

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: P196233

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196233
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-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 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: 13222.7 lumens
Efficiency: N/A
Efficacy: 106.6 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

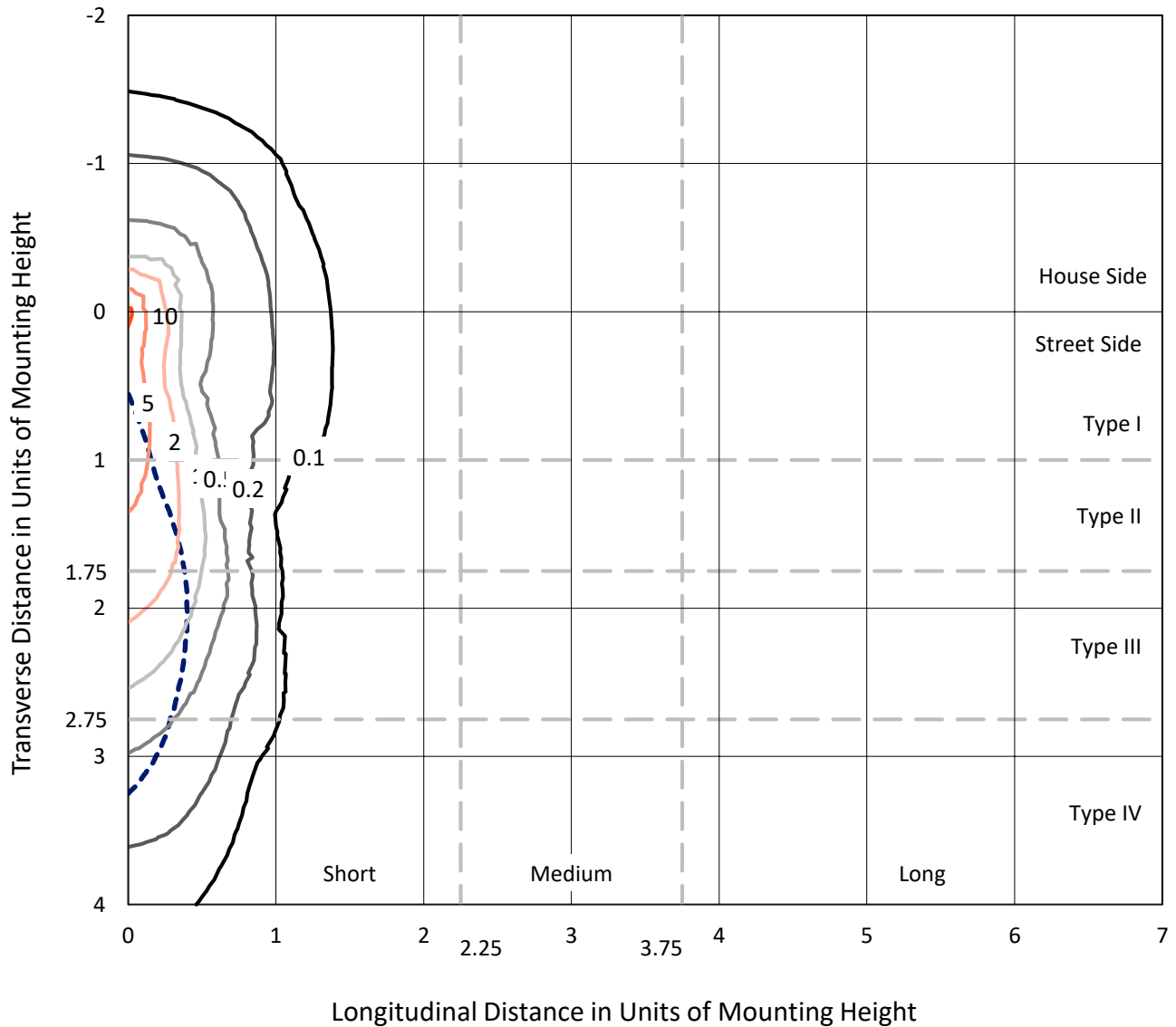
Input Watts (W): 124
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

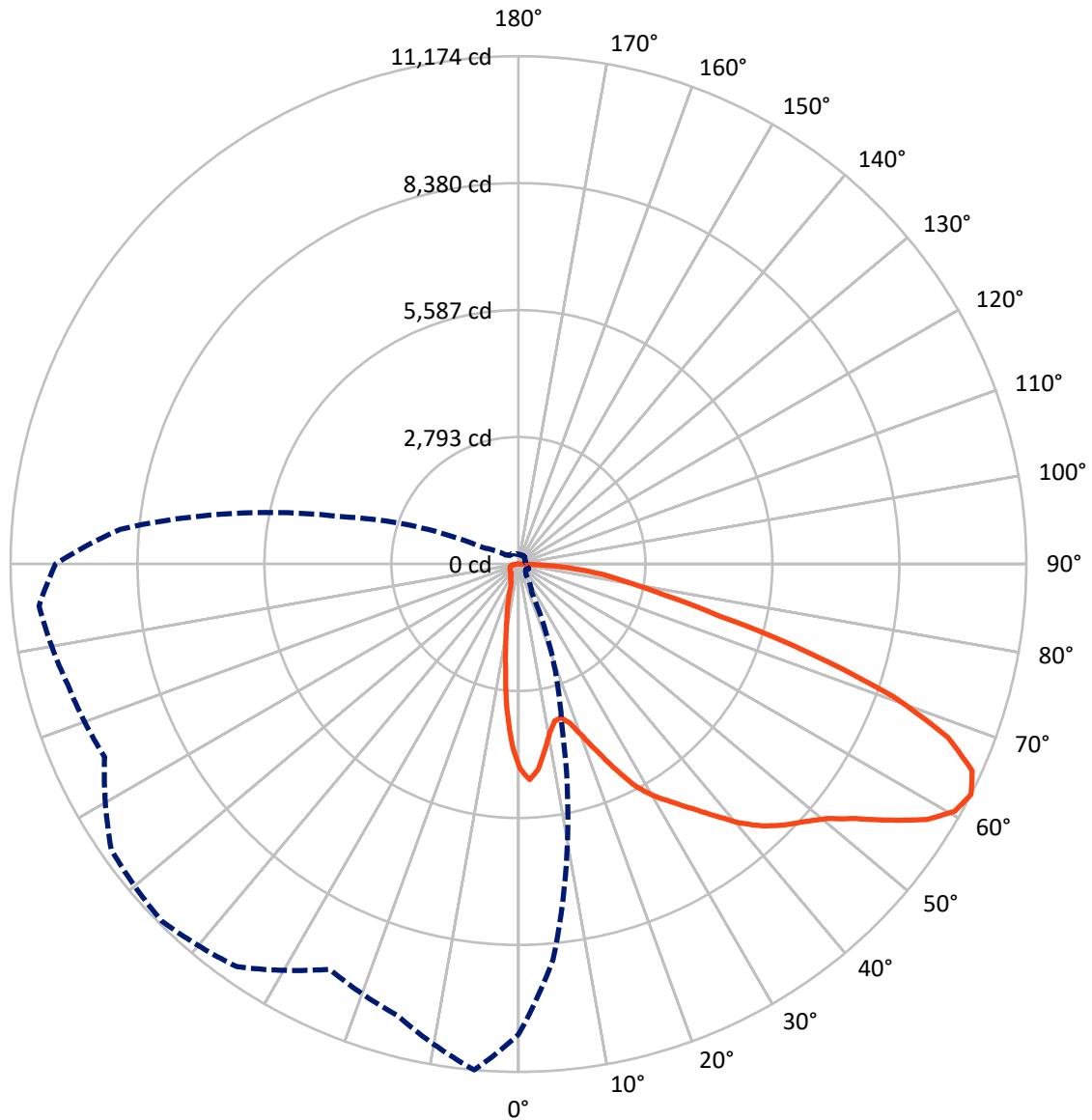
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 11.3 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	2342.4	0.0	2342.4
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	10880.2	0.0	10880.2
	% Fixture	82.3	0.0	82.3
Total	Lumens	13222.7	0.0	13222.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	327.8	2.5
10°-20°	598.8	4.5
20°-30°	861.2	6.5
30°-40°	1319.0	10.0
40°-50°	1928.5	14.6
50°-60°	2805.9	21.2
60°-70°	3251.0	24.6
70°-80°	1694.7	12.8
80°-90°	435.6	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°	13222.7	100.0
0°-180°	13222.7	100.0



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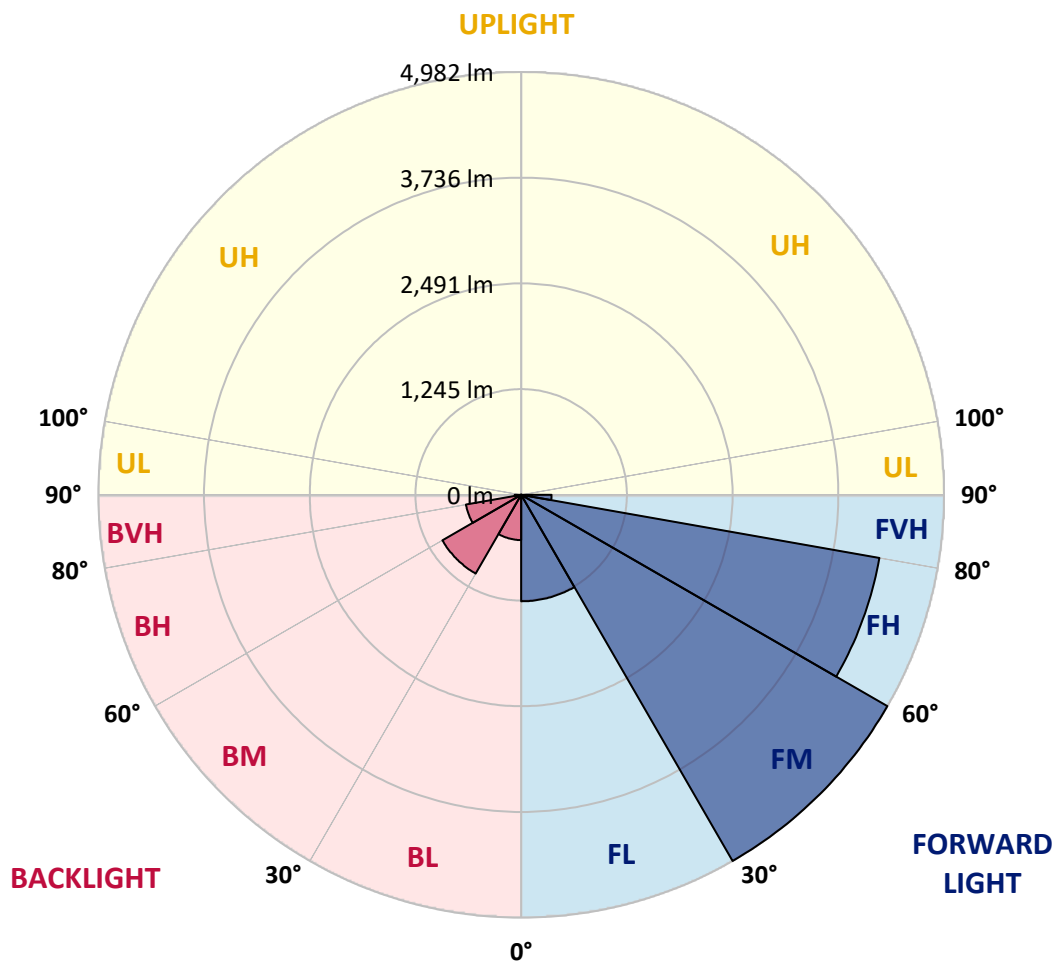
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1254.9	9.5			
FM	(30°-60°)	4981.7	37.7			
FH	(60°-80°)	4285.3	32.4			G2/5000
FVH	(80°-90°)	358.4	2.7			G3/500
BL	(0°-30°)	532.9	4.0	B2/1000		
BM	(30°-60°)	1071.7	8.1	B2/2500		
BH	(60°-80°)	660.5	5.0	B2/1000		G2/1000
BVH	(80°-90°)	77.2	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°	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8
2.5°	4653.6	4588.4	4437.9	4305.6	4140.7	4017.0	3866.4	3787.0	3728.5	3689.2	3657.5
