

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: P197193

Luminaire Tested: **NAV-AF-03-D-UNV-SLR-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197193
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-SLR-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10548 lumens
Efficiency: N/A
Efficacy: 85.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 124
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

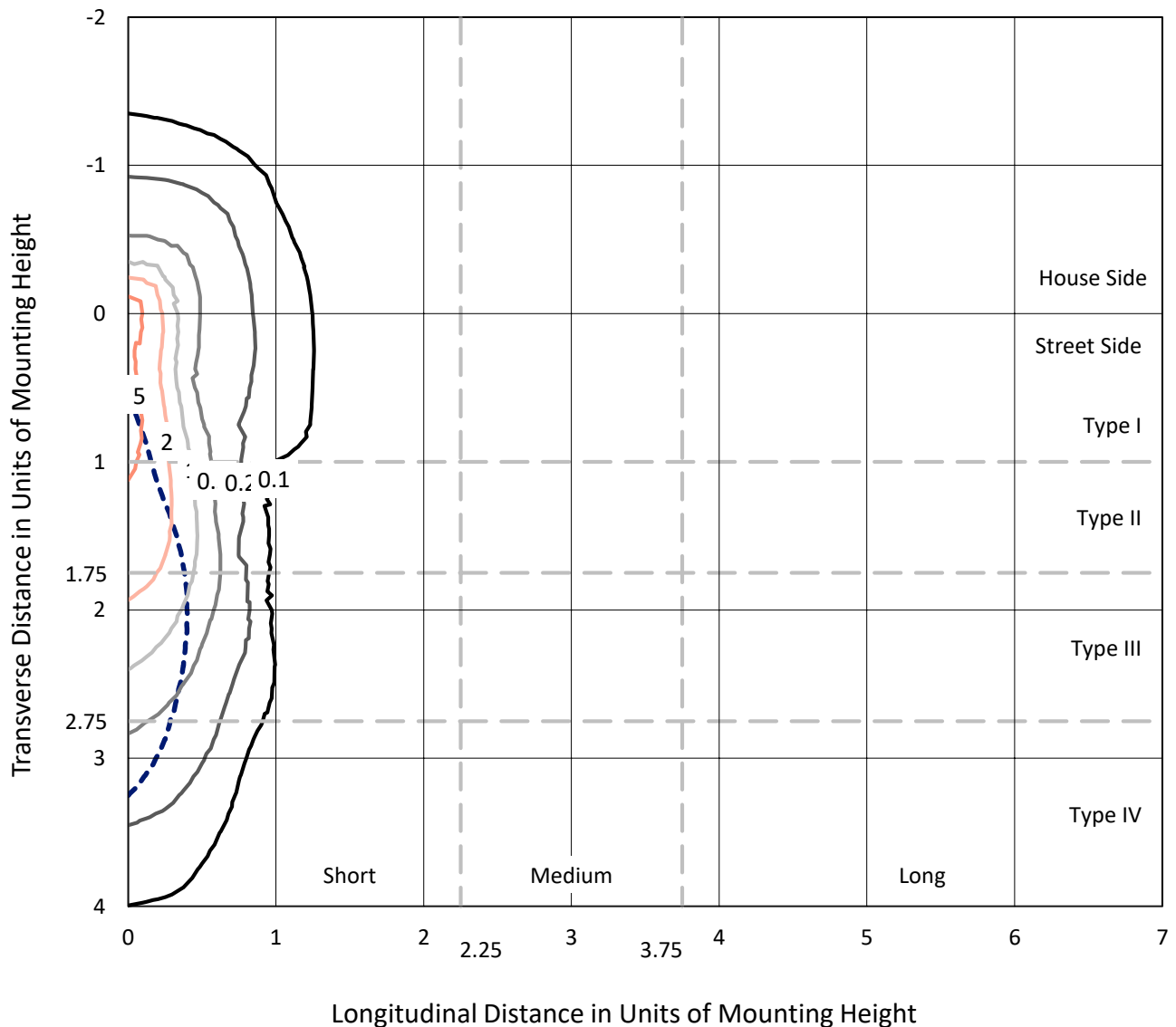


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Iso-Footcandle Lines of Horizontal Illumination

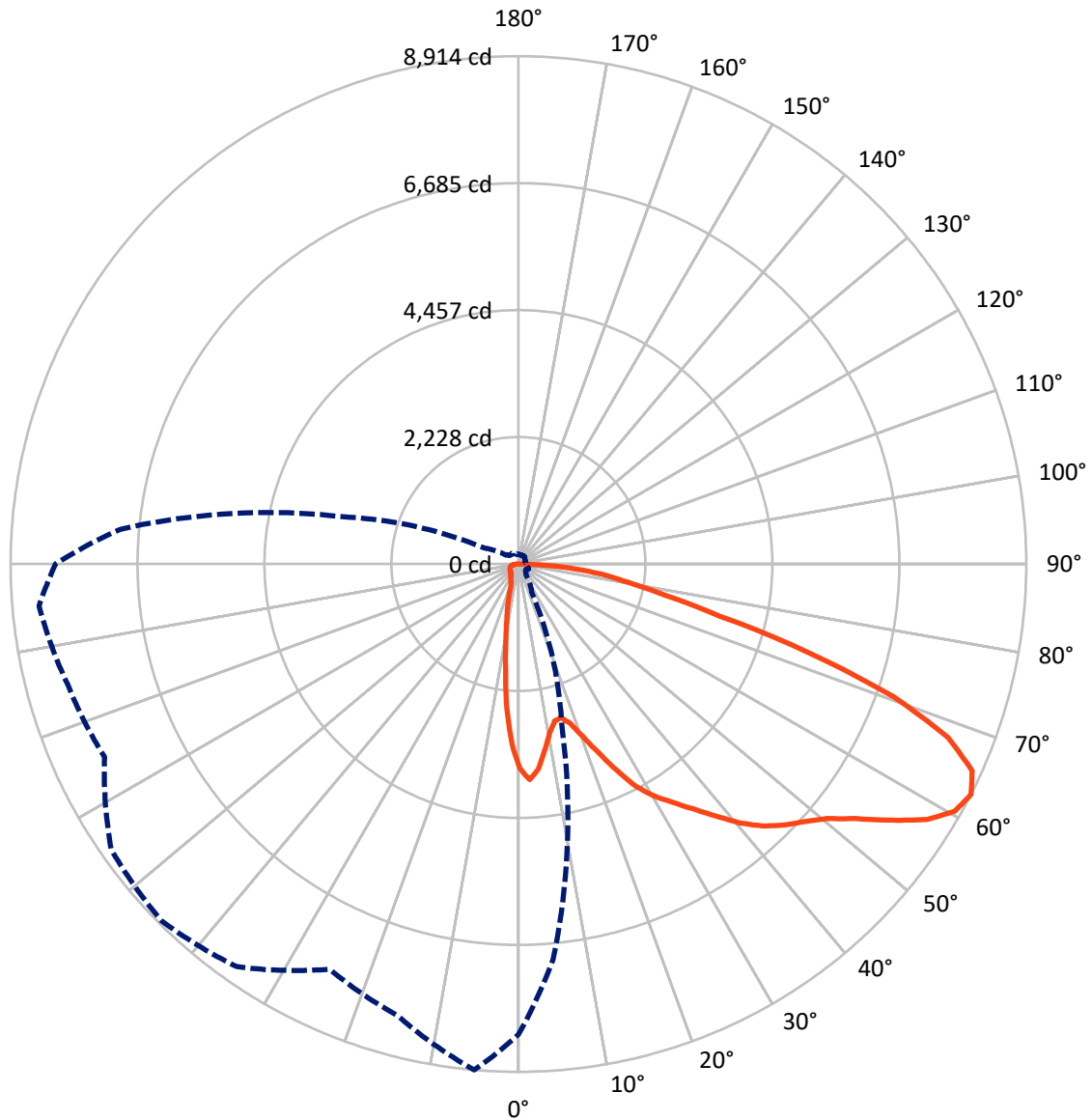
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1868.6	0.0	1868.6
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	8679.4	0.0	8679.4
	% Fixture	82.3	0.0	82.3
Total	Lumens	10548.0	0.0	10548.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	261.5	2.5
10°-20°	477.7	4.5
20°-30°	687.0	6.5
30°-40°	1052.2	10.0
40°-50°	1538.4	14.6
50°-60°	2238.4	21.2
60°-70°	2593.4	24.6
70°-80°	1351.9	12.8
80°-90°	347.5	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°	10548.0	100.0
0°-180°	10548.0	100.0



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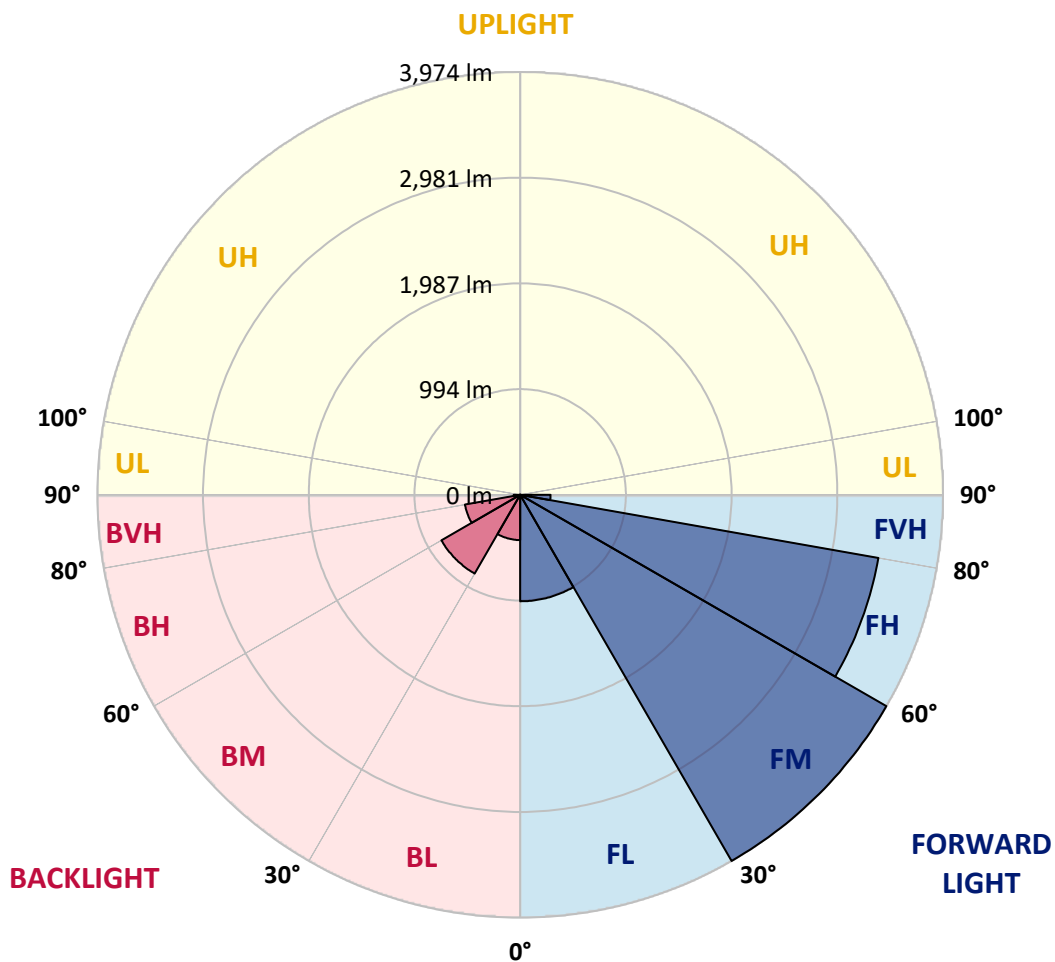
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1001.1	9.5			
FM	(30°-60°)	3974.0	37.7			
FH	(60°-80°)	3418.5	32.4			G2/5000
FVH	(80°-90°)	285.9	2.7			G3/500
BL	(0°-30°)	425.1	4.0	B1/500		
BM	(30°-60°)	854.9	8.1	B1/1000		
BH	(60°-80°)	526.9	5.0	B2/1000		G2/1000
BVH	(80°-90°)	61.6	0.6			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°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0
2.5°	3712.3	3660.3	3540.2	3434.7	3303.1	3204.5	3084.4	3020.9	2974.3	2942.9	2917.7
