

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: P195753

Luminaire Tested: **NAV-AF-03-D-UNV-SLR-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195753
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-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 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: 12926 lumens
Efficiency: N/A
Efficacy: 104.2 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

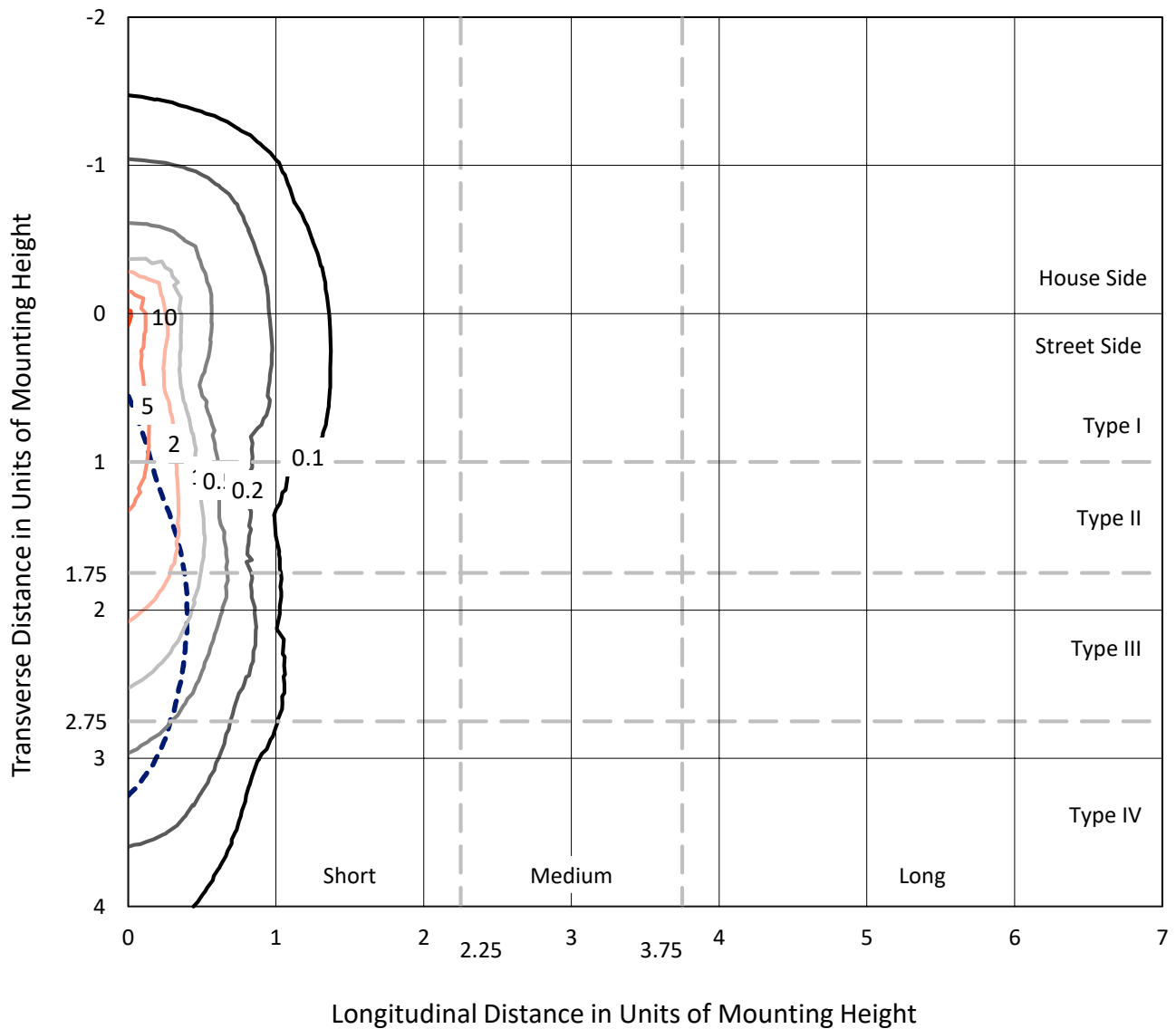


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Iso-Footcandle Lines of Horizontal Illumination

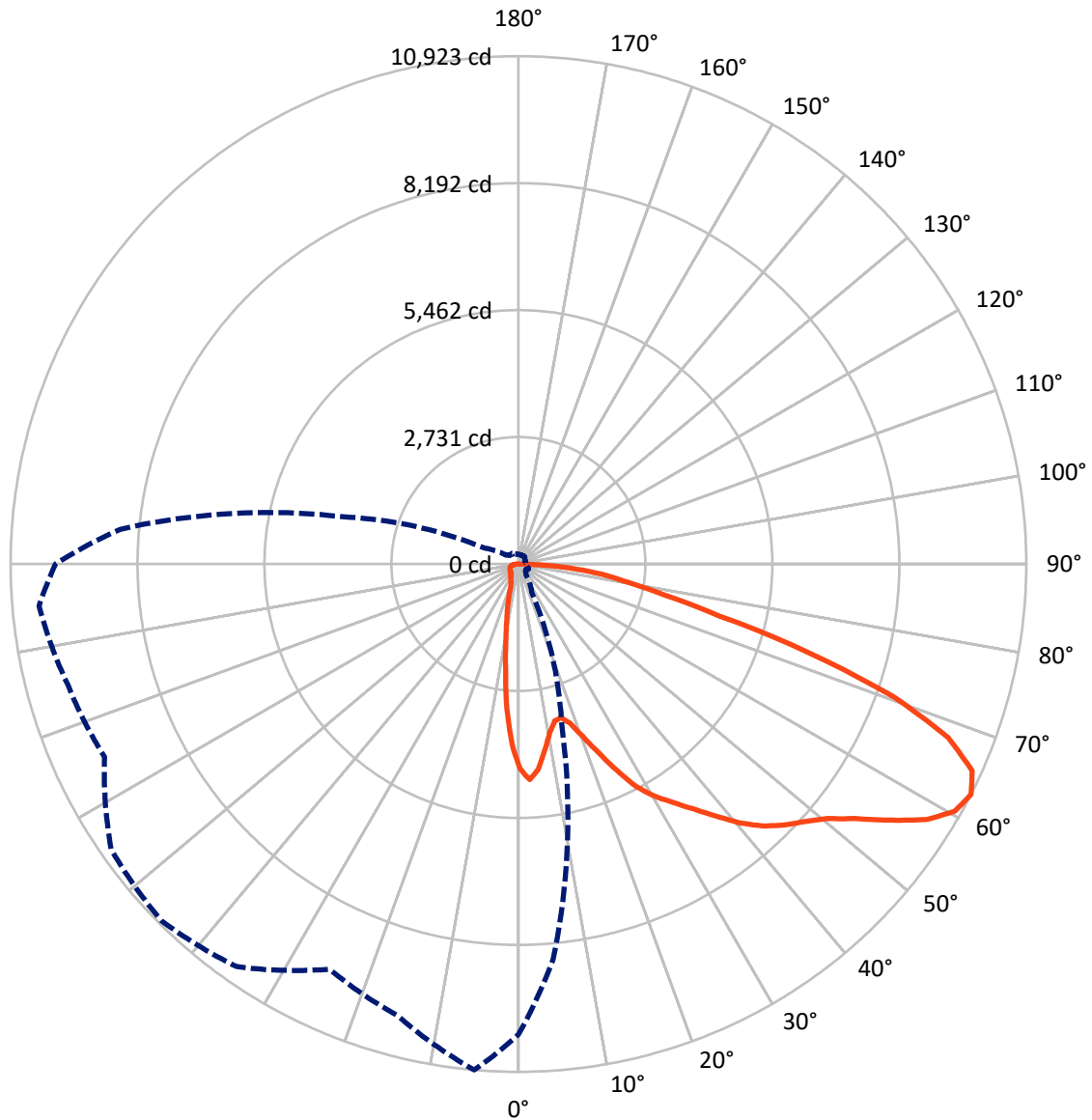
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 11 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	2289.9	0.0	2289.9
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	10636.1	0.0	10636.1
	% Fixture	82.3	0.0	82.3
Total	Lumens	12926.0	0.0	12926.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	320.5	2.5
10°-20°	585.4	4.5
20°-30°	841.9	6.5
30°-40°	1289.4	10.0
40°-50°	1885.2	14.6
50°-60°	2743.0	21.2
60°-70°	3178.1	24.6
70°-80°	1656.7	12.8
80°-90°	425.9	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°	12926.0	100.0
0°-180°	12926.0	100.0



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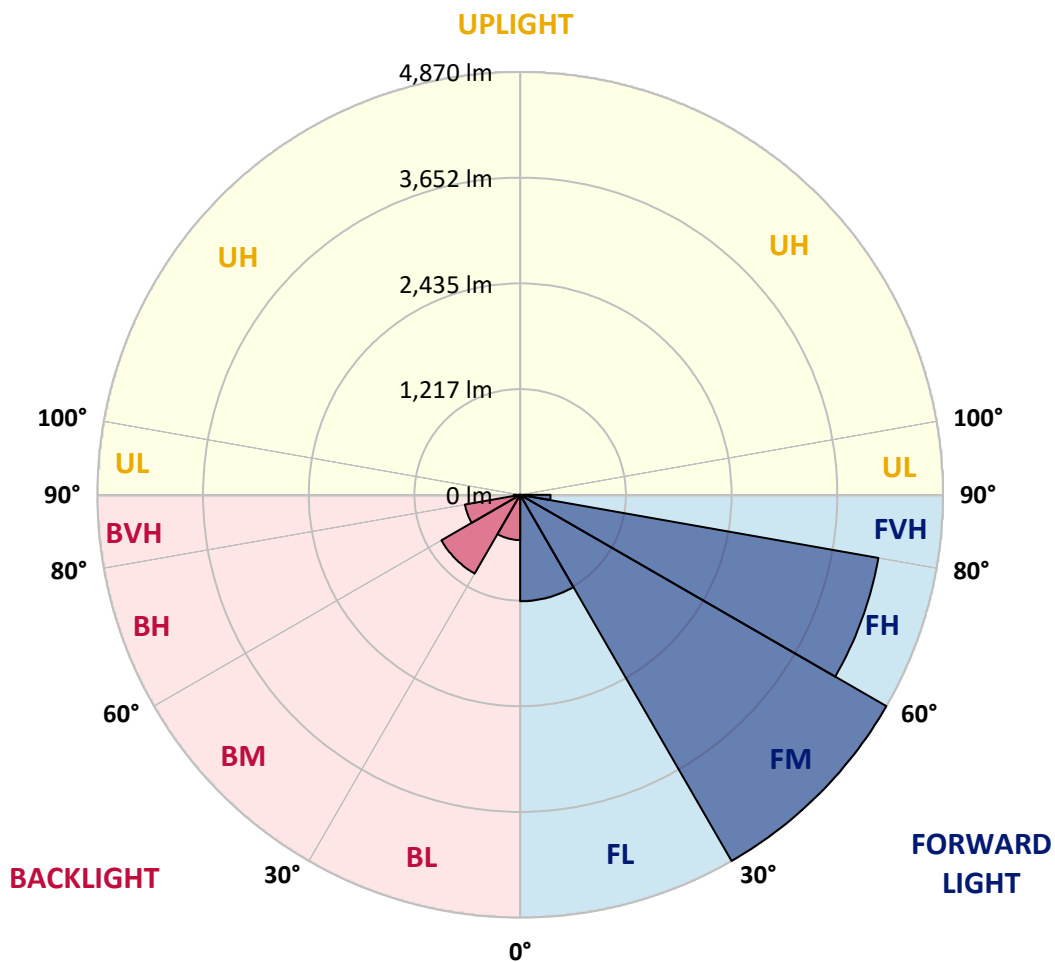
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1226.7	9.5			
FM (30°-60°)	4869.9	37.7			
FH (60°-80°)	4189.1	32.4			G2/5000
FVH (80°-90°)	350.3	2.7			G3/500
BL (0°-30°)	521.0	4.0	B2/1000		
BM (30°-60°)	1047.7	8.1	B2/2500		
BH (60°-80°)	645.7	5.0	B2/1000		G2/1000
BVH (80°-90°)	75.5	0.6			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7
2.5°	4549.2	4485.5	4338.3	4209.0	4047.8	3926.9	3779.7	3702.0	3644.8	3606.4	3575.4
