

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: P195766

Luminaire Tested: **NAV-AF-04-D-UNV-SLR-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195766
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-04-D-UNV-SLR-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 1200mA 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: 23638 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

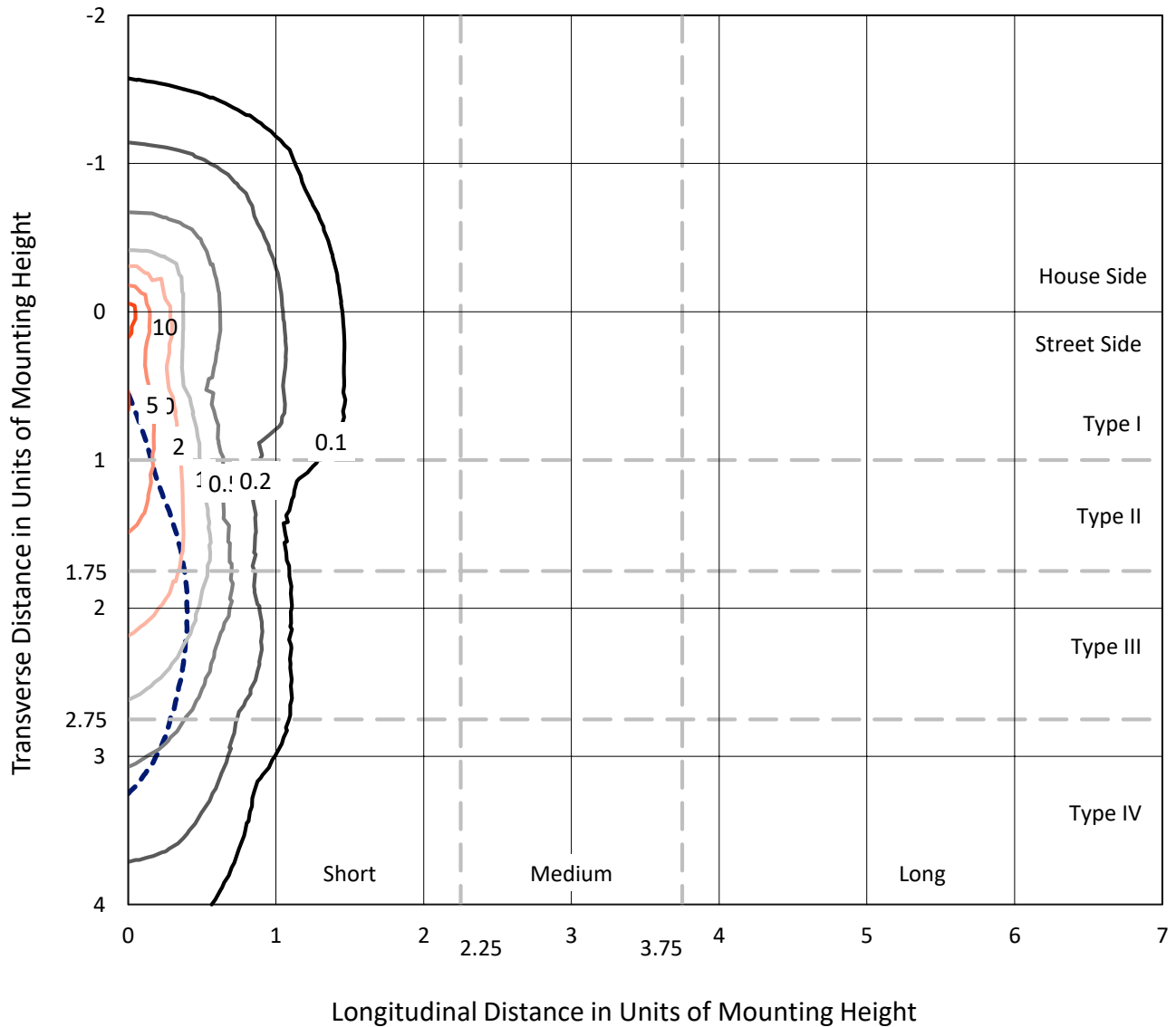
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

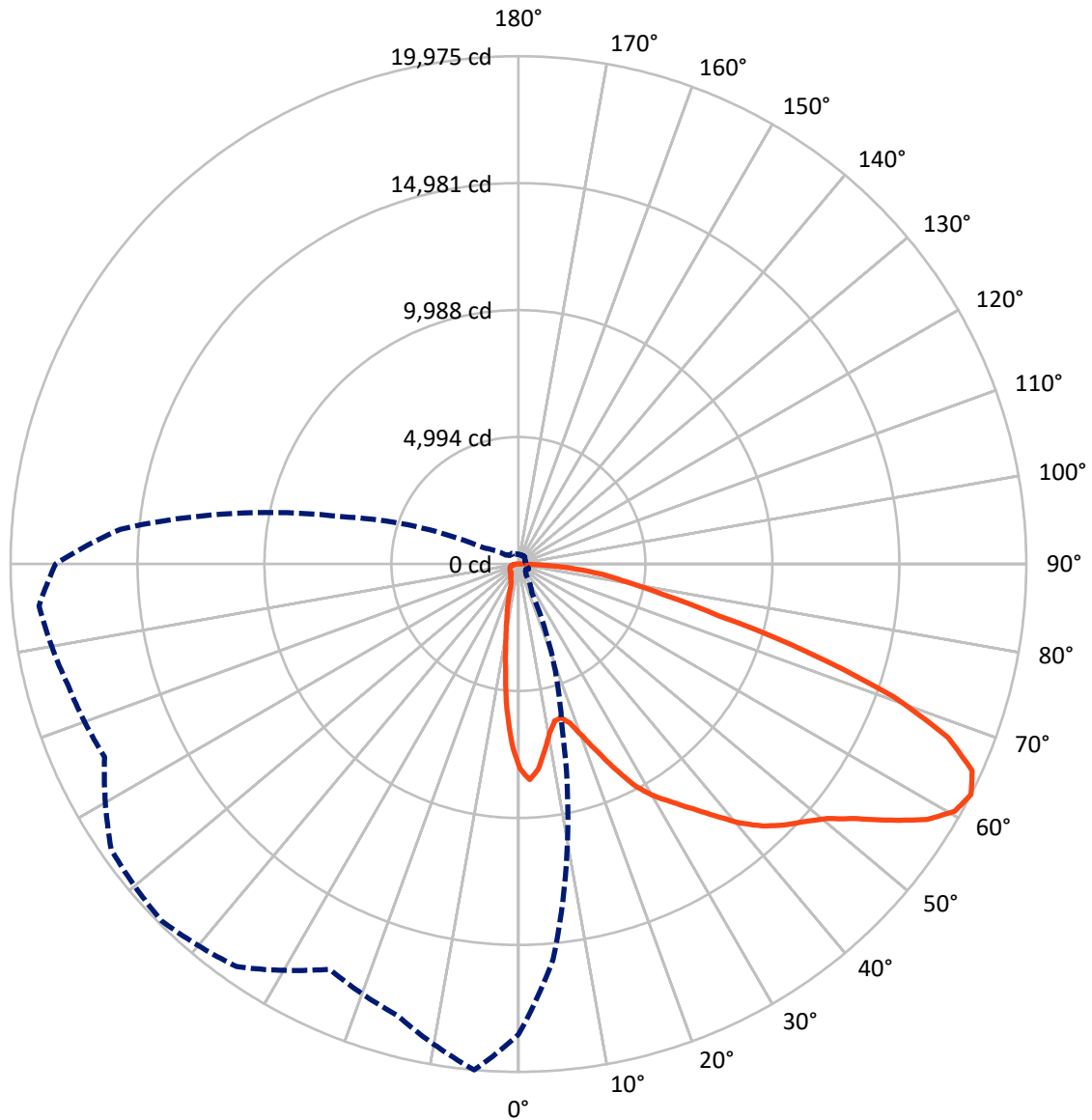
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 12.9 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	4187.5	0.0	4187.5
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	19450.5	0.0	19450.5
	% Fixture	82.3	0.0	82.3
Total	Lumens	23638.0	0.0	23638.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	586.1	2.5
10°-20°	1070.4	4.5
20°-30°	1539.6	6.5
30°-40°	2358.0	10.0
40°-50°	3447.5	14.6
50°-60°	5016.1	21.2
60°-70°	5811.9	24.6
70°-80°	3029.6	12.8
80°-90°	778.8	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°	23638.0	100.0
0°-180°	23638.0	100.0



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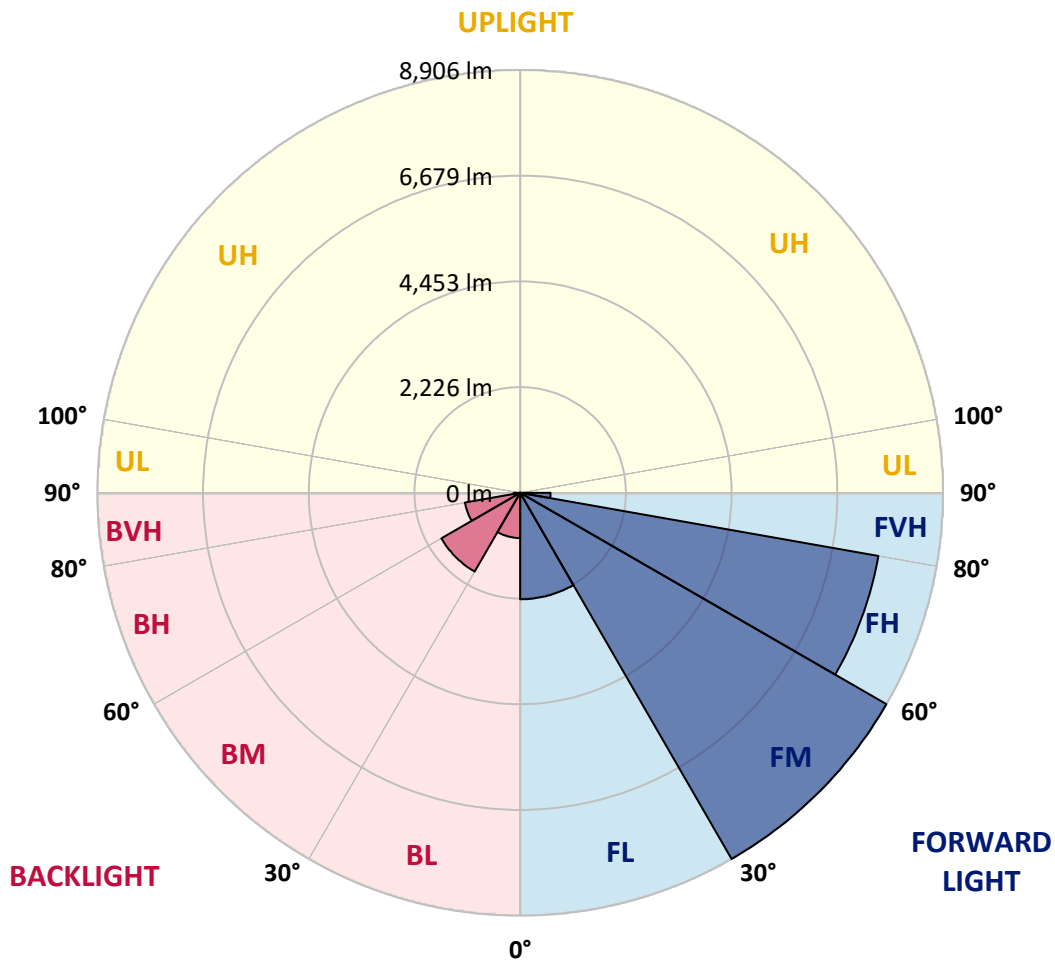
CATALOG NUMBER: NAV-AF-04-D-UNV-SLR-7050-1200

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2243.4	9.5			
FM	(30°-60°)	8905.7	37.7			
FH	(60°-80°)	7660.7	32.4			G4/12000
FVH	(80°-90°)	640.7	2.7			G4/750
BL	(0°-30°)	952.7	4.0	B2/1000		
BM	(30°-60°)	1915.9	8.1	B2/2500		
BH	(60°-80°)	1180.8	5.0	B3/2500		G3/2500
BVH	(80°-90°)	138.1	0.6			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7
2.5°	8319.2	8202.6	7933.6	7697.0	7402.2	7181.2	6912.1	6769.8	6665.3	6595.0	6538.5
5°	7770.7	7489.7	6975.5	6524.7	6038.0	5686.7	5275.3	5050.8	4912.0	4836.6	4802.3