5°	3467.5	3342.1	3112.7	2911.5	2694.3	2537.6	2354.0	2253.8	2191.9	2158.2	2142.9
7.5°	3104.3	2938.3	2641.6	2371.6	2100.1	1904.3	1765.1	1616.8	1538.0	1486.7	1469.9
10°	2786.9	2599.5	2245.4	1941.8	1732.2	1593.0	1473.7	1337.6	1236.7	1148.7	1115.8
12.5°	2602.6	2384.6	1980.8	1706.2	1530.3	1381.2	1255.0	1108.2	1001.9	910.1	874.9
15°	2563.6	2320.4	1869.9	1556.3	1340.7	1160.9	1009.5	849.7	745.7	670.0	645.5
17.5°	2681.3	2381.5	1823.2	1419.4	1159.4	939.9	753.3	582.0	495.6	454.3	444.3
20°	2923.8	2516.1	1801.1	1296.3	983.5	723.5	520.8	395.4	352.6	340.3	339.6
22.5°	3242.7	2734.9	1825.5	1195.4	818.3	533.8	381.6	325.0	307.4	300.6	300.6
25°	3602.9	3030.8	1890.6	1118.1	673.0	415.3	328.9	298.3	283.7	276.9	277.6
27.5°	4043.4	3391.1	1979.3	1047.0	569.0	364.0	307.4	281.4	266.9	260.0	260.8
30°	4375.3	3700.8	2055.7	982.0	515.5	343.4	296.0	271.5	255.4	245.5	244.7
32.5°	4685.8	3973.8	2117.7	935.3	484.9	306.7	267.7	249.3	235.6	224.1	221.8
35°	5029.2	4230.8	2146.8	933.8	465.0	276.9	244.7	222.6	208.8	195.8	193.5
37.5°	5418.5	4545.1	2171.2	943.0	454.3	257.7	234.0	212.6	201.1	188.1	185.1
40°	5823.8	4852.6	2190.3	950.6	452.8	244.7	225.6	206.5	195.0	181.3	178.2
42.5°	6171.8	5124.8	2216.3	947.6	442.0	242.4	220.3	201.1	190.4	176.7	172.8
45°	6450.2	5341.3	2256.9	946.8	426.0	247.8	218.7	199.6	186.6	172.1	169.0
47.5°	6709.5	5585.2	2342.5	943.7	408.4	246.3	227.1	198.1	185.1	170.5	168.3
50°	7006.2	5913.3	2488.6	920.8	383.9	235.6	242.4	196.5	181.3	168.3	166.0
52.5°	7419.2	6393.6	2705.0	879.5	350.3	224.1	244.7	195.8	175.1	163.7	160.6
55°	7904.8	6908.3	2938.3	819.9	305.9	204.2	232.5	192.7	169.0	156.8	152.2
57.5°	8280.3	7288.4	3101.2	734.2	262.3	192.7	207.3	185.8	161.4	149.1	145.3