5°	4249.3	4095.6	3814.4	3567.9	3301.8	3109.6	2884.7	2761.9	2686.0	2644.8	2626.0
7.5°	3804.1	3600.7	3237.1	2906.3	2573.6	2333.6	2163.1	1981.2	1884.7	1821.9	1801.3
10°	3415.2	3185.6	2751.6	2379.6	2122.8	1952.2	1806.0	1639.2	1515.5	1407.7	1367.4
12.5°	3189.3	2922.2	2427.4	2090.9	1875.3	1692.6	1538.0	1358.0	1227.7	1115.3	1072.2
15°	3141.5	2843.5	2291.5	1907.2	1642.9	1422.7	1237.1	1041.2	913.8	821.0	791.0
17.5°	3285.8	2918.5	2234.3	1739.4	1420.8	1151.8	923.1	713.2	607.3	556.7	544.5
20°	3582.9	3083.4	2207.1	1588.6	1205.2	886.6	638.2	484.5	432.1	417.1	416.1
22.5°	3973.7	3351.4	2237.1	1464.8	1002.8	654.2	467.7	398.3	376.8	368.3	368.3
25°	4415.2	3714.1	2316.8	1370.2	824.7	508.9	403.0	365.5	347.7	339.3	340.2
27.5°	4955.0	4155.6	2425.5	1283.0	697.3	446.1	376.8	344.9	327.1	318.6	319.6
30°	5361.7	4535.1	2519.2	1203.4	631.7	420.8	362.7	332.7	313.0	300.8	299.9
32.5°	5742.2	4869.7	2595.1	1146.2	594.2	375.8	328.0	305.5	288.7	274.6	271.8
35°	6163.1	5184.6	2630.7	1144.3	569.8	339.3	299.9	272.7	255.9	239.9	237.1
37.5°	6640.1	5569.8	2660.7	1155.6	556.7	315.8	286.8	260.5	246.5	230.6	226.8
40°	7136.8	5946.6	2684.2	1164.9	554.8	299.9	276.5	253.0	239.0	222.1	218.4
42.5°	7563.2	6280.2	2716.0	1161.2	541.7	297.1	269.9	246.5	233.4	216.5	211.8
45°	7904.4	6545.4	2765.7	1160.3	522.0	303.7	268.0	244.6	228.7	210.9	207.1
47.5°	8222.1	6844.4	2870.7	1156.5	500.5	301.8	278.3	242.7	226.8	209.0	206.2
50°	8585.7	7246.5	3049.7	1128.4	470.5	288.7	297.1	240.9	222.1	206.2	203.4
52.5°	9091.8	7835.0	3314.9	1077.8	429.2	274.6	299.9	239.9	214.6	200.6	196.8
55°	9686.9	8465.8	3600.7	1004.7	374.9	250.2	284.9	236.2	207.1	192.1	186.5
57.5°	10147.1	8931.5	3800.4	899.7	321.5	236.2	254.0	227.7	197.7	182.8	178.1