7.5°	6956.6	6584.7	5919.7	5314.7	4706.3	4267.6	3955.6	3623.1	3446.6	3331.8	3294.1
10°	6245.4	5825.5	5032.0	4351.5	3881.9	3570.0	3302.6	2997.6	2771.3	2574.2	2500.6
12.5°	5832.3	5343.9	4438.9	3823.7	3429.5	3095.3	2812.5	2483.4	2245.2	2039.5	1960.7
15°	5744.9	5199.9	4190.4	3487.7	3004.4	2601.7	2262.3	1904.1	1671.0	1501.4	1446.5
17.5°	6008.9	5337.0	4085.9	3181.0	2598.2	2106.4	1688.2	1304.3	1110.6	1018.0	995.8
20°	6552.2	5638.7	4036.2	2905.0	2204.1	1621.3	1167.2	886.1	790.1	762.7	761.0
22.5°	7266.9	6128.8	4091.0	2678.8	1833.9	1196.3	855.2	728.4	689.0	673.6	673.6
25°	8074.1	6792.1	4236.7	2505.7	1508.2	930.6	737.0	668.4	635.8	620.4	622.1
27.5°	9061.3	7599.3	4435.5	2346.3	1275.1	815.8	689.0	630.7	598.1	582.7	584.4
30°	9805.1	8293.5	4606.9	2200.6	1155.2	769.5	663.3	608.4	572.4	550.2	548.4
32.5°	10500.9	8905.3	4745.7	2096.1	1086.6	687.3	599.9	558.7	527.9	502.2	497.0
35°	11270.5	9481.2	4810.9	2092.6	1042.0	620.4	548.4	498.7	467.9	438.8	433.6
37.5°	12142.8	10185.6	4865.7	2113.2	1018.0	577.6	524.4	476.5	450.8	421.6	414.8
40°	13051.2	10874.6	4908.6	2130.4	1014.6	548.4	505.6	462.7	437.0	406.2	399.3
42.5°	13831.0	11484.7	4966.8	2123.5	990.6	543.3	493.6	450.8	426.8	395.9	387.3
45°	14454.9	11969.7	5057.7	2121.8	954.6	555.3	490.2	447.3	418.2	385.6	378.8
47.5°	15035.9	12516.5	5249.6	2114.9	915.2	551.9	509.0	443.9	414.8	382.2	377.1
50°	15700.9	13251.7	5577.0	2063.5	860.4	527.9	543.3	440.5	406.2	377.1	371.9
52.5°	16626.4	14328.0	6062.0	1971.0	785.0	502.2	548.4	438.8	392.5	366.8	359.9
55°	17714.7	15481.5	6584.7	1837.3	685.6	457.6	521.0	431.9	378.8	351.3	341.1
57.5°	18556.2	16333.3	6949.8	1645.3	587.9	431.9	464.5	416.5	361.6	334.2	325.6
60°	18792.7	16371.0	7014.9	1415.7	538.2	414.8	399.3	454.2	347.9	318.8	310.2