60°	8385.9	7305.2	3130.3	631.7	240.1	185.1	178.2	202.7	155.3	142.3	138.4
62.5°	8259.7	6971.0	2940.6	559.8	232.5	177.4	162.1	193.5	149.1	136.1	132.3
65°	7885.7	6406.6	2516.1	549.1	240.1	170.5	153.7	154.5	143.0	130.0	126.2
67.5°	7012.3	5576.1	1982.3	556.0	249.3	163.7	147.6	140.7	136.1	124.7	120.1
70°	5703.0	4489.3	1561.7	568.2	257.7	154.5	140.0	131.5	127.7	115.5	113.2
72.5°	4392.9	3593.0	1232.1	559.8	266.1	145.3	129.2	122.4	117.8	106.3	104.0
75°	3119.6	2854.9	905.5	480.3	244.0	132.3	117.0	110.9	107.1	94.8	94.1
77.5°	2248.5	2138.3	630.2	361.0	192.7	116.2	103.2	97.9	95.6	81.8	81.8
80°	1793.4	1627.5	377.0	235.6	140.7	96.4	86.4	84.1	81.8	68.1	68.8
82.5°	1288.7	1128.8	240.9	146.8	103.2	73.4	67.3	66.5	62.7	50.5	50.5
85°	660.8	576.6	154.5	98.7	72.7	47.4	44.4	42.8	40.5	31.4	31.4
87.5°	128.5	176.7	85.7	48.2	35.2	16.8	16.8	14.5	16.8	11.5	12.2
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0
2.5°	2965.8	2950.5	2939.8	2934.5	3011.7	3043.8	3080.6	3133.3	3169.3	3154.0	3202.9
5°	2214.8	2225.5	2250.0	2288.2	2396.1	2447.3	2480.2	2523.8	2555.1	2523.8	2575.8
7.5°	1514.3	1530.3	1582.3	1661.1	1791.1	1848.5	1860.0	1860.7	1853.8	1802.6	1837.8
10°	1115.1	1082.9	1094.4	1151.0	1267.3	1318.5	1323.8	1310.1	1307.8	1287.1	1326.9
12.5°	864.2	819.9	793.8	803.0	890.2	932.3	939.2	946.8	978.2	988.1	1037.0
15°	644.7	621.8	602.7	594.2	651.6	684.5	688.3	706.7	739.5	748.7	790.8
17.5°	453.5	459.6	469.6	473.4	514.7	536.1	530.0	530.0	535.4	533.1	556.8
20°	346.4	358.7	377.8	396.2	433.6	445.9	430.6	411.5	399.2	393.1	398.5
22.5°	305.9	314.3	326.6	350.3	381.6	387.7	367.9	352.6	341.1	335.0	335.7
25°	283.7	292.1	302.1	321.2	348.0	351.0	332.7	322.7	313.6	307.4	305.9
27.5°	264.6	270.0	276.1	288.3	315.9	317.4	305.1	299.0	292.9	288.3	286.8