60°	10276.4	8952.2	3836.0	774.1	294.3	226.8	218.4	248.4	190.3	174.3	169.6
62.5°	10121.8	8542.6	3603.5	686.0	284.9	217.4	198.7	237.1	182.8	166.8	162.1
65°	9663.5	7851.0	3083.4	672.9	294.3	209.0	188.4	189.3	175.3	159.3	154.6
67.5°	8593.2	6833.2	2429.2	681.3	305.5	200.6	180.9	172.4	166.8	152.8	147.1
70°	6988.7	5501.4	1913.8	696.3	315.8	189.3	171.5	161.2	156.5	141.5	138.7
72.5°	5383.3	4403.0	1509.8	686.0	326.1	178.1	158.4	150.0	144.3	130.3	127.5
75°	3822.9	3498.6	1109.6	588.6	299.0	162.1	143.4	135.9	131.2	116.2	115.3
77.5°	2755.4	2620.4	772.3	442.4	236.2	142.5	126.5	120.0	117.2	100.3	100.3
80°	2197.7	1994.4	462.0	288.7	172.4	118.1	105.9	103.1	100.3	83.4	84.3
82.5°	1579.2	1383.3	295.2	179.9	126.5	90.0	82.5	81.5	76.9	61.9	61.9
85°	809.7	706.7	189.3	120.9	89.0	58.1	54.4	52.5	49.7	38.4	38.4
87.5°	157.5	216.5	105.0	59.0	43.1	20.6	20.6	17.8	20.6	14.1	15.0
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7
2.5°	3634.5	3615.7	3602.6	3596.0	3690.7	3730.1	3775.1	3839.7	3883.8	3865.0	3925.0
5°	2714.1	2727.3	2757.3	2804.1	2936.3	2999.1	3039.4	3092.8	3131.2	3092.8	3156.5
7.5°	1855.7	1875.3	1939.1	2035.6	2194.9	2265.2	2279.3	2280.2	2271.8	2209.0	2252.1
10°	1366.4	1327.1	1341.1	1410.5	1552.9	1615.7	1622.3	1605.4	1602.6	1577.3	1626.0
12.5°	1059.0	1004.7	972.8	984.1	1090.9	1142.5	1150.9	1160.3	1198.7	1210.9	1270.8
15°	790.1	761.9	738.5	728.2	798.5	838.8	843.5	866.0	906.3	917.5	969.1
17.5°	555.8	563.3	575.4	580.1	630.7	657.0	649.5	649.5	656.0	653.2	682.3
20°	424.6	439.5	463.0	485.5	531.4	546.4	527.6	504.2	489.2	481.7	488.3
22.5°	374.9	385.2	400.2	429.2	467.7	475.2	450.8	432.1	418.0	410.5	411.4
25°	347.7	358.0	370.2	393.6	426.4	430.2	407.7	395.5	384.3	376.8	374.9