62.5°	18509.9	15622.0	6589.9	1254.6	521.0	397.6	363.3	433.6	334.2	305.1	296.5
65°	17671.8	14357.2	5638.7	1230.6	538.2	382.2	344.5	346.2	320.5	291.4	282.8
67.5°	15714.6	12495.9	4442.4	1246.0	558.7	366.8	330.8	315.4	305.1	279.4	269.1
70°	12780.4	10060.5	3499.7	1273.4	577.6	346.2	313.6	294.8	286.2	258.8	253.7
72.5°	9844.5	8051.8	2761.1	1254.6	596.4	325.6	289.6	274.2	263.9	238.2	233.1
75°	6990.9	6397.9	2029.2	1076.3	546.7	296.5	262.2	248.5	239.9	212.5	210.8
77.5°	5038.8	4792.0	1412.2	809.0	431.9	260.5	231.4	219.4	214.2	183.4	183.4
80°	4019.0	3647.1	844.9	527.9	315.4	215.9	193.7	188.5	183.4	152.5	154.2
82.5°	2887.9	2529.7	539.9	329.1	231.4	164.5	150.8	149.1	140.5	113.1	113.1
85°	1480.8	1292.3	346.2	221.1	162.8	106.3	99.4	96.0	90.8	70.3	70.3
87.5°	287.9	395.9	192.0	108.0	78.8	37.7	37.7	32.6	37.7	25.7	27.4
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°	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7
2.5°	6646.4	6612.2	6588.2	6576.2	6749.3	6821.2	6903.5	7021.8	7102.3	7068.0	7177.7
5°	4963.4	4987.4	5042.2	5127.9	5369.6	5484.4	5558.1	5655.8	5726.1	5655.8	5772.3
7.5°	3393.5	3429.5	3546.0	3722.5	4013.9	4142.4	4168.2	4169.9	4154.4	4039.6	4118.5
10°	2498.8	2426.9	2452.6	2579.4	2839.9	2954.7	2966.7	2935.9	2930.7	2884.5	2973.6
12.5°	1936.7	1837.3	1779.0	1799.6	1995.0	2089.2	2104.6	2121.8	2192.1	2214.3	2324.0
15°	1444.8	1393.4	1350.5	1331.7	1460.2	1533.9	1542.5	1583.6	1657.3	1677.9	1772.2
17.5°	1016.3	1030.0	1052.3	1060.9	1153.4	1201.4	1187.7	1187.7	1199.7	1194.6	1247.7
20°	776.4	803.8	846.7	887.8	971.8	999.2	964.9	922.1	894.6	880.9	892.9
22.5°	685.6	704.4	731.8	785.0	855.2	868.9	824.4	790.1	764.4	750.7	752.4
25°	635.8	654.7	677.0	719.8	779.8	786.7	745.5	723.3	702.7	689.0	685.6
27.5°	593.0	605.0	618.7	646.1	707.8	711.3	683.8	670.1	656.4	646.1	642.7
