	4760.9	4442.9	4319.4	4073.8	4071.1	4209.2	4537.2	5381.8	5631.6
47.5°	5825.4	5864.7	4935.0	4712.6	4711.9	4585.0	4490.1	4474.7	4694.6	5526.0	5794.2
50°	6083.1	6097.6	5164.7	4984.8	5191.2	5171.4	4996.1	4812.1	4898.5	5688.0	5964.8
52.5°	6441.7	6442.4	5449.6	5250.5	5720.5	5783.6	5579.7	5194.0	5199.8	6003.5	6259.7
55°	6863.3	6892.5	5820.7	5568.5	6274.3	6381.9	6190.0	5647.5	5632.8	6512.1	6737.7
57.5°	7189.3	7344.1	6253.0	5966.3	6791.5	6931.7	6777.0	6117.5	6164.8	7036.7	7132.3
60°	7280.9	7642.9	6684.0	6412.5	7229.2	7439.7	7282.3	6625.5	6685.4	7377.2	7245.8
62.5°	7171.3	7739.2	7122.9	6812.1	7488.8	7690.7	7577.8	6958.2	7109.6	7333.5	7053.9
65°	6846.7	7599.8	7504.1	6982.2	7339.4	7411.0	7381.3	6975.5	7340.1	6919.0	6523.3
67.5°	6088.4	7061.8	7334.1	6618.9	6641.4	6564.5	6525.3	6501.5	7081.1	6250.3	5686.6
70°	4951.5	6067.8	6523.3	5539.3	5372.0	5297.6	5168.7	5487.4	6364.6	5325.4	4680.0
72.5°	3814.2	4642.1	5350.7	4199.2	3851.4	3876.5	3730.4	4196.0	5272.3	4116.9	3573.1
75°	2708.5	3165.4	4270.9	3017.2	2556.4	2555.1	2543.9	3019.9	4160.1	2954.9	2614.2
77.5°	1952.1	2278.9	3345.9	2019.3	1814.0	1837.4	1800.2	2052.4	3243.2	2125.5	1936.9
80°	1557.1	1687.2	2162.7	1346.6	1350.6	1405.0	1397.1	1403.7	2133.5	1539.2	1448.2
82.5°	1118.8	1281.0	1653.4	1032.0	893.2	950.9	962.2	1041.1	1505.3	1088.3	954.9
85°	573.7	780.8	1521.3	893.8	558.4	462.8	532.5	821.4	1307.5	652.1	465.5
87.5°	111.6	216.5	1114.8	496.8	250.9	126.8	209.1	348.0	760.2	118.1	57.9
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1
2.5°	3376.5	3291.5	3211.9	3129.5	3065.7	2988.1	2911.8	2845.3	2781.0	2738.5	2751.7
5°	3294.2	3087.0	2901.0	2728.4	2627.5	2506.0	2397.8	2306.8	2236.4	2191.2	2218.5
7.5°	2919.0	2638.9	2393.9	2166.1	2022.7	1865.2	1739.1	1650.0	1595.6	1565.0	1609.6
10°	2535.2	2220.5	1945.5	1708.5	1567.2	1433.7	1319.4	1225.1	1152.0	1117.5	1135.5
12.5°	2260.3	1910.3	1622.2	1462.8	1341.3	1221.8	1103.6	993.3	900.5	857.9	849.3
15°	2157.4	1743.7	1449.5	1271.6	1150.8	1020.7	893.2	774.9	686.6	650.1	642.1
17.5°	2202.6	1707.9	1347.3	1136.7	961.5	803.4	660.1	548.4	483.4	462.8	464.9
20°	2361.3	1721.2	1265.0	998.0	781.5	594.3	450.9	373.9	345.9	341.3	346.7
22.5°	2579.0	1775.6	1205.2	878.5	622.9	432.3	335.3	298.7	291.5	290.8	296.1
25°	2866.6	1881.8	1165.3	772.3	492.0	342.7	292.2	271.6	265.5	266.9	272.2
27.5°	3205.2	2016.7	1139.5	680.6	404.3	305.5	272.9	254.9	249.0	250.4	254.3
30°	3514.7	2134.8	1101.0	611.6	363.3	292.2	262.2	244.3	236.4	236.4	239.0
32.5°	3791.6	2237.0	1055.8	559.7	325.4	262.2	237.7	223.8	217.7	219.7	221.2
35°	4037.3	2290.9	1020.7	529.2	294.9	241.7	217.1	202.5	194.6	195.9	197.8
37.5°	4278.9	2311.5	997.4	512.7	272.9	229.1	206.5	194.6	185.9	184.6	184.0
40°	4508.8	2306.8	975.4	508.0	258.4	219.7	199.9	189.3	180.6	178.7	178.0
42.5°	4707.2	2291.5	954.9	495.3	248.3	213.2	194.6	185.3	176.6	174.0	172.7
45°	4888.4	2282.2	932.4	472.1	253.6	210.6	191.9	181.9	174.0	170.7	169.3
47.5°	5089.6	2315.4	907.1	446.8	252.3	211.1	191.9	180.6	172.7	169.3	168.1