30°	247.0	249.3	251.6	263.9	284.5	286.8	280.7	277.6	275.3	272.3	272.3
32.5°	224.1	227.1	231.0	241.7	261.6	264.6	260.8	258.5	254.7	253.1	250.8
35°	196.5	204.2	212.6	225.6	247.0	248.6	244.0	237.1	227.9	225.6	224.1
37.5°	185.1	186.6	197.3	212.6	234.8	236.3	230.2	218.7	211.8	212.6	214.1
40°	177.4	179.7	185.8	201.1	223.3	225.6	220.3	211.8	205.0	205.7	208.0
42.5°	171.3	174.4	178.2	188.1	210.3	214.9	213.4	205.7	198.8	200.4	203.4
45°	168.3	170.5	170.5	177.4	198.8	205.7	206.5	200.4	195.0	196.5	200.4
47.5°	166.7	166.7	164.4	169.8	191.2	198.1	199.6	196.5	193.5	195.0	198.8
50°	164.4	161.4	159.1	163.7	185.1	191.2	192.7	190.4	192.0	195.0	197.3
52.5°	157.5	154.5	154.5	157.5	179.0	185.1	185.8	184.3	187.4	191.2	195.0
55°	149.1	149.1	149.9	153.0	175.9	180.5	179.7	178.2	181.3	185.8	189.7
57.5°	141.5	140.7	144.5	148.4	172.1	175.1	173.6	173.6	175.9	179.7	183.5
60°	136.9	133.1	136.1	142.3	168.3	171.3	169.0	168.3	172.1	175.1	178.2
62.5°	132.3	128.5	130.8	136.9	162.9	165.2	163.7	163.7	167.5	169.8	172.8
65°	125.4	123.9	125.4	131.5	158.3	159.1	159.1	159.8	162.9	164.4	167.5
67.5°	119.3	119.3	120.1	126.2	154.5	153.0	153.0	156.8	157.5	159.1	162.1
70°	111.7	113.2	113.2	120.8	151.4	146.1	146.8	149.9	151.4	153.0	153.7
72.5°	103.2	104.0	105.5	115.5	146.8	139.2	140.0	142.3	143.0	145.3	146.1
75°	94.1	94.8	97.1	110.1	143.8	132.3	130.8	132.3	133.8	135.4	134.6
77.5°	83.4	84.9	87.2	107.1	133.8	130.8	119.3	120.8	122.4	122.4	121.6
80°	70.4	72.7	76.5	102.5	113.2	126.2	106.3	107.1	107.8	107.8	106.3
82.5°	52.8	57.4	62.7	84.9	88.7	107.8	91.8	93.3	91.0	89.5	88.7
85°	34.4	38.2	45.9	58.9	65.0	84.9	75.7	76.5	71.9	71.1	71.1
87.5°	13.8	14.5	20.6	29.8	39.0	52.8	54.3	55.8	52.0	52.0	53.5