30°	553.6	558.7	563.9	591.3	637.6	642.7	629.0	622.1	617.0	610.1	610.1
32.5°	502.2	509.0	517.6	541.6	586.1	593.0	584.4	579.3	570.7	567.3	562.2
35°	440.5	457.6	476.5	505.6	553.6	557.0	546.7	531.3	510.7	505.6	502.2
37.5°	414.8	418.2	442.2	476.5	526.2	529.6	515.9	490.2	474.7	476.5	479.9
40°	397.6	402.8	416.5	450.8	500.5	505.6	493.6	474.7	459.3	461.0	466.2
42.5°	383.9	390.8	399.3	421.6	471.3	481.6	478.2	461.0	445.6	449.0	455.9
45°	377.1	382.2	382.2	397.6	445.6	461.0	462.7	449.0	437.0	440.5	449.0
47.5°	373.6	373.6	368.5	380.5	428.5	443.9	447.3	440.5	433.6	437.0	445.6
50°	368.5	361.6	356.5	366.8	414.8	428.5	431.9	426.8	430.2	437.0	442.2
52.5°	353.1	346.2	346.2	353.1	401.0	414.8	416.5	413.0	419.9	428.5	437.0
55°	334.2	334.2	335.9	342.8	394.2	404.5	402.8	399.3	406.2	416.5	425.0
57.5°	317.1	315.4	323.9	332.5	385.6	392.5	389.1	389.1	394.2	402.8	411.3
60°	306.8	298.2	305.1	318.8	377.1	383.9	378.8	377.1	385.6	392.5	399.3
62.5°	296.5	287.9	293.1	306.8	365.1	370.2	366.8	366.8	375.3	380.5	387.3
65°	281.1	277.6	281.1	294.8	354.8	356.5	356.5	358.2	365.1	368.5	375.3
67.5°	267.4	267.4	269.1	282.8	346.2	342.8	342.8	351.3	353.1	356.5	363.3
70°	250.2	253.7	253.7	270.8	339.3	327.4	329.1	335.9	339.3	342.8	344.5
72.5°	231.4	233.1	236.5	258.8	329.1	311.9	313.6	318.8	320.5	325.6	327.4
75°	210.8	212.5	217.7	246.8	322.2	296.5	293.1	296.5	299.9	303.4	301.6
77.5°	186.8	190.2	195.4	239.9	299.9	293.1	267.4	270.8	274.2	274.2	272.5
80°	157.7	162.8	171.4	229.7	253.7	282.8	238.2	239.9	241.7	241.7	238.2
82.5°	118.3	128.5	140.5	190.2	198.8	241.7	205.7	209.1	204.0	200.5	198.8
85°	77.1	85.7	102.8	132.0	145.7	190.2	169.7	171.4	161.1	159.4	159.4
87.5°	30.8	32.6	46.3	66.8	87.4	118.3	121.7	125.1	116.5	116.5	120.0
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7