50°	5329.5	2427.7	875.8	412.3	240.3	225.7	191.2	178.7	171.2	169.3	166.6
52.5°	5668.0	2609.5	832.6	367.9	231.0	241.0	190.6	175.3	169.3	165.9	162.8
55°	6132.2	2791.6	776.9	320.8	216.5	230.4	191.9	171.2	164.7	161.3	157.4
57.5°	6512.7	2929.6	706.4	281.6	203.1	217.7	189.9	166.6	159.4	156.0	152.7
60°	6488.1	2942.9	639.5	256.2	195.2	195.9	194.6	163.3	154.7	152.1	149.4
62.5°	6086.3	2778.8	577.0	243.7	189.3	178.7	198.5	159.4	150.0	147.4	145.4
65°	5417.7	2397.0	543.8	243.7	184.0	169.3	173.4	154.1	145.4	142.8	141.5
67.5°	4569.8	1926.3	512.7	249.0	176.6	162.8	157.4	148.7	140.8	138.1	136.8
70°	3662.7	1516.0	490.7	246.3	170.0	155.3	148.7	141.5	133.5	132.8	131.5
72.5°	2873.1	1217.8	480.8	246.3	160.0	146.8	140.1	134.7	126.8	126.1	124.1
75°	2302.1	914.4	439.6	241.7	150.0	135.5	129.4	124.9	116.9	117.5	116.2
77.5°	1782.9	646.8	367.1	217.7	137.4	122.9	118.1	114.9	105.6	106.2	106.2
80°	1394.3	420.9	284.9	180.6	122.9	108.2	104.9	102.2	92.3	93.7	93.7
82.5°	955.5	250.4	206.5	145.4	105.6	92.3	91.6	87.7	77.1	77.8	79.1
85°	521.9	164.7	137.4	107.5	83.1	75.0	73.8	71.8	61.8	61.8	62.4
87.5°	96.3	88.4	80.9	71.1	55.8	53.8	51.8	53.8	46.5	45.2	45.2
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1
2.5°	2720.4	2674.7	2642.9	2614.8	2547.9	2552.4	2561.7	2575.0	2533.2	2555.1	2582.4
5°	2191.2	2153.3	2124.9	2080.4	1986.7	1953.5	1932.3	1923.0	1860.6	1873.9	1903.1
7.5°	1615.5	1615.0	1604.9	1555.1	1442.3	1373.9	1328.8	1314.8	1276.2	1290.9	1335.3
10°	1137.4	1149.4	1144.8	1100.2	999.4	950.1	940.3	968.2	968.8	997.4	1073.7
12.5°	822.0	815.4	809.5	772.9	697.3	689.3	711.8	750.4	759.6	790.1	869.9
15°	613.5	597.6	594.3	565.8	515.9	523.3	539.8	559.7	560.5	581.7	647.4
17.5°	460.1	460.1	465.5	446.8	411.1	407.7	399.0	393.7	385.8	394.4	430.3
20°	357.3	373.9	387.1	376.5	344.1	328.1	311.4	300.8	294.9	295.5	306.1
22.5°	306.1	319.3	336.7	331.4	304.2	283.5	272.9	265.5	261.0	261.0	266.9
25°	280.2	288.9	304.7	302.1	278.8	262.2	253.6	246.3	241.0	240.3	246.3
27.5°	259.6	264.9	275.6	274.3	250.4	239.7	234.4	229.7	226.5	225.7	231.8
30°	241.0	243.7	249.0	247.0	229.1	218.5	216.5	214.4	212.4	213.2	221.8
32.5°	224.4	226.5	229.7	227.1	209.8	200.5	197.2	194.6	192.5	194.6	204.5
35°	205.8	211.8	215.9	214.4	195.9	184.6	177.2	170.7	168.1	170.0	181.3
37.5°	189.9	199.9	205.3	203.8	184.6	171.2	162.1	160.6	160.6	163.3	174.6
40°	184.0	191.2	195.9	193.9	174.6	161.3	156.0	154.1	154.7	157.4	169.3
42.5°	178.7	185.3	186.6	182.6	163.3	154.7	151.5	148.7	150.0	153.4	165.4
45°	174.0	179.3	178.7	172.7	154.1	148.1	148.1	146.1	146.8	149.4	162.1
47.5°	170.7	173.4	171.9	165.9	147.4	142.8	144.7	144.7	146.1	148.1	160.6
50°	165.4	167.4	165.9	160.6	142.1	138.1	140.1	142.8	144.1	146.1	157.4
52.5°	160.0	161.3	160.6	155.3	136.8	134.1	134.1	136.8	139.4	142.1	152.1
55°	154.7	156.0	156.8	152.7	132.8	130.2	129.4	129.4	132.1	136.2	146.8
57.5°	150.7	150.7	152.1	149.4	128.8	125.6	122.2	122.9	126.1	129.4	140.1