5°	4346.8	4189.6	3901.9	3649.8	3377.6	3181.0	2950.9	2825.3	2747.6	2705.5	2686.3
7.5°	3891.4	3683.3	3311.4	2973.0	2632.7	2387.2	2212.7	2026.7	1928.0	1863.7	1842.6
10°	3493.6	3258.7	2814.8	2434.2	2171.5	1997.0	1847.4	1676.8	1550.3	1440.0	1398.8
12.5°	3262.5	2989.3	2483.1	2138.9	1918.3	1731.4	1573.3	1389.2	1255.9	1140.9	1096.8
15°	3213.6	2908.8	2344.1	1951.0	1680.6	1455.4	1265.5	1065.1	934.8	839.8	809.2
17.5°	3361.2	2985.5	2285.6	1779.3	1453.4	1178.2	944.3	729.6	621.2	569.5	557.0
20°	3665.1	3154.2	2257.8	1625.1	1232.9	906.9	652.8	495.6	442.0	426.7	425.6
22.5°	4064.9	3428.3	2288.4	1498.4	1025.8	669.2	478.4	407.4	385.4	376.8	376.8
25°	4516.5	3799.3	2370.0	1401.6	843.6	520.6	412.2	373.9	355.7	347.1	348.0
27.5°	5068.7	4251.0	2481.2	1312.4	713.3	456.3	385.4	352.8	334.6	325.9	326.9
30°	5484.8	4639.2	2577.0	1231.0	646.2	430.5	371.0	340.3	320.2	307.7	306.8
32.5°	5874.0	4981.5	2654.7	1172.5	607.8	384.4	335.5	312.5	295.3	280.9	278.0
35°	6304.5	5303.6	2691.1	1170.6	582.9	347.1	306.8	279.0	261.8	245.4	242.5
37.5°	6792.5	5697.6	2721.8	1182.1	569.5	323.0	293.4	266.5	252.2	235.9	232.0
40°	7300.6	6083.1	2745.8	1191.6	567.5	306.8	282.8	258.8	244.5	227.2	223.4
42.5°	7736.8	6424.3	2778.3	1187.9	554.1	303.9	276.1	252.2	238.8	221.5	216.7
45°	8085.8	6695.6	2829.2	1186.9	534.0	310.7	274.2	250.2	233.9	215.7	211.9
47.5°	8410.8	7001.5	2936.6	1183.0	512.0	308.7	284.7	248.3	232.0	213.8	210.9
50°	8782.7	7412.8	3119.7	1154.3	481.3	295.3	303.9	246.4	227.2	210.9	208.1
52.5°	9300.5	8014.8	3391.0	1102.5	439.1	280.9	306.8	245.4	219.5	205.2	201.3
55°	9909.2	8660.1	3683.3	1027.8	383.5	255.9	291.4	241.6	211.9	196.5	190.8
57.5°	10380.0	9136.5	3887.6	920.3	328.9	241.6	259.8	232.9	202.2	187.0	182.2
60°	10512.3	9157.7	3924.0	791.9	301.1	232.0	223.4	254.1	194.7	178.3	173.5