2.5°	7344.0	7515.4	7712.5	7913.0	8077.5	8290.0	8495.7	8715.1	8826.5	8891.6	9075.0
5°	5954.0	6188.8	6468.2	6781.8	7042.3	7487.9	7967.8	8502.6	8759.6	9013.3	9493.2
7.5°	4259.0	4488.7	4814.3	5220.5	5590.7	6178.5	6811.0	7534.2	7890.7	8302.0	9088.7
10°	3162.1	3405.5	3700.3	4044.8	4409.8	5021.7	5731.2	6543.6	6936.1	7400.5	8295.2
12.5°	2564.0	2848.5	3153.5	3462.0	3775.7	4187.0	4930.8	5834.0	6255.7	6723.6	7619.9
15°	2000.1	2305.2	2634.2	2970.2	3282.1	3741.4	4500.6	5568.4	6050.0	6502.5	7236.0
17.5°	1415.7	1703.6	2073.8	2481.7	2934.2	3477.5	4408.1	5684.9	6269.4	6742.4	7234.3
20°	964.9	1163.7	1533.9	2017.2	2576.0	3264.9	4442.4	6094.6	6824.7	7344.0	7530.8
22.5°	771.2	865.5	1115.7	1607.6	2267.5	3110.7	4582.9	6656.7	7621.6	8254.0	8070.7
25°	701.0	754.1	884.4	1270.0	1993.2	3007.9	4857.1	7398.8	8514.6	9155.5	8720.2
27.5°	658.1	704.4	788.4	1043.8	1756.7	2941.0	5205.1	8272.9	9520.6	10046.8	9397.2
30°	630.7	677.0	754.1	937.5	1578.5	2841.6	5510.1	9071.6	10324.4	10665.5	9762.3
32.5°	577.6	613.6	677.0	839.8	1444.8	2725.1	5774.1	9786.3	11083.7	11196.8	10201.0
35°	522.7	560.4	623.9	761.0	1366.0	2634.2	5912.9	10420.4	11836.1	11728.1	10636.3
37.5°	502.2	533.0	591.3	704.4	1323.1	2574.2	5966.0	11044.2	12643.3	12315.9	10939.7
40°	488.5	515.9	567.3	666.7	1311.1	2517.7	5954.0	11637.2	13426.5	12924.4	11177.9
42.5°	478.2	502.2	550.2	641.0	1278.6	2464.6	5914.6	12149.7	14053.8	13448.8	11405.9
45°	469.6	495.3	543.3	654.7	1218.6	2406.3	5890.6	12617.6	14535.4	13891.0	11710.9
47.5°	466.2	495.3	545.0	651.3	1153.4	2341.2	5976.3	13136.9	14955.3	14262.9	12117.1
50°	461.0	493.6	582.7	620.4	1064.3	2260.6	6265.9	13755.6	15395.8	14681.1	12643.3
52.5°	452.5	491.9	622.1	596.4	949.5	2149.2	6735.5	14629.7	16156.7	15495.2	13421.4
55°	442.2	495.3	594.7	558.7	827.8	2005.2	7205.2	15827.7	17390.7	16808.0	14538.8