60°	146.1	146.8	148.7	146.1	123.4	118.1	115.5	118.8	120.3	123.4	134.7
62.5°	142.1	142.1	143.4	141.5	118.8	113.5	111.6	114.9	114.9	118.1	129.4
65°	138.8	138.1	138.1	137.4	114.3	109.0	107.5	109.0	109.6	112.8	124.1
67.5°	136.2	132.8	132.8	134.1	109.6	104.3	103.6	103.6	104.3	108.2	118.1
70°	130.2	127.5	126.8	131.5	104.9	98.3	98.3	96.9	98.3	100.3	110.9
72.5°	123.4	121.5	120.8	127.5	100.3	91.6	90.3	89.7	90.3	92.3	102.2
75°	114.9	113.5	114.9	124.9	95.6	84.4	82.4	81.7	81.7	82.4	93.0
77.5°	104.9	103.6	113.5	116.2	93.0	75.6	73.8	72.4	71.1	71.1	83.1
80°	93.0	92.3	109.6	98.3	89.0	66.5	63.2	61.1	59.7	59.1	71.1
82.5°	80.9	79.7	93.7	77.1	73.8	54.4	49.8	45.9	43.8	43.8	54.4
85°	66.5	65.8	73.8	56.5	51.2	39.9	33.1	29.9	27.2	27.2	35.3
87.5°	48.5	47.2	45.9	33.9	26.0	18.0	12.7	11.9	10.6	9.9	14.6
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1	3122.1
2.5°	2623.0	2677.9	2782.2	2867.8	2982.2	3073.7	3178.1	3223.2
5°	1956.9	2043.9	2203.3	2339.4	2527.9	2702.6	2901.7	3010.7
7.5°	1403.7	1532.6	1653.4	1823.4	2059.2	2293.6	2551.1	2695.3
10°	1161.4	1279.5	1383.1	1504.0	1685.9	1949.5	2257.0	2419.7
12.5°	962.2	1089.6	1199.1	1328.8	1481.5	1719.8	2070.5	2259.6
15°	737.7	876.4	1008.0	1164.1	1351.3	1623.5	2014.5	2225.8
17.5°	505.3	654.1	816.1	1006.6	1232.5	1583.1	2067.8	2328.0
20°	343.3	452.1	628.2	853.8	1125.4	1563.8	2184.6	2538.5
22.5°	282.2	331.4	463.4	710.5	1037.8	1585.0	2374.5	2815.5
25°	259.0	285.5	360.6	584.3	970.8	1641.5	2631.6	3128.2
27.5°	244.3	266.9	316.1	494.1	909.1	1718.5	2944.3	3510.7
30°	235.7	256.9	298.1	447.5	852.6	1784.9	3213.1	3798.8
32.5°	216.5	232.4	266.3	420.9	812.1	1838.7	3450.2	4068.5
35°	193.2	212.4	240.3	403.7	810.8	1864.0	3673.3	4366.7
37.5°	184.6	203.1	223.8	394.4	818.7	1885.2	3946.3	4704.6
40°	179.3	195.9	212.4	393.1	825.4	1901.7	4213.2	5056.5
42.5°	174.6	191.2	210.6	383.8	822.7	1924.3	4449.6	5358.6
45°	173.4	189.9	215.1	369.8	822.0	1959.6	4637.5	5600.4
47.5°	171.9	197.2	213.7	354.7	819.4	2033.9	4849.3	5825.4
50°	170.7	210.6	204.5	333.4	799.5	2160.8	5134.3	6083.1
52.5°	170.0	212.4	194.6	304.2	763.6	2348.6	5551.2	6441.7
55°	167.4	201.8	177.2	265.5	711.8	2551.1	5998.1	6863.3
57.5°	161.3	179.9	167.4	227.8	637.4	2692.6	6328.1	7189.3
60°	176.0	154.7	160.6	208.4	548.4	2717.8	6342.8	7280.9
62.5°	168.1	140.8	154.1	201.8	486.1	2553.2	6052.5	7171.3
65°	134.1	133.5	148.1	208.4	476.8	2184.6	5562.5	6846.7
67.5°	122.2	128.2	142.1	216.5	482.7	1721.2	4841.3	6088.4
70°	114.3	121.5	134.1	223.8	493.3	1355.9	3897.7	4951.5
72.5°	106.2	112.2	126.1	231.0	486.1	1069.7	3119.5	3814.2
75°	96.3	101.6	114.9	211.8	417.1	786.1	2478.8	2708.5
77.5°	85.0	89.7	100.9	167.4	313.4	547.2	1856.5	1952.1
80°	73.0	75.0	83.6	122.2	204.5	327.3	1413.0	1557.1
82.5°	57.9	58.4	63.7	89.7	127.5	209.1	980.1	1118.8
85°	37.2	38.4	41.1	63.2	85.7	134.1	500.6	573.7
87.5°	12.7	14.6	14.6	30.5	41.9	74.4	153.4	111.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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