27.5°	324.3	330.8	338.3	353.3	387.1	388.9	373.9	366.4	358.9	353.3	351.5
30°	302.7	305.5	308.3	323.3	348.6	351.5	344.0	340.2	337.4	333.6	333.6
32.5°	274.6	278.3	283.0	296.2	320.5	324.3	319.6	316.8	312.1	310.2	307.4
35°	240.9	250.2	260.5	276.5	302.7	304.6	299.0	290.5	279.3	276.5	274.6
37.5°	226.8	228.7	241.8	260.5	287.7	289.6	282.1	268.0	259.6	260.5	262.4
40°	217.4	220.2	227.7	246.5	273.7	276.5	269.9	259.6	251.2	252.1	254.9
42.5°	209.9	213.7	218.4	230.6	257.7	263.4	261.5	252.1	243.7	245.5	249.3
45°	206.2	209.0	209.0	217.4	243.7	252.1	253.0	245.5	239.0	240.9	245.5
47.5°	204.3	204.3	201.5	208.1	234.3	242.7	244.6	240.9	237.1	239.0	243.7
50°	201.5	197.7	194.9	200.6	226.8	234.3	236.2	233.4	235.2	239.0	241.8
52.5°	193.1	189.3	189.3	193.1	219.3	226.8	227.7	225.9	229.6	234.3	239.0
55°	182.8	182.8	183.7	187.4	215.6	221.2	220.2	218.4	222.1	227.7	232.4
57.5°	173.4	172.4	177.1	181.8	210.9	214.6	212.7	212.7	215.6	220.2	224.9
60°	167.8	163.1	166.8	174.3	206.2	209.9	207.1	206.2	210.9	214.6	218.4
62.5°	162.1	157.5	160.3	167.8	199.6	202.4	200.6	200.6	205.2	208.1	211.8
65°	153.7	151.8	153.7	161.2	194.0	194.9	194.9	195.9	199.6	201.5	205.2
67.5°	146.2	146.2	147.1	154.6	189.3	187.4	187.4	192.1	193.1	194.9	198.7
70°	136.8	138.7	138.7	148.1	185.6	179.0	179.9	183.7	185.6	187.4	188.4
72.5°	126.5	127.5	129.3	141.5	179.9	170.6	171.5	174.3	175.3	178.1	179.0
75°	115.3	116.2	119.0	135.0	176.2	162.1	160.3	162.1	164.0	165.9	164.9
77.5°	102.2	104.0	106.8	131.2	164.0	160.3	146.2	148.1	150.0	150.0	149.0
80°	86.2	89.0	93.7	125.6	138.7	154.6	130.3	131.2	132.1	132.1	130.3
82.5°	64.7	70.3	76.9	104.0	108.7	132.1	112.5	114.3	111.5	109.7	108.7
85°	42.2	46.9	56.2	72.2	79.7	104.0	92.8	93.7	88.1	87.2	87.2
87.5°	16.9	17.8	25.3	36.6	47.8	64.7	66.5	68.4	63.7	63.7	65.6