57.5°	430.2	490.2	562.2	524.4	726.7	1823.6	7561.6	16809.7	18408.8	18162.0	15911.7
60°	421.6	502.2	505.6	503.9	661.6	1650.5	7595.9	16746.3	18701.9	19041.2	17255.3
62.5°	411.3	512.5	461.0	488.5	629.0	1489.4	7172.6	15709.4	18206.6	18928.1	18350.5
65°	397.6	447.3	437.0	474.7	629.0	1403.7	6187.1	13983.5	16837.2	17858.6	18945.2
67.5°	383.9	406.2	419.9	455.9	642.7	1323.1	4972.0	11794.9	14677.7	16132.8	18276.8
70°	365.1	383.9	401.0	438.8	635.8	1266.6	3912.8	9453.8	12079.4	13745.3	16427.5
72.5°	347.9	361.6	378.8	413.0	635.8	1240.8	3143.3	7416.0	9222.4	10626.1	13608.2
75°	322.2	334.2	349.6	387.3	623.9	1134.6	2360.0	5942.0	6747.5	7626.8	10737.5
77.5°	296.5	305.1	317.1	354.8	562.2	947.8	1669.3	4601.8	4999.4	5486.1	8370.6
80°	263.9	270.8	279.4	317.1	466.2	735.3	1086.6	3599.1	3738.0	3972.8	5506.7
82.5°	226.2	236.5	238.2	272.5	375.3	533.0	646.1	2466.3	2464.6	2809.0	3885.4
85°	185.1	190.2	193.7	214.2	277.6	354.8	425.0	1347.1	1201.4	1683.0	3374.6
87.5°	138.8	133.7	138.8	144.0	183.4	209.1	227.9	248.5	149.1	305.1	1962.4
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°	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7	8058.7
2.5°	9172.7	9273.8	9213.8	9141.8	8961.9	8697.9	8495.7	8319.2
5°	9825.7	10012.5	9930.2	9662.9	9196.7	8667.1	8110.1	7770.7
7.5°	9743.4	10113.6	10081.0	9635.4	8967.0	8187.2	7404.0	6956.6
10°	9085.3	9604.6	9693.7	9237.8	8530.0	7657.6	6751.0	6245.4
12.5°	8368.9	8805.9	8987.6	8814.5	8147.8	7261.7	6337.9	5832.3
15°	7769.0	7990.1	8170.1	8281.5	7868.4	7121.2	6265.9	5744.9
17.5°	7325.1	7282.3	7433.1	7700.5	7717.6	7308.0	6591.6	6008.9
20°	7110.9	6775.0	6862.4	7237.7	7676.5	7782.7	7241.1	6552.2
22.5°	7098.9	6574.4	6591.6	6996.1	7794.7	8430.6	8051.8	7266.9
25°	7284.0	6552.2	6567.6	6970.4	8003.8	9083.6	8989.3	8074.1