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°	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0
2.5°	3277.1	3353.6	3441.5	3531.0	3604.4	3699.3	3791.0	3888.9	3938.6	3967.7	4049.5
5°	2656.9	2761.6	2886.3	3026.3	3142.5	3341.3	3555.5	3794.1	3908.8	4022.0	4236.1
7.5°	1900.5	2003.0	2148.3	2329.5	2494.7	2757.1	3039.3	3362.0	3521.1	3704.6	4055.7
10°	1411.0	1519.6	1651.2	1804.9	1967.8	2240.8	2557.4	2920.0	3095.1	3302.3	3701.6
12.5°	1144.1	1271.1	1407.2	1544.9	1684.8	1868.4	2200.3	2603.3	2791.5	3000.3	3400.2
15°	892.5	1028.6	1175.5	1325.4	1464.6	1669.5	2008.3	2484.8	2699.7	2901.6	3228.9
17.5°	631.7	760.2	925.4	1107.4	1309.3	1551.8	1967.0	2536.8	2797.6	3008.7	3228.2
20°	430.6	519.3	684.5	900.2	1149.5	1456.9	1982.3	2719.6	3045.4	3277.1	3360.5
22.5°	344.2	386.2	497.9	717.4	1011.8	1388.1	2045.0	2970.4	3401.0	3683.2	3601.4
25°	312.8	336.5	394.6	566.7	889.4	1342.2	2167.4	3301.6	3799.5	4085.5	3891.2
27.5°	293.7	314.3	351.8	465.8	783.9	1312.4	2322.7	3691.6	4248.4	4483.2	4193.3
30°	281.4	302.1	336.5	418.3	704.4	1268.0	2458.8	4048.0	4607.1	4759.3	4356.2
32.5°	257.7	273.8	302.1	374.7	644.7	1216.0	2576.6	4366.9	4945.9	4996.3	4552.0
35°	233.3	250.1	278.4	339.6	609.5	1175.5	2638.5	4649.9	5281.6	5233.4	4746.3
37.5°	224.1	237.8	263.9	314.3	590.4	1148.7	2662.2	4928.3	5641.8	5495.8	4881.6
40°	218.0	230.2	253.1	297.5	585.1	1123.5	2656.9	5192.9	5991.3	5767.3	4987.9
42.5°	213.4	224.1	245.5	286.0	570.5	1099.8	2639.3	5421.6	6271.2	6001.3	5089.7
45°	209.6	221.0	242.4	292.1	543.8	1073.8	2628.6	5630.4	6486.1	6198.6	5225.8
47.5°	208.0	221.0	243.2	290.6	514.7	1044.7	2666.8	5862.1	6673.5	6364.5	5407.0
50°	205.7	220.3	260.0	276.9	474.9	1008.8	2796.1	6138.2	6870.1	6551.2	5641.8
52.5°	201.9	219.5	277.6	266.1	423.7	959.0	3005.6	6528.2	7209.6	6914.4	5989.0