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7
2.5°	4015.9	4109.6	4217.4	4327.1	4417.0	4533.3	4645.7	4765.7	4826.6	4862.2	4962.5
5°	3255.8	3384.2	3537.0	3708.5	3851.0	4094.6	4357.1	4649.5	4790.0	4928.8	5191.2
7.5°	2329.0	2454.5	2632.6	2854.7	3057.2	3378.6	3724.4	4119.9	4314.9	4539.8	4970.0
10°	1729.1	1862.2	2023.4	2211.8	2411.4	2746.0	3134.0	3578.2	3792.9	4046.8	4536.1
12.5°	1402.1	1557.6	1724.5	1893.2	2064.7	2289.6	2696.3	3190.2	3420.8	3676.6	4166.8
15°	1093.7	1260.5	1440.5	1624.2	1794.7	2045.9	2461.1	3045.0	3308.3	3555.8	3956.9
17.5°	774.1	931.6	1134.0	1357.1	1604.5	1901.6	2410.5	3108.7	3428.3	3687.0	3955.9
20°	527.6	636.4	838.8	1103.1	1408.6	1785.4	2429.2	3332.7	3731.9	4015.9	4118.1
22.5°	421.7	473.3	610.1	879.1	1239.9	1701.0	2506.1	3640.1	4167.7	4513.6	4413.3
25°	383.3	412.4	483.6	694.5	1090.0	1644.8	2656.0	4045.9	4656.0	5006.5	4768.5
27.5°	359.9	385.2	431.1	570.8	960.6	1608.2	2846.3	4523.9	5206.2	5493.9	5138.7
30°	344.9	370.2	412.4	512.7	863.2	1553.9	3013.1	4960.6	5645.7	5832.2	5338.3
32.5°	315.8	335.5	370.2	459.2	790.1	1490.2	3157.4	5351.4	6060.9	6122.8	5578.2
35°	285.8	306.5	341.1	416.1	747.0	1440.5	3233.4	5698.2	6472.3	6413.3	5816.3
37.5°	274.6	291.5	323.3	385.2	723.5	1407.7	3262.4	6039.3	6913.8	6734.7	5982.2
40°	267.1	282.1	310.2	364.6	717.0	1376.8	3255.8	6363.6	7342.1	7067.5	6112.4
42.5°	261.5	274.6	300.8	350.5	699.2	1347.7	3234.3	6643.8	7685.1	7354.2	6237.1
45°	256.8	270.9	297.1	358.0	666.4	1315.8	3221.2	6899.7	7948.4	7596.0	6403.9
47.5°	254.9	270.9	298.0	356.1	630.7	1280.2	3268.0	7183.7	8178.0	7799.4	6626.0
50°	252.1	269.9	318.6	339.3	582.0	1236.2	3426.4	7522.0	8418.9	8028.1	6913.8
52.5°	247.4	269.0	340.2	326.1	519.2	1175.3	3683.2	8000.0	8835.0	8473.3	7339.2