62.5°	10354.1	8738.7	3686.2	701.7	291.4	222.4	203.3	242.5	187.0	170.6	165.8
65°	9885.3	8031.2	3154.2	688.3	301.1	213.8	192.7	193.6	179.3	163.0	158.1
67.5°	8790.4	6990.0	2485.0	696.9	312.5	205.2	185.1	176.4	170.6	156.3	150.5
70°	7149.1	5627.7	1957.7	712.3	323.0	193.6	175.4	164.9	160.1	144.7	141.9
72.5°	5506.9	4504.1	1544.5	701.7	333.6	182.2	162.0	153.4	147.6	133.3	130.4
75°	3910.6	3578.9	1135.1	602.1	305.9	165.8	146.7	139.0	134.2	118.9	117.9
77.5°	2818.6	2680.5	790.0	452.6	241.6	145.8	129.4	122.8	119.9	102.6	102.6
80°	2248.1	2040.2	472.6	295.3	176.4	120.8	108.3	105.5	102.6	85.3	86.2
82.5°	1615.4	1415.0	302.0	184.0	129.4	92.1	84.4	83.4	78.7	63.3	63.3
85°	828.3	722.9	193.6	123.7	91.0	59.4	55.6	53.7	50.8	39.3	39.3
87.5°	161.1	221.5	107.4	60.4	44.1	21.1	21.1	18.2	21.1	14.4	15.3
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°	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8
2.5°	3717.9	3698.7	3685.3	3678.5	3775.4	3815.7	3861.7	3927.8	3972.9	3953.7	4015.1
5°	2776.4	2789.9	2820.6	2868.5	3003.7	3067.9	3109.2	3163.8	3203.1	3163.8	3228.9
7.5°	1898.3	1918.3	1983.6	2082.3	2245.3	2317.2	2331.6	2332.5	2323.9	2259.7	2303.8
10°	1397.8	1357.6	1371.9	1442.9	1588.5	1652.8	1659.5	1642.2	1639.4	1613.5	1663.3
12.5°	1083.3	1027.8	995.1	1006.7	1115.9	1168.7	1177.3	1186.9	1226.2	1238.7	1300.0
15°	808.2	779.4	755.4	744.9	816.8	858.1	862.9	885.9	927.1	938.6	991.3
17.5°	568.6	576.2	588.6	593.4	645.2	672.1	664.4	664.4	671.1	668.2	698.0
20°	434.3	449.6	473.6	496.6	543.6	558.9	539.7	515.8	500.4	492.8	499.5
22.5°	383.5	394.0	409.4	439.1	478.4	486.1	461.1	442.0	427.6	419.9	420.8
25°	355.7	366.2	378.7	402.6	436.2	440.1	417.1	404.6	393.1	385.4	383.5
27.5°	331.7	338.4	346.1	361.4	396.0	397.8	382.5	374.8	367.1	361.4	359.6