55°	197.3	221.0	265.4	249.3	369.4	894.8	3215.2	7062.8	7760.3	7500.3	6487.7
57.5°	192.0	218.7	250.8	234.0	324.3	813.7	3374.2	7501.0	8214.6	8104.4	7100.3
60°	188.1	224.1	225.6	224.8	295.2	736.5	3389.5	7472.7	8345.3	8496.8	7699.9
62.5°	183.5	228.7	205.7	218.0	280.7	664.6	3200.6	7010.0	8124.3	8446.3	8188.6
65°	177.4	199.6	195.0	211.8	280.7	626.4	2760.9	6239.9	7513.3	7969.1	8453.9
67.5°	171.3	181.3	187.4	203.4	286.8	590.4	2218.6	5263.3	6549.6	7198.9	8155.7
70°	162.9	171.3	179.0	195.8	283.7	565.2	1746.0	4218.6	5390.2	6133.6	7330.5
72.5°	155.3	161.4	169.0	184.3	283.7	553.7	1402.6	3309.2	4115.3	4741.7	6072.4
75°	143.8	149.1	156.0	172.8	278.4	506.3	1053.1	2651.5	3011.0	3403.3	4791.4
77.5°	132.3	136.1	141.5	158.3	250.8	422.9	744.9	2053.5	2230.9	2448.1	3735.2
80°	117.8	120.8	124.7	141.5	208.0	328.1	484.9	1606.1	1668.0	1772.8	2457.3
82.5°	101.0	105.5	106.3	121.6	167.5	237.8	288.3	1100.5	1099.8	1253.5	1733.8
85°	82.6	84.9	86.4	95.6	123.9	158.3	189.7	601.1	536.1	751.0	1505.9
87.5°	61.9	59.7	61.9	64.2	81.8	93.3	101.7	110.9	66.5	136.1	875.7
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°	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0	3596.0
2.5°	4093.1	4138.3	4111.5	4079.4	3999.1	3881.3	3791.0	3712.3
5°	4384.5	4467.9	4431.2	4311.9	4103.8	3867.5	3619.0	3467.5
7.5°	4347.8	4513.0	4498.5	4299.6	4001.4	3653.4	3303.9	3104.3
10°	4054.1	4285.9	4325.6	4122.2	3806.3	3417.1	3012.5	2786.9
12.5°	3734.4	3929.5	4010.5	3933.3	3635.8	3240.4	2828.2	2602.6
15°	3466.8	3565.4	3645.7	3695.4	3511.1	3177.7	2796.1	2563.6
17.5°	3268.7	3249.6	3316.9	3436.2	3443.8	3261.0	2941.4	2681.3
20°	3173.1	3023.2	3062.2	3229.7	3425.5	3472.9	3231.2	2923.8
22.5°	3167.7	2933.7	2941.4	3121.9	3478.2	3762.0	3593.0	3242.7