55°	241.8	270.9	325.2	305.5	452.7	1096.5	3940.0	8655.1	9509.8	9191.2	7950.3
57.5°	235.2	268.0	307.4	286.8	397.4	997.2	4134.9	9192.1	10066.5	9931.5	8701.0
60°	230.6	274.6	276.5	275.5	361.8	902.5	4153.7	9157.4	10226.8	10412.3	9435.8
62.5°	224.9	280.2	252.1	267.1	344.0	814.4	3922.2	8590.4	9955.9	10350.5	10034.6
65°	217.4	244.6	239.0	259.6	344.0	767.6	3383.3	7646.6	9207.1	9765.7	10359.8
67.5°	209.9	222.1	229.6	249.3	351.5	723.5	2718.8	6449.8	8026.2	8821.9	9994.3
70°	199.6	209.9	219.3	239.9	347.7	692.6	2139.6	5169.6	6605.4	7516.4	8983.1
72.5°	190.3	197.7	207.1	225.9	347.7	678.5	1718.8	4055.3	5043.1	5810.7	7441.4
75°	176.2	182.8	191.2	211.8	341.1	620.4	1290.5	3249.3	3689.8	4170.6	5871.6
77.5°	162.1	166.8	173.4	194.0	307.4	518.3	912.8	2516.4	2733.8	3000.0	4577.3
80°	144.3	148.1	152.8	173.4	254.9	402.1	594.2	1968.1	2044.0	2172.4	3011.2
82.5°	123.7	129.3	130.3	149.0	205.2	291.5	353.3	1348.6	1347.7	1536.1	2124.6
85°	101.2	104.0	105.9	117.2	151.8	194.0	232.4	736.6	657.0	920.3	1845.4
87.5°	75.9	73.1	75.9	78.7	100.3	114.3	124.6	135.9	81.5	166.8	1073.1
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7	4406.7
2.5°	5015.9	5071.2	5038.4	4999.0	4900.6	4756.3	4645.7	4549.2
5°	5373.0	5475.1	5430.2	5284.0	5029.0	4739.4	4434.8	4249.3
7.5°	5328.0	5530.4	5512.6	5269.0	4903.4	4477.0	4048.7	3804.1
10°	4968.1	5252.1	5300.8	5051.5	4664.5	4187.4	3691.6	3415.2
12.5°	4576.4	4815.4	4914.7	4820.0	4455.5	3970.9	3465.8	3189.3
15°	4248.3	4369.2	4467.6	4528.6	4302.7	3894.1	3426.4	3141.5
17.5°	4005.6	3982.2	4064.7	4210.9	4220.2	3996.2	3604.5	3285.8
20°	3888.5	3704.8	3752.6	3957.8	4197.7	4255.8	3959.7	3582.9
22.5°	3881.9	3595.1	3604.5	3825.7	4262.4	4610.1	4403.0	3973.7