30°	309.6	312.5	315.4	330.7	356.6	359.6	351.9	348.0	345.1	341.3	341.3
32.5°	280.9	284.7	289.5	303.0	327.9	331.7	326.9	324.1	319.3	317.3	314.5
35°	246.4	255.9	266.5	282.8	309.6	311.6	305.9	297.2	285.7	282.8	280.9
37.5°	232.0	233.9	247.3	266.5	294.3	296.2	288.6	274.2	265.6	266.5	268.4
40°	222.4	225.3	232.9	252.2	280.0	282.8	276.1	265.6	257.0	257.9	260.8
42.5°	214.7	218.6	223.4	235.9	263.6	269.4	267.5	257.9	249.3	251.1	255.0
45°	210.9	213.8	213.8	222.4	249.3	257.9	258.8	251.1	244.5	246.4	251.1
47.5°	209.0	209.0	206.1	212.9	239.7	248.3	250.2	246.4	242.5	244.5	249.3
50°	206.1	202.2	199.4	205.2	232.0	239.7	241.6	238.8	240.6	244.5	247.3
52.5°	197.5	193.6	193.6	197.5	224.3	232.0	232.9	231.1	234.9	239.7	244.5
55°	187.0	187.0	187.9	191.7	220.5	226.3	225.3	223.4	227.2	232.9	237.7
57.5°	177.4	176.4	181.2	186.0	215.7	219.5	217.6	217.6	220.5	225.3	230.1
60°	171.7	166.8	170.6	178.3	210.9	214.7	211.9	210.9	215.7	219.5	223.4
62.5°	165.8	161.1	164.0	171.7	204.2	207.0	205.2	205.2	209.9	212.9	216.7
65°	157.2	155.3	157.2	164.9	198.5	199.4	199.4	200.4	204.2	206.1	209.9
67.5°	149.6	149.6	150.5	158.1	193.6	191.7	191.7	196.5	197.5	199.4	203.3
70°	139.9	141.9	141.9	151.5	189.9	183.1	184.0	187.9	189.9	191.7	192.7
72.5°	129.4	130.4	132.3	144.7	184.0	174.5	175.4	178.3	179.3	182.2	183.1
75°	117.9	118.9	121.7	138.1	180.2	165.8	164.0	165.8	167.8	169.7	168.7
77.5°	104.5	106.4	109.3	134.2	167.8	164.0	149.6	151.5	153.4	153.4	152.4
80°	88.2	91.0	95.9	128.5	141.9	158.1	133.3	134.2	135.1	135.1	133.3
82.5°	66.2	71.9	78.7	106.4	111.2	135.1	115.1	116.9	114.1	112.2	111.2
85°	43.2	48.0	57.5	73.9	81.5	106.4	94.9	95.9	90.1	89.2	89.2
87.5°	17.3	18.2	25.9	37.4	48.9	66.2	68.0	70.0	65.2	65.2	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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8