25°	3250.3	2923.8	2930.7	3110.4	3571.6	4053.4	4011.3	3602.9
27.5°	3391.1	2966.6	2962.0	3160.9	3696.2	4296.6	4433.5	4043.4
30°	3543.3	3028.6	3017.1	3241.9	3818.6	4446.5	4733.3	4375.3
32.5°	3732.9	3138.7	3098.9	3360.5	3939.4	4590.2	4989.5	4685.8
35°	3913.4	3300.1	3242.7	3530.3	4068.7	4750.1	5276.3	5029.2
37.5°	4097.7	3541.0	3508.8	3775.0	4251.4	4923.7	5604.4	5418.5
40°	4334.0	3883.6	3868.3	4130.6	4495.4	5113.4	5972.2	5823.8
42.5°	4588.7	4247.6	4234.6	4539.0	4798.3	5303.8	6287.3	6171.8
45°	4848.0	4688.9	4692.0	4974.9	5117.2	5483.5	6535.1	6450.2
47.5°	5153.9	5171.5	5280.8	5426.9	5427.7	5683.9	6754.6	6709.5
50°	5542.4	5754.2	5956.2	5979.1	5741.2	5948.5	7023.0	7006.2
52.5°	5982.2	6426.5	6661.3	6588.6	6047.2	6276.6	7420.0	7419.2
55°	6504.5	7129.3	7350.4	7226.5	6413.5	6704.1	7938.5	7904.8
57.5°	7046.0	7805.4	7983.6	7822.2	6871.6	7202.0	8458.5	8280.3
60°	7631.0	8387.4	8568.7	8326.2	7385.5	7698.3	8802.7	8385.9
62.5°	8014.2	8727.7	8857.8	8625.3	7845.9	8203.9	8913.6	8259.7
65°	8034.1	8501.4	8535.8	8453.2	8041.7	8642.8	8753.0	7885.7
67.5°	7488.0	7515.6	7560.7	7649.4	7623.4	8447.1	8133.5	7012.3
70°	6320.2	5953.1	6101.5	6187.1	6379.8	7513.3	6988.6	5703.0
72.5°	4832.7	4296.6	4464.8	4435.8	4836.5	6162.6	5346.6	4392.9
75°	3478.2	2929.9	2942.9	2944.4	3475.2	4919.1	3645.7	3119.6
77.5°	2364.0	2073.3	2116.2	2089.4	2325.7	3853.8	2624.7	2248.5
80°	1616.8	1609.1	1618.3	1555.6	1551.0	2490.9	1943.3	1793.4
82.5°	1199.2	1108.2	1095.2	1028.6	1188.5	1904.3	1475.3	1288.7
85°	946.0	613.4	533.1	643.2	1029.4	1752.1	899.4	660.8
87.5°	400.7	240.9	146.1	289.1	572.1	1284.1	249.3	128.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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