27.5°	7599.3	6648.1	6637.9	7083.5	8283.2	9628.6	9935.4	9061.3
30°	7940.4	6787.0	6761.3	7265.1	8557.4	9964.5	10607.2	9805.1
32.5°	8365.4	7033.8	6944.6	7530.8	8828.2	10286.7	11181.4	10500.9
35°	8769.9	7395.4	7266.9	7911.3	9117.8	10644.9	11824.1	11270.5
37.5°	9183.0	7935.3	7863.3	8459.7	9527.5	11034.0	12559.3	12142.8
40°	9712.6	8703.1	8668.8	9256.7	10074.2	11459.0	13383.7	13051.2
42.5°	10283.3	9518.9	9489.8	10171.9	10752.9	11885.8	14089.8	13831.0
45°	10864.3	10507.8	10514.7	11148.8	11467.6	12288.5	14645.1	14454.9
47.5°	11549.8	11589.3	11834.3	12161.7	12163.4	12737.6	15137.0	15035.9
50°	12420.5	12895.2	13347.7	13399.1	12866.1	13330.6	15738.6	15700.9
52.5°	13406.0	14401.7	14927.9	14765.1	13551.7	14065.8	16628.1	16626.4
55°	14576.6	15976.8	16472.1	16194.5	14372.6	15023.9	17790.1	17714.7
57.5°	15790.0	17491.9	17891.2	17529.6	15399.2	16139.6	18955.5	18556.2
60°	17101.1	18796.1	19202.3	18659.0	16550.9	17251.9	19726.8	18792.7
62.5°	17959.8	19558.8	19850.2	19329.1	17582.7	18384.8	19975.3	18509.9
65°	18004.3	19051.5	19128.6	18943.5	18021.5	19368.6	19615.4	17671.8
67.5°	16780.6	16842.3	16943.4	17142.2	17084.0	18929.8	18227.1	15714.6
70°	14163.5	13340.8	13673.3	13865.3	14297.2	16837.2	15661.4	12780.4
72.5°	10830.0	9628.6	10005.6	9940.5	10838.6	13810.4	11981.7	9844.5
75°	7794.7	6565.9	6595.0	6598.4	7787.9	11023.7	8170.1	6990.9
77.5°	5297.6	4646.3	4742.3	4682.3	5211.9	8636.2	5882.0	5038.8
80°	3623.1	3606.0	3626.6	3486.0	3475.7	5582.1	4355.0	4019.0
82.5°	2687.4	2483.4	2454.3	2305.2	2663.4	4267.6	3306.1	2887.9
85°	2120.1	1374.5	1194.6	1441.4	2306.9	3926.5	2015.5	1480.8
87.5°	898.1	539.9	327.4	647.8	1282.0	2877.6	558.7	287.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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