2.5°	4108.1	4203.9	4314.2	4426.4	4518.4	4637.3	4752.3	4875.1	4937.4	4973.8	5076.4
5°	3330.5	3461.9	3618.2	3793.6	3939.4	4188.6	4457.1	4756.2	4899.9	5041.9	5310.3
7.5°	2382.5	2510.8	2693.0	2920.2	3127.4	3456.1	3809.9	4214.5	4413.9	4644.0	5084.1
10°	1768.8	1904.9	2069.8	2262.6	2466.7	2809.0	3205.9	3660.3	3880.0	4139.7	4640.2
12.5°	1434.3	1593.3	1764.1	1936.7	2112.1	2342.1	2758.2	3263.4	3499.3	3761.0	4262.4
15°	1118.8	1289.4	1473.6	1661.5	1835.9	2092.9	2517.6	3114.9	3384.2	3637.4	4047.7
17.5°	791.9	953.0	1160.0	1388.2	1641.3	1945.2	2465.8	3180.0	3507.0	3771.6	4046.7
20°	539.7	651.0	858.1	1128.4	1440.9	1826.4	2485.0	3409.2	3817.6	4108.1	4212.6
22.5°	431.4	484.2	624.1	899.3	1268.4	1740.0	2563.6	3723.6	4263.4	4617.2	4514.6
25°	392.1	421.9	494.7	710.4	1115.0	1682.5	2717.0	4138.8	4762.9	5121.4	4877.9
27.5°	368.2	394.0	441.0	583.9	982.6	1645.1	2911.6	4627.7	5325.7	5620.0	5256.6
30°	352.8	378.7	421.9	524.5	883.0	1589.6	3082.3	5074.4	5775.3	5966.1	5460.8
32.5°	323.0	343.2	378.7	469.7	808.2	1524.4	3229.9	5474.2	6200.0	6263.3	5706.2
35°	292.4	313.5	348.9	425.6	764.1	1473.6	3307.6	5829.0	6620.8	6560.5	5949.8
37.5°	280.9	298.2	330.7	394.0	740.1	1440.0	3337.3	6177.9	7072.5	6889.3	6119.5
40°	273.2	288.6	317.3	373.0	733.5	1408.4	3330.5	6509.6	7510.6	7229.7	6252.7
42.5°	267.5	280.9	307.7	358.5	715.2	1378.6	3308.5	6796.3	7861.5	7523.0	6380.2
45°	262.7	277.1	303.9	366.2	681.7	1346.0	3295.1	7058.1	8130.8	7770.3	6550.9
47.5°	260.8	277.1	304.8	364.3	645.2	1309.6	3343.0	7348.6	8365.7	7978.4	6778.1
50°	257.9	276.1	325.9	347.1	595.4	1264.6	3505.0	7694.6	8612.1	8212.4	7072.5
52.5°	253.1	275.2	348.0	333.6	531.1	1202.3	3767.7	8183.6	9037.8	8667.8	7507.6