25°	3983.1	3582.9	3591.4	3811.6	4376.7	4967.2	4915.6	4415.2
27.5°	4155.6	3635.4	3629.8	3873.5	4529.5	5265.2	5433.0	4955.0
30°	4342.1	3711.3	3697.3	3972.8	4679.5	5448.9	5800.4	5361.7
32.5°	4574.5	3846.3	3797.5	4118.1	4827.5	5625.1	6114.3	5742.2
35°	4795.7	4044.0	3973.7	4326.1	4985.9	5821.0	6465.8	6163.1
37.5°	5021.5	4339.3	4299.9	4626.0	5209.9	6033.7	6867.8	6640.1
40°	5311.1	4759.1	4740.4	5061.8	5508.9	6266.1	7318.6	7136.8
42.5°	5623.2	5205.2	5189.3	5562.3	5880.0	6499.5	7704.7	7563.2
45°	5940.9	5746.0	5749.7	6096.5	6270.8	6719.7	8008.4	7904.4
47.5°	6315.8	6337.4	6471.4	6650.4	6651.3	6965.3	8277.4	8222.1
50°	6791.9	7051.5	7298.9	7327.1	7035.6	7289.6	8606.3	8585.7
52.5°	7330.8	7875.3	8163.0	8074.0	7410.5	7691.6	9092.7	9091.8
55°	7970.9	8736.6	9007.5	8855.6	7859.4	8215.5	9728.2	9686.9
57.5°	8634.5	9565.1	9783.5	9585.7	8420.8	8825.6	10365.5	10147.1
60°	9351.4	10278.3	10500.4	10203.3	9050.6	9433.9	10787.2	10276.4
62.5°	9821.0	10695.4	10854.7	10569.8	9614.8	10053.4	10923.1	10121.8
65°	9845.3	10418.0	10460.1	10358.9	9854.7	10591.3	10726.3	9663.5
67.5°	9176.2	9209.9	9265.2	9373.9	9342.0	10351.4	9967.2	8593.2
70°	7745.0	7295.2	7477.0	7582.0	7818.2	9207.1	8564.2	6988.7
72.5°	5922.2	5265.2	5471.4	5435.8	5926.9	7552.0	6552.0	5383.3
75°	4262.4	3590.4	3606.4	3608.2	4258.7	6028.1	4467.6	3822.9
77.5°	2896.9	2540.8	2593.2	2560.4	2850.0	4722.6	3216.5	2755.4
80°	1981.2	1971.9	1983.1	1906.3	1900.6	3052.5	2381.4	2197.7
82.5°	1469.5	1358.0	1342.1	1260.5	1456.4	2333.6	1807.9	1579.2
85°	1159.3	751.6	653.2	788.2	1261.5	2147.1	1102.2	809.7
87.5°	491.1	295.2	179.0	354.3	701.0	1573.6	305.5	157.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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