55°	247.3	277.1	332.7	312.5	463.1	1121.7	4030.4	8853.7	9728.1	9402.1	8132.8
57.5°	240.6	274.2	314.5	293.4	406.5	1020.1	4229.8	9403.1	10297.5	10159.4	8900.7
60°	235.9	280.9	282.8	281.8	370.1	923.2	4249.0	9367.6	10461.5	10651.3	9652.4
62.5°	230.1	286.6	257.9	273.2	351.9	833.1	4012.2	8787.6	10184.4	10588.1	10264.9
65°	222.4	250.2	244.5	265.6	351.9	785.2	3460.9	7822.1	9418.4	9989.8	10597.6
67.5°	214.7	227.2	234.9	255.0	359.6	740.1	2781.2	6597.8	8210.4	9024.4	10223.7
70°	204.2	214.7	224.3	245.4	355.7	708.5	2188.7	5288.2	6757.0	7688.9	9189.3
72.5°	194.7	202.2	211.9	231.1	355.7	694.1	1758.2	4148.4	5158.8	5944.1	7612.2
75°	180.2	187.0	195.6	216.7	348.9	634.6	1320.1	3323.9	3774.5	4266.3	6006.4
77.5°	165.8	170.6	177.4	198.5	314.5	530.2	933.7	2574.2	2796.5	3068.9	4682.4
80°	147.6	151.5	156.3	177.4	260.8	411.3	607.8	2013.3	2090.9	2222.3	3080.3
82.5°	126.5	132.3	133.3	152.4	209.9	298.2	361.4	1379.6	1378.6	1571.4	2173.4
85°	103.5	106.4	108.3	119.9	155.3	198.5	237.7	753.5	672.1	941.4	1887.8
87.5°	77.6	74.8	77.6	80.5	102.6	116.9	127.5	139.0	83.4	170.6	1097.7
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°	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8	4507.8
2.5°	5131.0	5187.6	5154.0	5113.7	5013.1	4865.5	4752.3	4653.6
5°	5496.3	5600.8	5554.8	5405.3	5144.4	4848.2	4536.6	4346.8
7.5°	5450.3	5657.3	5639.1	5389.9	5015.9	4579.8	4141.6	3891.4
10°	5082.1	5372.6	5422.5	5167.4	4771.6	4283.5	3776.3	3493.6
12.5°	4681.4	4925.9	5027.5	4930.6	4557.8	4062.0	3545.3	3262.5
15°	4345.8	4469.5	4570.1	4632.5	4401.5	3983.5	3505.0	3213.6
17.5°	4097.5	4073.6	4158.0	4307.5	4317.1	4087.9	3687.2	3361.2
20°	3977.7	3789.8	3838.7	4048.6	4294.0	4353.5	4050.6	3665.1
22.5°	3971.0	3677.6	3687.2	3913.5	4360.2	4715.9	4504.1	4064.9
25°	4074.5	3665.1	3673.8	3899.1	4477.1	5081.2	5028.4	4516.5
27.5°	4251.0	3718.8	3713.1	3962.4	4633.5	5386.0	5557.7	5068.7
30°	4441.8	3796.5	3782.2	4064.0	4786.9	5574.0	5933.5	5484.8
32.5°	4679.5	3934.6	3884.7	4212.6	4938.3	5754.2	6254.6	5874.0
35°	4905.8	4136.8	4064.9	4425.4	5100.3	5954.6	6614.2	6304.5
37.5°	5136.7	4438.9	4398.6	4732.2	5329.5	6172.2	7025.4	6792.5
40°	5433.0	4868.3	4849.2	5178.0	5635.3	6409.9	7486.6	7300.6
42.5°	5752.3	5324.7	5308.4	5690.0	6015.0	6648.7	7881.5	7736.8
45°	6077.2	5877.9	5881.7	6236.4	6414.7	6873.9	8192.2	8085.8
47.5°	6460.8	6482.8	6619.9	6803.0	6804.0	7125.2	8467.4	8410.8
50°	6947.8	7213.3	7466.4	7495.3	7197.1	7456.9	8803.8	8782.7
52.5°	7499.0	8056.0	8350.3	8259.3	7580.6	7868.1	9301.4	9300.5
55°	8153.8	8937.1	9214.2	9058.8	8039.8	8404.1	9951.5	9909.2
57.5°	8832.7	9784.6	10008.0	9805.7	8614.1	9028.2	10603.4	10380.0
60°	9566.0	10514.2	10741.4	10437.5	9258.3	9650.4	11034.8	10512.3
62.5°	10046.4	10940.9	11103.8	10812.4	9835.5	10284.1	11173.8	10354.1
65°	10071.3	10657.1	10700.2	10596.6	10080.9	10834.4	10972.5	9885.3
67.5°	9386.8	9421.3	9477.8	9589.0	9556.4	10589.0	10196.0	8790.4
70°	7922.8	7462.6	7648.6	7756.0	7997.6	9418.4	8760.8	7149.1
72.5°	6058.1	5386.0	5597.0	5560.6	6062.9	7725.3	6702.4	5506.9
75°	4360.2	3672.8	3689.2	3691.0	4356.4	6166.4	4570.1	3910.6
77.5°	2963.4	2599.1	2652.7	2619.2	2915.4	4831.0	3290.3	2818.6
80°	2026.7	2017.2	2028.6	1950.1	1944.2	3122.6	2436.1	2248.1
82.5°	1503.2	1389.2	1372.9	1289.4	1489.8	2387.2	1849.4	1615.4
85°	1185.9	768.8	668.2	806.3	1290.5	2196.4	1127.5	828.3
87.5°	502.4	302.0	183.1	362.4	717.1	1609.7	312.5	161.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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